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The Builder.

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OPENING THE YEAR.

OUR readers are now so well acquainted with the scope, objects, and opinions of THE BUILDER, that it is scarcely necessary for us to repeat, on commencing our Sixth Volume, the remarks under these heads which we have heretofore, on similar occasions, thought desirable to make. Architects, engineers, surveyors, builders, and all those numerous trades connected with building, owners of house property, the guardians of public edifices, friends of sanitary improvement, artists, antiquaries, and others, know quite well that in our pages is to be found matter of value and interest,—for most of these classes, indeed, information which they could not with propriety be without; but there is, nevertheless, a large number of persons—of the general public — to whom the title of our journal conveys no clear notion of its contents, —who regard it simply as a trade-paper, and would feel half ashamed to allow their friends to see it in the drawing-room. The number of these is growing less every day — THE BUILDER, as we remarked last week in closing the volume, is now to be found "on the table of the most Illustrious gentleman in the kingdom, in all the Government offices, and in the studio of the clergyman as well as in the more humble dwelling of the operative:"— but to those who remain we would address a brief observation, with the view of removing this impression.

The verb "To build" has been much degraded amongst us, and has lost its full signification. "Our English word, *to build*," says Horne Tooke, "is the Anglo-Saxon Bylsan, to confirm, to establish, to make firm and sure and fast, to consolidate, to strengthen; and is applicable to all other things, as well as to dwelling places."

In Germany the word retains its full meaning, and THE BUILDER there would be understood by all as taking legitimate cognizance of numerous and apparently diverse subjects, of which the title gives no hint to English minds. Letting this wide view pass,—to restore the significance of the word, if in one sense only, would be something: to lead to our buildings being really BUILT, — that is, "made firm, and sure, and fast," would be something to interest all, as it would also be to *establish* such opinions in respect of attention to the production of beauty in our structures as might lead to it, and such knowledge of sanitary requirements in our dwellings and towns as would bring about arrangements by which thousands of lives, much suffering, and more money, would be saved. This, all must admit, should concern all,— must concern all who reflect,—and this is part of our especial province.

Again: our business is with every man's HOME; ("there *is* a magic in that little word,") every man's home, which, as shrewd Sir Henry Wotton says, on our title-page, being "the comfortablest part of his own life, the noblest of his sonne's inheritance, a kinde of private princedome, nay, to the possessors thereof, an epitome of the whole world, may well deserve, by these attributes, according to the degree of the master, to be decently and delightfully adorned." To make it healthful and joyful; to insure, economically, impunity from fire; such a supply of fresh air, light, (God's first great gift), and warmth, when needed, as the constitution of man demands, and to lead Art—capable of producing "An endless fountain of immortal drink"—delightfully to adorn it, is matter of world-wide interest.

When it is remembered that *Homes are the manufactories of men*, and influence a growing nation, the importance of improving these homes is at once seen. Perfect men come not forth from ill-arranged, ill-ordered dwellings: and how few homes are there which might not be improved! "What idea predominates in our houses?" said Mr. Emerson, in a recent lecture. "Thrift first, and then convenience and pleasure. Take off all the roofs from street to street, and we shall seldom find the temple of any higher god than prudence. The houses of the rich are confectioners' shops, where we get sweatmeats and champagne; the houses of the poor are imitations of these, to the extent of their ability. But this housekeeping cheers neither husband, wife, nor child, and tends greatly to oppress women; for a house kept to the end of prudence, is laborious without joy; kept to the end of display, is impossible to all but a few women, and their success is very dearly bought. The difficulties to be overcome are many and great; nor are they to be overcome by amendment of particulars, one at a time; but only by the aid of ideas for the arrangement of the household to a newer and higher end than that to which our dwellings are usually built and furnished. Is there, truly considered, any calamity more grievous, that more deserves the best goodwill to remove it than this,—to go from chamber to chamber, and *see no beauty*; to find in house-mates no aim; to hear an endless chatter and blast; to be compelled to criticise; to hear, only to dissent and be disgusted; to find no invitation to what is good in us, and no receptacle for what is wise. This is a great price to pay for sweet bread and warm lodging."

The effect produced on the character by that which is around it is undeniable: by improving the dwellings we should improve the people. In nature, we may sing,—

> "The Beautiful! the Beautiful!
> Where do we find it not?
> It is an all-pervading grace,
> And lighteth every spot.
>
> On mountain top and valley deep,
> Behold its presence there;
> The Beautiful! the Beautiful!
> It liveth every where."

But in our homes there has been little thought of it,—little thought even of fitness, healthfulness, convenience. We would have art enter into the every-day life of the people, and minister constantly to their happiness; not to be regarded as a luxury for the few, but a means of enjoyment open to all. To extend a knowledge and love of art will continue to be our aim, as will be, to give all the aid in our power to those associations which have this end in view.

In the success of the School of Design we have the greatest interest, and it will be our duty to watch its new management even more jealously than we did its old, and, if need be, to aid as strenuously in obtaining a change.

We have again and again said what a powerful contemporary thus urged a few days since,—"The success of the School of Design is an event of higher national importance than many others which are just now making a greater noise in the world. There is no reason why England should be behind other countries in art, even in its highest branches; there is every reason why she should be superior to them in art as applied to manufactures. There never was a more unjust, as well as a more unpatriotic cry, than that raised by Englishmen when they deny to their native land a full appreciation of the beautiful in art as well as in nature. Witness in architecture the cathedrals and churches with which every county in England is studded,—Salisbury, York, Canterbury, Ely, Wells, Westminster. Turn to King's College Chapel, and the collegiate buildings of either university; or the ivy-tufted ruins of Tintern or Netley. If we cannot point to a town such as Vicenza, one miracle of Palladio's graceful skill, at least we have our English manor-houses, our village churches, and castles. In music, in painting, and in sculpture, we might enumerate many names which would be honoured everywhere but at home. Take all these facts into account, and, above all, the imaginative literature of England, from Chaucer's first tale to Words-

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worth's last sonnet, and can it be said that the people of whose mind and feelings it is the expression are not keenly alive to the beautiful in its loftiest and most graceful developments? Can the mind to conceive be wanting in the countryman of Shakspeare? Can the hand be slow to execute in the land where Watt and Arkwright were born?"*

Englishmen may not be possessed of a full appreciation of the beautiful in art as well as in nature: no wonder is to be expressed if it be so. They have not had fair play in this respect. Debarred from the contemplation of works of art,—our cathedrals closed to them, pictures and sculpture being luxuries reserved for the rich, drawing not taught, art not recognised at our universities and little attended to in the education of the superior classes, the want alluded to might be reasonably expected. But there is no want of *power* of appreciation, no lack of ability to excel in the arts, no reason why England should not stand as pre-eminent in respect of taste and design as she does in manufacture. To the School of Design we must look hopefully; and even more so to the Art-Unions, which have already produced an art-loving public and will speedily make it art-knowing. At a threatened interference with the London Art-Union, on the part of certain officers of the Board of Trade, as unwise as it would be unauthorised, we look with more than jealousy and distrust. There is too great a tendency manifest on the part of Government officials to take things into their own hands, and pursue a course contrary to the feeling which strongly prevails in England. To the heads of the Board of Trade we offer a caution in time, not to suffer themselves to be compromised, and an outcry justly raised against them, by the caprice or want of consideration of individuals acting in their name.

To make architecture as an art better understood by the public is much needed, and will not be overlooked in THE BUILDER; while, at the same time, architects will be reminded that it *is* an art, and bid so to practice it.

In a notice of some lectures on ecclesiastical architecture, delivered last week in Beverley, a local paper, to give a convincing proof of the lecturer's ability, says he positively was able to impart an interest to this, which is *a dry subject*. And, in making this remark, he said, simply, what vast numbers of persons believe to be the case. Architecture, a dry subject, indeed! Nothing can be less true. It will be found full of interest by all who enter upon it. Its history is the history of civilization, in brick and stone, and is more entertaining than half the Christmas stories of our age. The history and elements of architecture should be taught in all schools, and we should no more hear of its being a dry subject. We have contemplated, for some time past, a series of elementary papers on architecture, addressed to ladies and our younger friends, and may, perhaps, attempt them before long.

Our technical readers will find no lack of information to meet their wants. Construction will of course form a prominent subject, and we shall keep open eyes on all improvements and new works. The doings of the Institute of Architects, the Architectural Association, and all societies connected with art and science, will be duly recorded and observed, and the new Metropolitan Commissions of Sewers, and other official bodies, will have, at all events, one watcher, ready to oppose them should they go wrong, but more anxious to aid them in doing right.

We ask consideration and kind feeling for ourselves: we hope to exhibit them in dealing with the works of others.

* *The Times.*

UNIFORMITY OF MEASURES.

ACCOUNT OF THE FRENCH SYSTEM.

SIR,—I believe it is unnecessary to say any thing to your readers upon the utility of a uniform system of weights and measures. Look at us with our many systems of weights and measures, and even some counties, in particular cases, have their particular usages. There results from this, in examining reports from those places, difficulties and embarrassments every day. France is the first country which has given to the world the example, not only of a uniform system of weights and measures, but a system of which all the parts are so united together, that we can find the one by the other, and which have for their common base an unalterable measure; and as I think a description of the metrical system may not be unacceptable to your readers, I propose to myself the pleasure of describing it.

The metrical system, in fact, has for its base a unit of length called *mètre;* and the mètre is the ten-millionth part of a fourth of the terrestrial meridian. This measure of the meridian is calculated by astronomical methods, and has for immutability the equilibrium of the universal system of the world, and can only be changed by a revolution of the universe. It is not, then, possible to give a system of weights and measures on a base more sure or more scientific. As to the divisions of a mètre, they have been established decimally; thus, a mètre and a quarter is written 1 m·25. From whence it follows, that if we multiply 1 mètre and $\frac{1}{4}$ by 1 mètre $\frac{1}{10}$, 1·8 by 1·4, we shall have for the product 252; and then, separating the two decimals, it becomes 2 m·52; that is to say, 2 mètres and 52-hundredths of a mètre for the result.

The measure of length being determined, the measure of the surface and that of the volume follow. The square mètre becomes the unity for surfaces, the cubical mètre the unity for volumes. We shall see, presently, that the measure for certain surfaces and certain volumes has been taken from other units than the square or cubical mètre; but the measures so taken are always derived from the decimal parts of a mètre. Thus, in determining the unit for weight, they have taken for unity one centimètre (0·01) cube of distilled water, at the temperature of four degrees above the freezing point of the centigrade thermometer; and to this weight they have given the name *gramme*.

In the unit of money they have taken the *franc*, weighing five grammes, and composed of nine parts of pure silver and one part of refined copper. The franc is divided into *decimes* ($\frac{1}{10}$), and into *centimes* ($\frac{1}{100}$).

One sees that the unit of length can be found again from the unit of weight, which is established upon a decimal fraction of the mètre: thus we have a constant proof of the metrical system, a length found by astronomy—a weight given by a philosophical fact as invariable as the solar system.

I shall now proceed to give the superior and inferior divisions of the *mètre* and the *gramme*, as established in the French metrical system.

A Myriamètre	contains	10·000	mètres.
A Kilomètre	,,	1·000	,,
A Hectomètre	,,	100	,,
A Décamètre	,,	10	,,
A Décimètre	,,	0·1	,,
A Centimètre	,,	0·01	,,
A Millimètre	,,	0·001	,,
A Kilogramme	,,	1·000	grammes.
A Hectogramme	,,	100	,,
A Décagramme	,,	10	,,
A Décigramme	,,	0·1	,,

Such is the base of the metrical system: upon these bases it is very easy to choose other units, which may be convenient for different measures used in commerce, the constructive arts, and other transactions. Thus, for long measure, they count generally by kilomètres, representing about one-fourth of a post league, or by myriamètres, representing 2½ post leagues, or two common leagues. For the measures of weight, the kilogramme has been taken for the unit, representing about two pounds. 100 kilogrammes have been called *quintal*. The old quintal was 100 livres, and equivalent to about 50 kilogrammes; to distinguish the old quintal (still used) from the new, the word "mètrique" is added. The quintal mètrique is 200 livres or 100 kilogrammes: 1,000 kilogrammes have been called *millier* or *tonneau*. The old ton contained 2,000 livres, and represents very nearly the new ton.

For the measurement of land, a square having 10 mètres on each side has been taken for the unit, or 100 square mètres, and this unit is called *are*. The *centiare* is then a square mètre, and the *hectare* (100 *ares*) contains 10,000 square mètres. It is a square having 100 mètres on each side.

For wood, the unit is the cubical mètre, and is called *stère*. For measures of capacity, of grain, and of liquids, the unit is the décimètre cube, and is called *litre*.

Thus the French system reposes on the following bases:—

The kilomètre for long measure.

The mètre for the common measures of length.

The litre for measures of capacity, both liquid and dry.

The kilogramme for the measure of weight.

The stère for wood.

The tonneau for marine measure.

Surely it is time that some reform should be made in our own system of weights and measures, and with this object in view, is the reason, Sir, of my troubling you with this article, detailing a system so superior and simple: the importance of the subject, I hope, will be my excuse for occupying your valuable and useful time.—THOMAS RUMBALL, C.E.

THE OLYMPIC THEATRE.

THIS theatre, as we mentioned last week, has been wholly refitted and decorated, in a very creditable manner, by Mr. Hurwitz, of Brydges-street, Strand. The domed ceiling is finished with a blended sky ground, as at Drury Lane, with a cornice at the base finished in white and gold, above which is a balustrade decoration, in colours and gold. The spandrils of the springing of the dome and the soffit of the proscenium are decorated in a scroll design, to accord with the general arrangement. The pilasters of the proscenium have Sienna marble panels, with gold astragals on white marble stiles. The fronts of the upper tier of boxes are decorated in white and gold on very light cobalt ground, having enriched gilt panels, from the centre of which are suspended chandeliers partly in opaz. The lower tier is embellished with bas-reliefs of the seasons, polished as alabaster, of an oval form surrounded by carved frames with watteau leaf enrichments in gold. The prevailing colour is violet with red borders. The draperies of the boxes are rose colour and buff, arranged to form three festoons, trimmed with gold and silver lace.

The house is lighted chiefly by a new application of the Dockree burner in the centre of the ceiling, surrounded by gilt rays. It consists of two rings of lights; the upper ring 18 inches in diameter, the lower 12 inches, masked with glass, and fitted up by Hart, of Wych-street.

CATHEDRAL AT MANCHESTER.—We are happy to hear from a correspondent, who signs himself "Wilcebe," that the double roodscreen at Manchester, which, as regards the central portion of it, it was reported, was to suffer from what the Dean of Westminster lately called the present mania for removing roodscreens, is not to suffer that mutilation, but that the huge gallery above it is to be removed. This is one of the best alterations the promoters of the restoration could make, and we are glad to know generally that the principle of conservation, for which we contended, is not to be unobserved at Manchester, as it has been at too many other places.

GOTHIC ARM-RESTS.



MILTON CHURCH, CAMBRIDGESHIRE.



ASTLEY CHURCH, WARWICKSHIRE.

CARVED ARM-RESTS.

THE poppy-head is an enrichment of the bench-end, which has of late years excited to a great extent the attention of ecclesiologists. But in doing justice to it they have generally neglected an ornament of greater rarity and nearly equal interest—the arm-rest. Yet to this object was a vast amount of taste and imagination devoted during the middle ages, and the variety of invention which remaining examples evince, vies with that which appear upon cotemporary poppy-heads. They were either formed of grotesque heads and animals, or were worked into Gothic foliage, well rounded in the upper parts, with due regard to the purpose for which they were intended. A specimen is here given of each particular kind. The first engraving represents the front and side views of an arm-rest from the carved oak stalls in Milton Church, near Cambridge, and exhibits one of those singular conceptions which have occasioned so much discussion in the archæological world, but which, according to the positions in which they are found, are supposed to bear allusions to the quarrels between the secular and regular clergy. A lion's head with open mouth and extended tongue is furnished with a mitre, which in this instance is a happily chosen object, from its taking the same outline as the section of the moulding to which if forms a stop. The second illustration is from the simpler stalls in Astley Church, Warwickshire — a small but elegant edifice, recently visited by the Archæological Association. It consists of a bold leaf, which lies over the moulding, but, unlike the former example, is executed with that view to economy which produces a good result without waste of material.

ARCHITECTURAL CRITICISM.

OF all the fine arts, architecture is that most subject to criticism. Men of every rank and degree discourse (soundly or unsoundly) of the merits or defects of an important edifice, while the number of those who examine with more than passing interest a statue or picture, is even yet comparatively few. The more general interest which architecture commands is due partly to material causes, and partly to the effects of association and reflection. The works of architecture exceed those of other arts in magnitude, costliness, number, conspicuousness, permanence, and direct utility; and each of these qualities is a simple reason for the prevalence of architectural criticism. For magnitude and costliness of labour and materials appeal directly to the senses, and produce impression on every mind, whether educated or uneducated: the superior number and conspicuousness of architectural works induce examination by increasing its facilities and opportunities; the permanence of architecture associates with it the feeling of reverence for antiquity, and the zeal of fame among posterity; and, lastly, the direct utility of edifices invests them with an obvious importance and dignity which belong to no other works of art. The supremacy of architecture consists in this; that it does not merely delight the eye or the imagination, but satisfies the judgment also; it comprehends the highest source of intellectual enjoyment, by successfully accomplishing the delicate and difficult task of adapting the principles of beauty to economical purposes.

These characteristics of architecture, if properly estimated, and traced to their consequences, accurately account for the universality and enthusiasm of the devotion which it claims. Even the votaries of the other arts have yielded to it the homage due to sovereignty. The greatest painter and the noblest sculptor of Christian Europe voluntarily relinquished the labours of the studio to devote themselves to its service. And while, on the one hand, the most exalted intellects have ministered to its glory, the humblest have, on the other, testified to its power. The unlettered peasant cannot cross the stupendous nave of Winchester, or gaze on the magnificence of Cologne, without reverence, and even the little child traverses the wonderful cathedral aisles with timid heedful steps.

It is a natural consequence of this general interest that architecture should excite more frequent discussions than any other art. But, in general, these discussions proceed on no established systematic principles, but are the mere expression of individual approbation or dislike. It is impossible, however, that any debate can produce sound conclusions unless some fundamental principles be assumed and conceded on both sides: an architectural discussion which does not proceed on acknowledged axioms is neither more nor less than a strife of words—a logomachy.

The present object of the writer is to examine how far it be possible to make architectural criticism a scientific system. In law the decision of a judge is founded, not upon his own individual opinion, but on fixed principles of jurisprudence, which it is beyond his power to alter. But, in architecture, it has been too much the custom to receive the critical *dicta* on their own authority. Another man has no right to impose on me his private opinion, unless he can shew that it is founded on something better than caprice or prejudice; his decision cannot carry authority unless it produce conviction; cannot produce conviction unless deduced from necessary principles.

Now there are many who assert that there are *no* necessary principles of architectural beauty — that men admire particular styles simply because they are used to them. This class of thinkers, who oppose us on the very outset of the subject, argue that the Greek venerated the architecture of the Parthenon, the medieval Christian that of Cologne, the Hindoo that of Elephanta, for precisely the same reason that the African admires the black skin and large features of his own race, while the European, deeming those characteristics hideous, can discern no beauty save in the class of features and complexions to which he has been accustomed from birth. It is absolutely necessary that this objection should be met at once, for otherwise it is fatal to our subject at its very commencement. The argument in question is not one of merely abstract interest: by denying the existence of necessary principles of beauty, it renders architecture purely conventional and arbitrary, and reduces us to the necessity of one or other of the following conclusions; either that it is an abuse of language to call one style of architecture *better* than another (because every style is suggested by individual caprice, and one man's caprice is as valuable as another's); or, secondly, that the best architecture, in every country, is that which most strictly conforms with established usage.

The following answer seems sufficient. We concede that local associations have a powerful influence on architectural taste, that many nations admire their architecture simply because it is their own, and endeared to them by the earliest recollections of their history. But it does not follow, that because a powerful motive of this kind exists, it exists alone. It is *possible*, at least, other motives of admiration may co-exist, corroborating the motives of association where both agree, or overcome by the latter, where the two classes of motives are opposed. If *no* other motives but those of association determined the adoption of particular styles, it is clear that no nation could see merit in any architecture but its own, whereas numerous examples to the contrary exist. There prevails throughout northern Europe a universal admiration of the temples of Athens, and natives of the East are found to be powerfully impressed by the contemplation of Christian cathedrals. Moreover, it is obvious, that even if local association were the sole motive for *retaining* a particular architecture, some other motive must have existed for its *original* adoption. It must have found some other cause of favour in the eyes of its first inventors, and of their contemporaries, whose approval led to its perpetuation.

If, then, among these additional motives, we can find some which are of universal application—true for all time and under all circumstances—it is clear that we shall have arrived at the essential criterion of architectural beauty; and if these criteria be susceptible of philosophical and systematic arrangement, they will constitute a true and logical SCIENCE —the science of architectural taste.

It must be premised that it is necessary to look beyond architecture itself for the discovery of these criteria; for, on account of the influence of the accidental association already referred to, no one system of architecture has obtained the admiration of all ages and all nations. Pointed architecture, after being exclusively practised throughout Europe for many centuries, subsequently came to be considered a production of the *dark* ages. Grecian architecture, when the knowledge of it was first revived in this country by the labours of Stuart and Revett, was condemned by many

celebrated architects, who were prejudiced in favour of Roman and Revival architecture. And again, these latter styles are in the present age frequently regarded as barbarous confusions of incongruous principles and mere travesties of true classic architecture. The universal consent of mankind cannot be the criterion of architectural taste—because that consent has not in any instance been bestowed.

All arts derive from nature their power of giving pleasure. They "hold the mirror up to Nature," and are but the reflex of natural objects or natural emotions. Painting represents natural objects by colour, and Sculpture by form. Poetry, the most comprehensive of all arts, represents by words every passion or other mental image of natural origin,—it is the language of nature. Not, indeed, that art consists in copying or imitating nature, for then the most patient and servile artist would be the best; a daguerréotype would be a higher work of art than the Cartoons of Raphael, and a wax-work exhibition than a sculpture gallery. Nature is not always best represented by an accurate resemblance of her minutest forms. A portrait so exactly resembling a human head, hung against a wall, as to be mistaken for it, would be a painful and appalling object. One of the noblest of the arts—Music—though dependent on nature for its effects, resembles it only in a very remote degree. The highest kinds of artificial music bear no apparent or direct resemblance to natural sounds; but they are regulated by the same fundamental laws; and the man hath no music in his soul who does not feel delight in the singing of nightingales, the rippling sound of brooks, the whispers of summer winds, the murmurs of the distant sea, the roaring of a cataract, the crashing of an avalanche, or the thunders of a great storm.

From analogy, we may suppose that the beauty of architecture also depends on natural causes. Admiration of the appearance of the works of nature is a universal feeling of the human mind; and whether this admiration spring from some innate principle, or be induced by the habit of contemplating nature, the result is the same—that while men retain their love of the beauties of nature, their taste must be prejudiced against those artificial objects in which the elements of natural beauty do not exist.

Architecture is allied to nature, moreover, by a relation which distinguishes it from all the other arts, and constitutes, as we have said, its supremacy over them—its economical application. For as nature preserves throughout her works a definite and useful purpose to which all adornment is subordinate, so is it with true architecture. The wonderful provisions of nature affect our minds—her forms our senses only. The economy of her works is a soul of which her material appearance is but the animated body. Did any part of creation display forms without purpose, it would be no more than an inert adjunct of that body—a dead limb. So likewise in architecture; its utility is its life and soul, and the useless members are lifeless and soulless also.

These analogies between nature and art possess far higher interest than that of mere abstract speculations. They are of direct practical value, for they furnish the key to the only certain and infallible system of architectural criticism. On them alone must the canons of that criticism be founded; and whatever can be proved contrary to them, whatever can be shewn to "o'erstep the modesty of nature," must be condemned as the result of artificial or false taste. We use the phrases artificial taste and false taste as synonymous, because for our purpose they are so. The pleasures of taste affect our minds, not by a logical process, but by sensation, passion, or emotion, or whatever else designates the *spontaneous* feelings. We have no more power to *create* tastes than we have to create in our minds additional faculties of sensation besides those bestowed by nature. Artificial taste, therefore, the craving after objects for which there is no natural relish, can only result from the perversions of custom. It is a morbid appetite, a depravation of the natural faculties, the sickliness and deformity of a mind crippled by the swaddling-clothes of society. True tastes are not produced like the pearls in oysters—from disease. C.

ARCHITECTURAL TOPICS.*

LET us trust that the day is not very remote when professorships of architecture will be founded in our universities, that the alumni who reside in those ancient seats of learning, so rich in the treasures of architecture, aye, richer than most cities, may learn to feel and to appreciate the glories which surround them; and that, whilst they study the poetry and the history of the Greeks and Romans, they may also make some acquaintance with the other treasures which they have bequeathed to us.

Why should not our rising youth, scions of the first families in the kingdom, whose future rank in life may place them in the enviable position of a Mecænas, or an Agrippa, towards the arts, be allowed to cultivate some knowledge of the works of an Ictinus, a Phidias, an Apollodorus, as well as of Homer and Euripides, of Virgil and Horace, of Cicero and Pliny?

It is strange that such appointments should yet have to be made in places where illustration would be so rife, the instruction so concentrated, the hearers so well prepared, and the advantages so great, and more particularly in the last respect, to that large proportion of students whose destination is to pour forth the highest order of instruction in those sublime temples which the skill, the genius, and the taste of our ancestors have reared to the worship of the Almighty, and of which they are to be the guardians, whose duty it will be to prevent any unworthy hand from profaning the sacred character of the place by tasteless and unmeaning changes.

We are led to believe that a new style or order of architecture is in contemplation or desiderated. When we have exhausted the mean already in our power, it will be time to require others. It appears to me to be a great mistake to suppose that the orders left to us by the Greeks and Romans, are not sufficient for every purpose of use in architecture; take the works of Sir Christopher Wren, by way of example, who was only acquainted with, or at least only imitated, Roman art. Do his churches at all remind us of Pagan temples? does his St. Paul's bear any resemblance to a temple of Jupiter, of Mars, or of Apollo? he takes the column and its entablature, it is true, from one of these buildings, but how admirably and with what freshness of thought does he apply them to the protestant structure; nor does he find it necessary to repeat himself, in his fifty churches in London; how great, how charming, the variety, how instructive are the lessons they afford. He invented no new order, but the manner in which he disposed of the ancient materials may rank as an invention, just as Shakspeare, though founding his immortal dramas on some plot or story ready-fashioned to his hands, is yet entitled to the palm of originality, from the glowing diction and matchless imagery with which he invests his subjects.

We hear, too, something said about the want of a national style, as if the whole length and breadth of the land did not teem with specimens of a national style, one of whose peculiarities is even termed the Early English,† as if to place for ever beyond the reach of doubt its derivation from the soil; and so abundant is this field of exercise, that of the hundreds of churches bequeathed to us, no two are to be found as copies of each other; each resembles each, as man resembles man, but we shall not find an Antipholus or a Dromio among them.

I suspect it will generally be found that persons who exclaim against the poverty or insufficiency of the ancient orders of architecture, and disdain to be trammelled with their rules, produce, in the conceit of being wiser and better than their fellows, and under the plea of novelty, the most monstrous caricatures of architecture, in which, however, we can perceive little that deserves the name of originality, for these productions are always based in some respects upon the models of the antique, seen dimly through the disguise attempted to be passed off for invention. The truth is, that such persons are not inventors, but, to avoid the imputation of copying that which is good, in which they would easily be detected, they select some specimens, little known, of an inferior kind, and therefore not so easily recognized, and palm them off as inventions.

I do not imagine that the shade of the Royal Academy Professor of Architecture remained undisturbed in his last repose whilst one of his recent and unfinished works was receiving at the hands of a living and distinguished architect an elaboration of ornament which has completely changed its character. At this point I may remark that the taste of the day evinces too much inclination to sacrifice broad effect and strongly-defined outline, for minute ornament and crowded detail. In a climate like ours, these last can rarely be preserved long from becoming obscured, and their freshness marred; and thus the elaborateness which looks well upon paper, is soon little more, when executed, than a mass of undistinguishable confusion.

Here, again, we may turn, with great profit to ourselves, to the examples of our great masters in the art, Sir Christopher Wren and Inigo Jones, whose ornament was never obtrusive, never redundant, and always in just subjection to the general design. I trust that our rulers may not take up a notion that Whitehall Chapel is too plain and unadorned, or that it requires to be overlaid with a profuse display of festoons, garlands, and vases.

Another feature of the day in our street architecture is the losing sight of the individuality of the houses, several of which are pressed, as it were, into the service of one design. The absurdity of this practice is sometimes very glaring—as when one house has its fair complement of columns, whilst another must be content for its share with at most half a pilaster. This method, objectionable enough in our shops and private dwelling-houses, is, *mirabile dictu!* extended to our palaces; and the new front of the metropolitan abode of Royalty has more the appearance of five houses clubbed together for the nonce, than the principal entrance to the palace of the greatest queen in the world.

Exactly a twelvemonth ago* I lifted up a warning voice against the impolicy of lavishing a vast expenditure upon Buckingham Palace; and though that warning was re-echoed through the land with much public approbation, the golden opportunity has not been seized of rescuing England from the reproach, that she is the only one of European kingdoms which does not possess a palace worthy of its capital and its sovereign. No wonder that our gracious queen prefers to inhale the genial breezes of the Solent rather than the unhealthy damps of Pimlico.

An emergency, of which my pamphlet foretold the probability, is likely to occur sooner than I anticipated, through the munificence of an individual, whose name will be for ever associated to his honour with the fine arts. In suggesting that the National Gallery of paintings might find a fitting abode in the palace when the sovereign should be provided with a more convenient and healthy residence, I little thought that so soon a large space would be required for an increased collection; but the noble promise of Mr. Vernon, to bestow upon this country his unrivalled gallery of English Masters, points to the necessity of having a building fit to receive this accession to the public treasures. A new building, therefore, will be required; and, as to the shrine which is to inclose such precious gems of painting, let us hope that it will be designed in a spirit worthy of the nation—that, as a specimen of architecture, it may stand foremost among the monuments of the metropolis—and that no niggard hand may deal out the means to produce in one spot a concentration of all that is best and most beautiful in art union of the sister arts, architecture, painting, and sculpture, which, like the Three Graces, are ever seen to most advantage when closely united.

Upon the whole, the events of the past are sufficiently encouraging to warrant the hope that the country and the country's rulers are awakened to the belief that her arts may prove her best monuments, to later ages, of her rank among civilised nations; and though when

* From an address delivered at the anniversary meeting of the Freemasons of the Church, by Mr. G. R. French.

† The terms "Tudor" and "Elizabethan" also sufficiently denote claims to a national origin.

* In a series of letters, first published in THE BUILDER and collected into a pamphlet, with additions, entitled "The Palace, the National Gallery, and the Royal Academy considered: by G. R. French, architect. John Weale. 1846."

after the lapse of many centuries, such monuments are gazed upon only as mournful relics of a once mighty state, they may not awaken such wonder and applause as the unrivalled works of Greece and Rome have excited in our minds, yet the beholder will reflect that they were conceived in a far different spirit—that they were not the trophies of conquest nor the spoils of war, but the softening refinements of peace, the illustrations of a poetry as beautiful as the pagan's, of a creed more sublime than the heathen philosopher ever dreamed of.

THE GAS MOVEMENT.

MORE DUST IN THE EYE OF THE COMMONS, AND HOW TO 'ABSTRACT' IT.

Looking far more to the *relative* than to the *absolute* merits of the "Abstract of Return" in which the rates of charge, the capital, and the dividends, of companies established under special Acts of Parliament were presented to the honourable the House of Commons; pleased, moreover, to perceive, that now the more enlightened and less hopeless of directing shareholders themselves *must* be at length convinced, by the history of their own experience as a class, presented in these their own returns, that the public interests and their own are one and the same, and that the increase of their dividends depends entirely on the diminution of their rates of charge;—we had conceived, mistaken that we were! that to present a few corroborative details in proof of this, was almost all we further had to do with these returns, besides indeed protesting, *mordicus*, as we did, against the whole of them with few exceptions, *as a full and fair accounting*, till at least the 'dividends' should receive some little countenance from the 'bonuses,' which seemed to have turned their backs upon their boon confederates altogether. We had therefore well-nigh made an off-hand ending of our task, awaiting proper time and place for its insertion, when a new misgiving took us rather suddenly aback, and shortly thereupon convinced us that our task was not so very near a close as we had imagined—that, in short,—and to our own particular (or rather universal) class of readers, and in confidence, we do not mind disclosing it,—for once we felt the 'dust' even prickling slightly, for an instant, in our own good staring pair of optics. We were very soon, however, up to an effectual eye-snuff, and the benefit of our antidote we willingly share with our friends the gas consumers, actual and expectant.

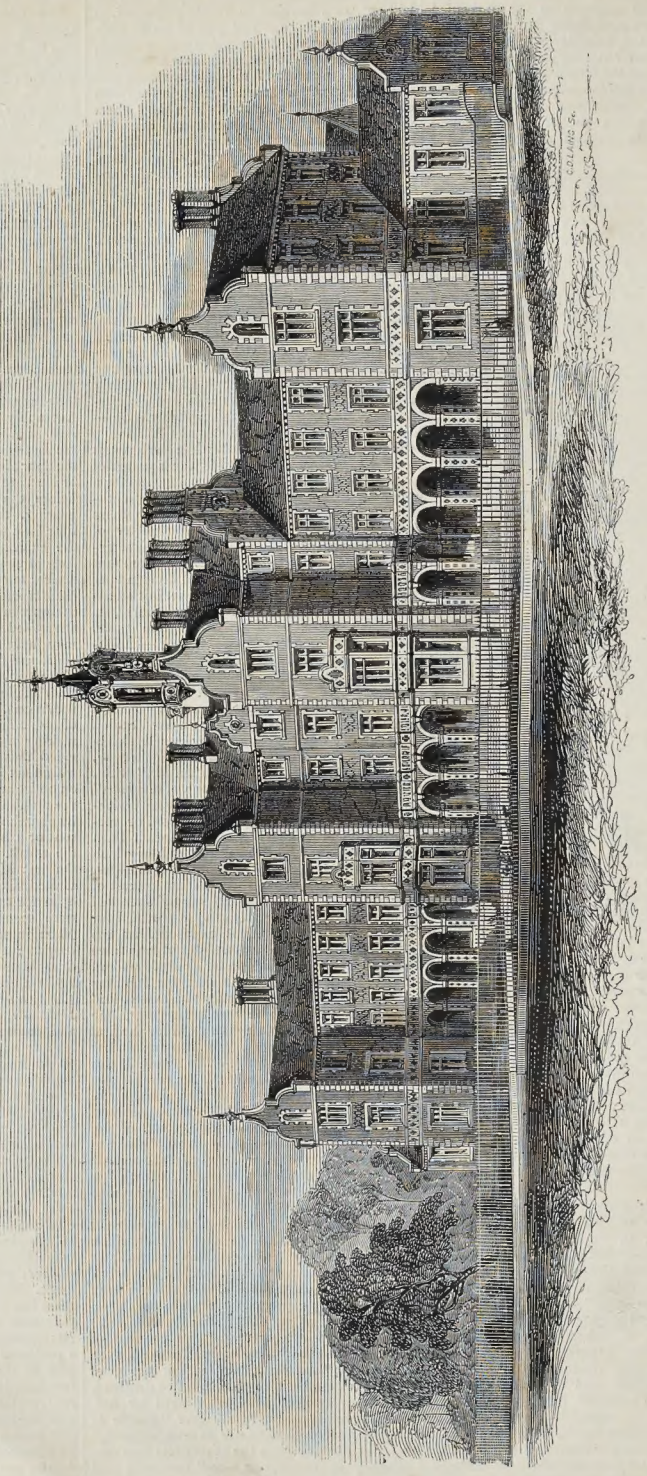
In the memorable "Abstract of Return" now under notice and dissection, we must preface, that the honourable and unsuspicious Commons seem to have merely, in an off-hand manner, ordered a return of "the amount of fixed capital of each Gas Company, and the rate per cent. of dividend"—upon that capital, of course. Now, knowing well that the capital *fixed* by Act of Parliament is not exactly and in every case the capital *paid up*—or *down*, we sought some further light on this rather interesting and important point, by a little closer examination of the general structure and particular details of the Abstract of Returns; and the result of that examination must, we fear, afford the principal topic of our present rather incidental and unlooked-for intercalation.

In the first place, we must note, that throughout the whole of this return we find one column titled, in explicit response to the "order" given,—"Amount of Fixed Capital;" and, in immediate and sequent juxtaposition, another column titled,—"Rate per cent. of Dividend in each year"—upon the foregone amount of fixed capital, of course,—there being, in fact, no other column for capital at all. Now, after a thorough search for some explicit or proper distinction between the capital authorised and 'fixed' by every 'Act,' and the amount 'paid up' upon that authorised fixed capital,—some intimation which might enable us, in short, to judge of or to state the rate per cent. of dividend *on the amount of capital paid up*,—the only really intelligible, useful, or significant statement of profits to be looked for in the whole return,—we find that almost as profound a silence reigns on this as on the cognate head of 'Bonuses.' Passing onwards from one return to another through *all* the more important of them, not one syllable or figure is there, in scarcely any one of them, to show the amount of capital paid up, laid out, or otherwise in reality employed, or especially to show the real rate of profit, dividend, or bonus, on the *actual* capital or outlay. All we have is but the estimated rate of dividend *on* the full amount of capital authorised and fixed by Act of Parliament! But, in the midst of so profound a silence, here and there some still *small* voice has ever and anon ingenuously, or inadvertently, acknowledged the distinction, indirectly or by implication. Thus, beginning with the alphabetic 'A,' and running down through all such more or less important heads as Ashton, Barnesley, Bath, Birmingham, Bolton, Bridgewater, Brighton, Cambridge, Canterbury, Carlisle, Congleton, Coventry, Derby, Dover, Exeter, Gloucester, *et multis inter-aliis*, not the most distant hint is given of either the actual profit or the actual outlay,—all is "a mockery, a delusion, and a snare,"—a "much more ostensible than real revelation of the secrets of the gas-house" with a vengeance,—till we come to the *important* town of "Holmfirth:" there we find the wished-for distinction first fully and fairly recognised, so far at least as regards the difference between fixed capital and capital paid up,—for there it is confessed, that "the Act limits the fixed capital to 12,000*l.*, while the amount here returned [8,325*l.* only] is the amount of capital paid up." But do not imagine for a moment that even "Holmfirth" was so 'truthful' as to 'reveal too much.' Not even there will you find it admitted, as by parity of circumstance and reason one would have expected it to be admitted, that "the amount *here* returned is not the amount of dividend per cent. upon the capital paid up alone, but on the whole fixed capital." Next, in course, is Ipswich: not a word of explanation there, of course. Then "Isle of Thanet,"—Holmfirth over again. Then Kendal, Kidderminster, Kingston-upon-Hull—a wonderful exception of the Holmfirth class, in which just so much is admitted, and no more, than that "the Act authorizes the company to raise a fixed capital of 17,000*l.*, but they have only issued shares amounting to 14,125*l.*, upon which [again even, only] 11,712*l.* 10s. has been called for." Still, however, does the "rate per cent. of dividend" on the "amount of fixed capital" stand without a word of explanation, limitation, or correction, under its own *inappropriate* head! Then follow Leeds and Leicester (of both of which anon), with Lincoln, Liverpool, London,—yes, even London,—all as silent as the gravest of the grave on this head,—all snugly sheltered under the thick and dusty canopy provided for their special privacy, not exposure, by the accommodating Commons. But at length we reach "The Equitable" under head of London. Surely something may be looked for from the 'Equitable?' Yes, much may 'be looked for' there, but little will be seen. However, here there *is* some slight exception; and for the first time is there even an *attempt* to explain the ostensible rate of dividend. The nominal rates of 4*l.* 10s., and 7*l.* 10s., and 3*l.* 10s., and 8*l.*, we are pointedly told, being *only* "an average rate of dividend of 2*l.* 13s. 5½d. per cent. per annum on the [now for it,—on THE] capital of the company!" That capital—"*fixed* capital"—the "capital authorized by Act of Parliament" is 200,000*l.*, but what "the capital *paid up*,"—deponent knoweth not. Then on we go to "The Independent,"—and exceedingly independent *it* must be of all those wonderful fluctuations between 35 per cent. and *nil*, which elsewhere cause these curious returns to assume the aspect of an accounting of a set of fund-holding sharebrokers, much more than of quiet and unspeculative shareholders of so *steady* a light as gas should be; for from 1830 down to 1846 inclusive, the "rate per cent. of dividend" on the "fixed capital" was 6*l.*, even 'without a shadow of turning,' or the most laconic of remarks on either capital or dividend, real or ostensible, paid up or fixed by Act. Then comes the "Phœnix," ever "unable to realize any trade-profit since its establishment," yet ever reviving from the ashes of its own dissolvency or dissolution,—well-feathered and buoyant as ever, with a "fixed capital" of 3,069,000*l.*! and what is more, 'poor mouths' notwithstanding,—*bona fide* 'dividends' on that enormous 'fixed' sum-total, ranging from 5*l.* per cent., in 1825, and 6*l.* per cent. in 1828-33 to 5*l.* per cent. in 1840-46, inclusive, with on no occasion less than 3*l.* per cent. throughout the whole of that long interval!

We intended to have thus discussed the alphabet *ad longam;* but, *ex ped. Herc.*, yea, *ex artic. ped.*,—the story is one and the same throughout, and we are fairly sickened with it in detail, as we have no doubt others must be. We shall therefore now revert to the relative or comparative details already promised. The instructive nature and object of these, we need scarcely say, are little if at all affected by the preceding exposure. But we cannot do justice to them at the mere fag-end of an article like the present, and must therefore still await another opportunity of presenting them to all and sundry interested in them,—and *their* name is Legion.

RAILWAY JOTTINGS.

The new Act for extension of time in the completion of works (11th Victoria, c. 3) came into operation on Monday week. Various alterations have been made in it since its introduction. If any company desire that the period limited by past Acts should be extended, they may within two months after passing the Act apply for such extension to the commissioners of railways, who may require notice in the *London Gazette*, in a newspaper, and on the door of the parish church in which the works or land are situated: objectors may complain before the commissioners. On proof and hearing, the commissioners may extend the time for a period not exceeding two years from the expiration of the period allowed by the Acts already passed. *Existing contracts and notices to take lands are to be construed as if the Act had not passed.* Within a month after the warrant to extend the time is granted and advertised, parties aggrieved by such extension may have awarded to them compensation for additional damage sustained by such extension. The principal alterations in the measure have been made in the eighth and two following provisions. In order to ascertain the opinion of shareholders, made requisite to the making of contracts for new works, it is provided that a general meeting shall be held within six weeks after the passing of the Act, on notice and circular,—the chairman to cast up the number or amount of shares or stock held by shareholders dissenting therefrom, whether sent or expressed at the meeting, and publish the result. Three-fifths must consent.——On first May last, there were employed in the United Kingdom on 3,305 miles of 74 railways open for traffic, 47,218 persons: of these 124 were secretaries, managers, and treasurers; 96 engineers; 399 superintendents; 91 storekeepers; 100 accountants and cashiers; 100 draughtsmen; 3,432 clerks; 823 foremen; 2,969 enginemen or drivers, and assistants; 1,163 conductors or guards; 10,800 artificers; 1,041 switchmen; 8,576 policemen, porters, and messengers; 4,148 platelayers; 12,493 labourers; 407 gatekeepers; 151 waggoners; 49 brakesmen; and 256 had miscellaneous employment. On 6,455 miles of 128 lines and branches in course of construction at same period, 256,509 persons were employed. Of these 235 were secretaries and managers; 34 treasurers; 549 engineers; 2,382 superintendents and storekeepers; 264 accountants and cashiers; 1,437 draughtsmen and clerks; 240,301 artificers and labourers; 153 inspectors; 32 land-surveyors; 6,741 miners or quarrymen; 1,087 foremen; 125 policemen or gatekeepers; 16 porters, servants, or watchmen; 876 platelayers; 1,793 horse-drivers or carters; and 487 had miscellaneous employment. Total number of persons employed on these two classes of lines, 303,727.——A modification of our own simple plan for the perfect guardianship of trains, by the opening of a protected line of communication from one part of the train to another, either along the foot-board or through the carriages, has been resuggested by a correspondent of the *Railway Record*, who indeed points out the fact that such a mode of "enabling the public to help themselves" in case of fire or other accident in one part of the train, is already practically in operation in the United States, where the guard and money-taker has a range of forty feet in length within the limits of one compartment or carriage, along which he can freely communicate with all the passengers.



VIEW OF THE KENSINGTON UNION WORKHOUSE.

MR. ALLOM ARCHITECT.

ANCIENT IRONWORK—ST. MARGARET'S, LEICESTER.



KENSINGTON UNION WORKHOUSE.

Our engraving represents the new workhouse now in course of erection, from the design of Mr. Allom, for the parish of Kensington, on land purchased of Mr. Gunter. Some particulars of the competition in which the plan was selected appeared in our pages a few months ago.

The building is to contain upwards of four hundred paupers, and has an infirmary with airing grounds detached from the main building. The first tender as accepted by the Board was 10,600 and some odd pounds; the second, with additions, amounted to 11,020*l.*, at which it now stands.

The total length of frontage is 262 feet, the whole of which is given to the aged and infirm, with arcades for exercise and a garden in front. The able-bodied and younger classes are kept more immediately under the eye of the master and matron.

ANCIENT IRONWORK ON DOOR AT ST. MARGARET'S CHURCH, LEICESTER.

In a recent number of The Builder a few remarks were offered on the architectural features of the church of St. Mary, Leicester, with details from the carved oak screen which it contains.*

The church of St. Margaret, situated without the walls, is another fine example of mediæval art, and exhibits many valuable minutiæ, some of them of recent discovery. For about a century the east end had been partly concealed, and partly disfigured by an altar-piece of questionable taste, which was about two years since removed, when it appeared that a magnificent perpendicular window had been bricked over, and that the side niches, long remarkable for their beauty, had originally been painted and gilt. Being somewhat interested in the removal of several coats of whitewash from this and other parts of the church, we watched its progress to discover, if possible, the remains of any mural decorations which might present themselves, particularly at the back of the modern altar-piece. All, however, that could be ascertained was, that a group of the annunciation once occupied that situation, and that a portion of the lily, and the words "Ave Maria gratia," were yet visible. The mullions of the centre window have now happily been restored, the niches cleansed and purified to their original stonework, and stained-glass, by Mr. Willement, inserted in the side windows, to the memory of the late lamented Rev. Mr. Irvine. The remaining windows of the chancel are still covered only with canvas, till funds necessary for their glazing shall have been procured. But the chancel is not the only interesting portion of St. Margaret's. The tower, raised in 1444, is a structure of much skill and arrangement, and a door situated

* See p. 579, vol. v.

near it to the south, and now presented to the reader by engraving, is a beautiful and rare specimen of early ornamental ironwork. It consists of a quantity of foliated wrought metal, in some places twisted, and in others enriched with what were perhaps intended for the heads of birds and animals. The ornament is strangely irregular and fanciful in the mode of its fabrication, and appears since its execution to have been placed upon a second ground-work of oak. It is a pity that this singular door should be allowed to remain, as it does at present, darkened and nearly hidden by a modern porch of neither taste nor interest.

NOTES IN THE PROVINCES.

THE church of St. Simon, at Baptist-mills, Bristol, consecrated on Tuesday week as already noticed in the BUILDER, is in the early decorated style of latter part of 13th century, consisting of a nave 80 feet long, and a north aisle and porch, with chancel, 30 feet deep, and a tower and broach spire 121 feet high, at east end of aisle. The exterior is of blue lias with freestone dressings, and the interior is fitted up with low open deal benches stained and varnished, with oak stalls and railing in chancel: the roof timbers are also stained. The pulpit and reading-desk are of freestone: sittings, 700,—500 free: cost about 2,500*l.*: designs by late firm of Messrs. Hicks and Gabriel, of Bristol, architects; builder, Mr. Robertson, of Stoke's-croft.——The new tower of St. James's Church, Bath, has been completed, by the elevation of the ball and vane of the old church to the top of the dome of the new.——At Cowbridge Church, Glamorganshire, the old windows are being restored, with new freestone tracery, &c., partly filled up with stained glass. Mr. Haycock, of Shrewsbury, is the architect. The restorations are due to the Chancellor of Llandaff Cathedral. ——The Rev. James Evans, of Llandoe, is also having his church restored through the munificence of the Marquis of Bute, and under the superintendence of Mr. I. S. Corbett.——The parishioners of Thornbury, says the *Worcester Journal*, have determined to repair their fast decaying church, and the work has been confided to Mr. Niblett, of Gloucester, architect. The roof is to be thoroughly renewed, and the church repewed; the whole at an outlay of about 2,000*l.*——A painted window, executed by Mr. George Rogers, of Worcester, has just been placed in the east window of Hallow Church. The lower compartments are filled with geometrical patterns, the groundwork of which is composed of traced foliaged designs from old examples, surrounded with marginal borderings of rich colouring. A vesica, with monogram, forms the principal device of the middle light, encircled with ruby grounds. The following inscription is inserted at the base of the window:— "Hæc fenestra, Henrico Josepho Stevenson, M.A., hujus Ecclesiæ Presbytero, quibusdam amicis dono data,—monumentum et pignus, desiderii, ab illo hic posita est anno Domini, 1847."——Some restorations have recently been effected in St. Peter's Church, Derby. The pulpit has been removed from the middle of the centre aisle to an angle under the chancel arch, which a correspondent regards as an improvement. The old lath and plaster ceiling, too, has been torn off the chancel roof, and the moulded oak timbers exposed and cleaned. The new vicar, Rev. Mr. Hope, had advised with Mr. Place, of Nottingham, architect, and by his recommendation effected these improvements. ——The trustees of the Welney Charity, at Upwell, in Norfolk, in the spring of the past year, began to build a new church, almshouses, and school, with master's house attached. All are now nearly roofed in. The style of the church is of the thirteenth century. The design is plain. The walls are of brick faced with *carr* stone from Lynn: the windows and buttresses are of Casterton stone, and the chancel-arch and other interior features of Caen stone. The application of the *carr* stone in large blocks is novel: it is said to be a durable material, upon which time confers a silvery grey tint. Mr. Andrews, of Wisbech, builder, is the contractor. A less ancient style has been adopted in the other buildings, which are of white brick with stone dressings.—— A movement is in progress at Wolverhampton for the erection of a corn exchange.——The dilapidated and disgraceful state of St. Mary's Church, Oxford, for centuries used as the University church, is under the consideration of the University and the parish authorities. The tower and the chancel, in particular, are fast mouldering away. A project has been set on foot for filling the east and west windows with stained glass.——Bridgnorth Church has been restored, and chancel windows of painted glass have been inserted.——The parish church at Newark, Notts, has been somewhat improved of late by the removal of obstructions, &c. The removal too of unsightly galleries and inconvenient pews, out of keeping with the architectural character of the building, have been pointed out as very desirable.——The tender of Messrs. Harrison and Hoyle, of Chester, for the building of the new barracks at Sheffield, has been accepted by the Board of Ordnance. It is rumoured that the amount of their tender was about 19,000*l.* The *Iris* states that there were eleven tenders sent in, the lowest of which was about 17,000*l.*, whilst the highest was about 24,000*l.*—only a difference of 7,000*l.*! Several correspondents have asked us for more exact particulars. ——The chalice, bones, and coins discovered on the site of St. Mary Magdalene, Doncaster, have given rise to some speculation as to the precise era and antiquity of the church; indeed, the excavations were designedly made, for the purpose of throwing some light, if possible, on this rather doubtful subject. One skeleton, or all remaining of it, was found under the high altar, with the leaden chalice, like an egg-cup, between the finger and thumb, but no trace of a coffin was at first discovered, and hence the era was regarded as so remote as that previous to coffin burial even of high dignitaries, such as this appears to have been, or about the earlier Anglo-Saxon times. But since the original discovery, some vestiges of a screw nail, supposed to have belonged to the coffin, have been found. Even so, however, the era must have been of ancient date, since the coffin has been entirely consumed. The coins are Roman and German. Amongst the debris is a piece of marble, supposed to have contained holy water; a piece of undoubted Roman tile, several fragments of vessels or urns, a very singular key, and a seal with three arrows upon it. On the whole, the relics are thought to furnish, when combined, "undoubted evidence of the antiquity of the place in which they were discovered. They are unquestionably the deposit of a long series of ages, and lead to the conclusion that St. Mary Magdalene's Church at Doncaster may have been preceded by a rude Saxon structure, and that again preceded by a heathen temple of the Romans, in the same way that St. Paul's Cathedral was built on the site of the Temple of Diana."—— The rooms of the Liverpool Academy, in which the exhibition of the works of living artists has just been held, are now to be thrown open for exhibition of the same paintings to the poorer classes for a fortnight—the terms of admission being, for adults twopence, children one penny; catalogues also provided at a penny each. "The interest which is taken in the welfare of the working classes," observes the *Albion*, "the desire which is evinced to provide for them sources of rational and elevating amusement and recreation—is not the least pleasing characteristic of the present day; and we hope the labouring people of Liverpool and the neighbourhood will show how they appreciate such opportunities, by crowding in thousands to the exhibition rooms," as they appear to have done on two previous occasions.

ORNAMENTAL ROOFING TILES.—During the past week two vessels, the *Celerity* and *Joage Johanna*, have arrived from Belgium freighted with ornamental roofing tiles. They are of a blue or slate colour, and cost, as we understand, about the same as slating. One pattern in form resembles a leaf, and would, when placed upon a roof, have a picturesque effect. The use of these tiles appears to be extending. We recently noticed that they were used for the church at Staplefield, Sussex. St. Paul's Church, Hull (Mr. Dykes, architect) has also been roofed with them, as well as the boat-house on the Serpentine, in Hyde-park.

PUBLIC AND CHARTERED CEMETERIES.

SIR,—In the last number of THE BUILDER, under the head of "What should a Sanitary Bill contain?" it is proposed that the system of joint stock companies for cemeteries be at once put an end to, and the interests of the shareholders in the existing cemeteries purchased. It also appears that the Association of the parochial clergy that waited, by deputation, on Lord Morpeth, entertain the same intention. This will readily be responded to by those who perceive the deception of these decoys; who know that in a few years, stript of their distinctive charms, they will be in every respect like our old churchyards,—stone against stone, with not a foot of unapplied space for the contemplative visiter to move between the tombs without trampling on forbidden ground; who foresee the saw and the chopper devastating the beautiful plantations that enticed them to lay the remains of friends within the shadow of a majestic cypress, or under the pensile willow, until not a vestige of their present attractions remain. It will also be as interesting to those who, in the hour of bereavement and generous grief, paid all they could afford to pay for a private grave for the interment of relatives in so beautiful a garden, and afterwards discover that after-fees impose on them an unceasing impost. In fact, the larger the profits of the company the sooner is the charm,—the poetry of sentiment—driven from its precincts. For the information of your correspondent and the Parochial Clergy Association, I submit the following summary of the charges and value of ground in those cemeteries: from it they may decide whether it will be advisable to think of purchasing those places at an enormous outlay, or whether a tithe of the amount would not be more beneficially expended on now open fields, to be consecrated in fair rivalry of the existing cemeteries.

The nominal first price of a common private grave in our cemeteries is only 3*l.* 3s., but fees of interment, &c., carry the usual cemetery expenses, for opening the ground, use of chapel, salaried chaplain, registrar (usually the company's secretary), &c. &c., to about six guineas. If you require a larger space than six feet and a half by two and a half, you are charged 8s. 6d. a foot; but the expenses do not stop at that; the allowance of extra ground at 8s. 6d. a foot is often refused on various pleas, the real cause being the estimated ultimate value of successive fees, which the companies or their officials calculate to raise the value of ground finally to 1*l.* 5s. a square foot. Allowing for paths, &c., this would give about 40,000*l.* per acre, or for two hundred acres already chartered near the metropolis, the enormous sum of eight millions. That they would take much less, perhaps one-fourth for money in hand, cannot be doubted, but such is the calculation of estimated value.

A SUFFERER.

LUNATIC ASYLUMS.

SIR,—I find the leading article of THE BUILDER of the 11th of December ult., treats on the designs and management of lunatic asylums, and that you therein advocate the adoption of a two-story building for the proposed Middlesex asylum, stating, "that the disadvantages of a third story are obvious, such as the additional fatigue occasioned by it, and the obstacle this affords to a proper supervision." Upon this subject I should be glad to find some one who would describe the disadvantages in point of supervision and fatigue of a three-story (or even of a four-story building), in comparison with one of two stories. At present there is nothing but mere assertion to grapple with, and I think that the attempt to make it practically appear would refute itself.

I have reason to believe that these objections are imaginary and erroneous in practice; and, as your journal is a valuable vehicle to convey information on matters of building interest to the public, whence they may be discussed and something near the fact arrived at, I will venture to state the results of the inquiries I found it expedient to make upon the disputed point, of the merits of a three-story building for the purpose of a pauper lunatic asylum,

where a considerable number of patients were to be accommodated. This information was derived from officers of long experience in the care and management of these public establishments, eminently qualified to decide such a question.

The following were stated to be the leading practical and economical advantages of a building of three stories over a building of two stories in height, to accommodate any number of patients exceeding four hundred.

That it will contain a superior accommodation in one-third less space or superficial area:—that the management of the asylums will be more convenient and easy from the decreased distance to be traversed by the officers:—that the classification of the patients can be more effectually carried out:—that the upper stories afford a more cheerful and airy habitation to two-thirds of the patients, being those of the best classes, whose comfort and happiness are increased by an entire separation from the worst classes, the dirty and the noisy, for whom there is ample room on the ground-floor:—that many aged and infirm patients who are incapable of leaving the galleries, and whom it would be inconsiderate to place on the same floor with the worst classes, would be beneficially and cheerfully placed on the upper-floor:—that the upper-floor would tend to the health of the patients, by their being removed, from the damp and effluvia to which a ground-floor is incidentally liable, to a purer and drier air:—that the alleged difficulty of ascending a second staircase is entirely obviated by constructing them with a landing half-story high, and that two-thirds of the whole number of patients being capable of employment, they can readily ascend a second staircase:—that the building would be erected at a considerably less cost, equal to about 16*l.* per patient.

The late Sir William Ellis, in his treatise on insanity, remarks, that any objection to a three-story building, from its fancied inconvenience to the servants, is perfectly futile; that the plan was found to answer exceedingly well at Wakefield, where he resided for many years; and, as it effects a considerable saving, he had no hesitation in recommending it.

It may, moreover, be observed, that public hospitals of any extent are built three stories in height. With the above-described advantages attendant upon a three-story building, I am of opinion, that the Commissioners in Lunacy, after further practical experience, will eventually relinquish their present predilection for a two-story building.

Although opposed to your own remarks, I rely on your impartiality and desire to arrive at truth, for the insertion of this communication.

YOUR SUBSCRIBER.

CHURCH NEEDLE-WORK.

Some of our readers who desire to work altar-cloths, hassocks, and book-covers, having inquired of us for patterns, we are glad to be able to point their attention to a very excellent "Book of Symbols for Church Needlework," of which a second edition has recently been published by Mr. Wilks, of 186, Regent-street. It contains twenty-nine sheets of patterns, mostly appropriate in character, simple in design, bold in effect (when worked out to a proper size, according to the canvas employed), and easy of execution. In the practical directions which accompany the designs, it is remarked "that the figures should not be shaded. The most beautiful effects may be produced by the employment of two or three colours only on each pattern; for instance, all the figures in gold colour on rich blue or ruby grounds, the squares being separated or surrounded by a single border." This series of plates being uniform, facility is afforded for the sub-division of labour, as the several parts may be worked by different hands and then joined together. To Mr. Wilks, one of those men of education and fortune, engaged in commercial pursuits, to be found only in England, the credit is due of having first introduced the Berlin work in England, which has led to an enormous trade, and given respectable and lucrative employment (where it is so much needed) to thousands of females.

SCENERY AND DECORATION.

Mr. Planché's charming Christmas piece at the Lyceum, displays some of the most beautiful scenery and costumes that we have seen for a long time. An enchanted wood, with groups of shepherds and shepherdesses, improvements on their China resemblances to be found in nice old houses, is one of the most perfect things ever put upon the stage: the arrangement of colours is quite beautiful. With the neatness, elegance, and good taste shown in the piece itself, we are supposed to have nothing to do; or we should speak in warm terms. The first scene in the Drury Lane pantomime, the sea-shore by moonlight, with mimic ripples, is excellently well managed. Mr. Balfe's new opera has some capital scenery. Gothic architecture is beginning to be better understood by stage artists than it was, and we find more consistency in architectural representations generally. An amusing instance to the contrary was observable in a piece by the late Mr. Peake, called "Gabrielli," recently played at the Adelphi Theatre, where an Italian monumental urn, on a pedestal to match, was represented beneath a gothic canopy.

METROPOLITAN COMMISSION OF SEWERS.

The second meeting of the Metropolitan Commission of Sewers was held on Thursday, the 23rd ult., at No. 8 Committee-room, House of Commons; the Right Hon. Lord Morpeth, M.P., in the chair. There were present—Lord Ashley, M.P., the Hon. F. Byng, Mr. Walter, M.P., Mr. Bullar, Mr. R. Lambert Jones, Mr. Leslie, Dr. Southwood Smith, Mr. E. Chadwick, Rev. W. White, and Mr. Puckle.

A report was read from the Committee of Accounts on the subject of the custody of the funds of the commission, which stated that they had made arrangements with the Directors of the Union Bank of London for that purpose, they giving a rate of 2 per cent. interest on the monthly minimum balances in their hands, and giving their freehold banking-house, value 30,000*l.*, as a security for the same. The recommendation was unanimously adopted.

A recommendation was next reported from the committee that all officers of the commission should be re-appointed for a quarter of a year, and that all fees and per centages be henceforth abolished. This was adopted.

Lord Morpeth then called upon the surveyors of the commission to make their report on cleansing and flushing, which was as follows:—

"Since the last meeting of the court we have increased the number of men employed in the operation of flushing sewers and cleansing cesspools to upwards of fifty, and now respectfully submit our report on the works performed. In seventeen streets 142 cube yards of deposit have been flushed away from 4,517 feet in length of sewers, in the Westminster division. The depth of deposit varied from 9 inches to 1 foot 6 inches.

"With regard to cesspools, we beg respectfully to offer the following remarks:—'The pump which we have caused to be constructed for the removal of deposit from cesspools into the sewers requires only two men to work it, and other two men to attend to the hose and dilution of the deposit. As this pump discharges thirty-two gallons per minute, and after being fixed has emptied a cesspool containing 3 cube yards of deposit, together with the water used for dilution, in less than half an hour, we do not think it advisable to increase its size. A larger pump would require more hands, and as much of the time is occupied in removing the apparatus from one cesspool to another, and adjusting the hose, the proportion of time saved would only be during the time of the pump working, which, on calculating, we find thus:—Small pump, worked by two men, would empty (say) five cesspools, containing 15 cube yards, in the whole nine hours; large pump, worked by four men, would only empty six cesspools, containing 18 cube yards, in the whole nine hours and a half.'

"We propose to make a slight alteration in the construction of the pump, by fixing it in the centre of the carriage, instead of at one end, so that both men shall stand in the platform, instead of only one as at present. Sir William Burnett's disinfecting fluid has answered the purpose of destroying the obnoxious effluvia in every instance.

(Signed) "J. Roe, John Phillips, } Surveyors.

"December 23, 1847."

Mr. Chadwick wished to know whether they could carry on the process of cleansing without the escape of any offensive smell, so that it might be done in the day-time.—Mr. Roe said the whole of their cleansing and flushing had been performed in the day-time, and although fifty persons were frequently looking on, they never suffered the slightest inconvenience on that account. Very great objection was urged by the owners of houses to the cesspools being emptied at all for fear of the expense; while, on the other hand, the occupiers were very thankful for the relief thus afforded.—Mr. Chadwick hoped they would fully carry out this plan, which for some time had been the mode adopted in Paris, where relief was immediately afforded, and at a very trifling expense.—Lord Morpeth—What is done with the sewage obtained therefrom?—Mr. Chadwick said in Paris it was conveyed by large barrels to the outskirts of the city, where it was sold; but in London it was discharged into the river Thames, and this subject would form a matter of serious consideration for the committee.

The clerk read a complaint of want of drainage from the inhabitants of Drury-lane, and in reference to it said that the lower part of Drury-lane, below Long Acre, had no sewer at all. Referred to the General Purposes Committee. A letter was received from Mr. Bathurst, one of the late Commissioners of Westminster Sewers, calling upon the court to extend its powers and active operation to the parishes of Hammersmith and Fulham, in compliance with the wish of the united boards of those districts.

Lord Morpeth inquired of the clerk whether this commission had any jurisdiction in this division?—Mr. Hertslet said some doubts formerly existed, but they had been completely set at rest by the new Act, which invested them with full powers for the districts of Hammersmith and Fulham, and several other parishes. Referred to the General Purposes Committee.

A resolution was then proposed and adopted, that all books, contracts, plans, records, &c., of the entire commission for the future shall be deposited at the office in Greek-street.

Lord Morpeth said he was now compelled to retire from the chair, but before doing so he wished to mention that he had had a communication with the Board of Ordnance, in consequence of a conversation they had on their last meeting, requesting to be furnished with an estimate of the survey of the metropolis. He was happy to say that they could see their way very satisfactorily, and that a survey sufficient for all the purposes of the court could be completed at a comparatively very small expense.

Lord Ashley having taken the chair,—

A report was read on the subject of house drainage, which set forth that at present house drains were put down on no regular system,—that a current of foul air frequently passed from them into the houses, and that the walls of houses were exposed to permeation therefrom, causing the most frightful results.

Mr. Chadwick urged upon the court the necessity of looking into this subject, as at present there was no general plan, and it was also incumbent on the court to look at the expense, which should be the minimum, so that it might be as little onerous as possible. He had heard the opinion of many eminent builders, that in numerous instances the expense of laying in drains was mere waste of money, from the absence of any regular system—aggravating the evil by the escape of effluvia into the air, and permeating the sides of houses. In putting in drains they ought to form part of a general system. It was important that all parties should know that from these considerations plans would speedily be brought forward for the benefit of all, and that great improvements and reduction of expenditure were but in their infancy. There was no alternative but that the court should take immediate steps, as many districts were quite ready to adopt their measures as soon as they ascertained they could receive them at a reasonable cost. He concluded by moving that the resolutions proposed by the General Purposes Committee be approved, carried out, and adopted. This was unanimously agreed to.

The Hon. F. Byng wished the court to be in full possession of all facts relating to where the greatest evils from nuisances and want of drainage existed, and therefore moved, "That the clerk do write to the Commissioners of Police, requesting the superintendents of the various divisions to report for the information of the Metropolitan Commissioners of Sewers what localities are in the greatest want of drains, and where the inhabitants are most suffering from the accumulation of offensive matter." Agreed to.

Mr. Walter said he had been informed that, for drainage purposes, a very effectual substitute for the expensive terro-metallic pipes could be found in Claridge's asphaltum, and moved "That the surveyors do report on the make and cost of Claridge's asphaltum, and any other proposed materials for sewerage purposes. Agreed to.—On the motion of Mr. Leslie, Mr. Walter was added to the General Purposes Committee.—It was arranged that an office for the reception of applications and rates, for the Surrey and Kent Divisions, should be opened near to the Obelisk, in the Blackfriars'-road.

At a meeting of the commission on the 30th December, in No. 8 Committee-room, House of

Commons: Present—Sir E. N. Buxton, M.P., in the chair; and the Hon. F. Byng, Dr. Buckland, Mr. Hutton, Mr. Leslie, Mr. E. Chadwick, Mr. R. L. Jones, Mr. Bullar, Mr. T. Puckle, Mr. T. I. Broderip, and Dr. Southwood Smith.

The clerk (Mr. Hertslet) reported that the balances in the hands of several of the divisions of sewers had been deposited in the Union Bank of London, and the following accounts in reference to them were laid before the court:—

WESTMINSTER DIVISION.

Balance left in hands of Drummond and Co..	£2,782	1	9
Payments made on the 16th and 23rd of December	2,550	0	0
Leaving	£232	1	9

TOWER HAMLETS DIVISION.

Balance left in hand	£12,175	1	6
Payments	1,413	19	11
Leaving	£10,761	1	7

HOLBORN AND FINSBURY DIVISION.

Balance left in hand	£4,115	4	5
Payments	1,730	19	11
Leaving	£2,384	4	6

SURREY AND KENT DIVISION.

Balance left in hand	£13,281	5	1
Payments	8,094	13	6
Leaving	£5,186	11	7

ST. KATHARINE'S DIVISION.

In answer to the return required from this division, it was stated that the expenses were returned as *nil*, the assets were *nil*, that they were quite unable to say when a court had been held, but that the clerk had sent in a claim of 40*l.* as a compensation for the loss of his situation, by the establishment of the new commission. This report created considerable amusement in the court, one of the commissioners remarking, that he supposed the 40*l.* was required as a compensation to the clerk for doing nothing but receiving his salary. The accounts of the other divisions will be brought forward at the next court.

In answer to a question from Mr. Leslie, Mr. Stable stated, that the aggregate balance in hand, when the whole of the accounts should be made up, would be 30,086*l.*

Several accounts for payment were presented from the Poplar division, one of which was for "Expenses of court on the 29th of October, 19*l.*"—Mr. Leslie wished to know from Mr. Hertslet the meaning of this item.—Mr. Hertslet said he could not say what it really meant, as Mr. Baker, the clerk, had sent in no voucher for this sum, and Mr. Baker was not in attendance.

Mr. Leslie—Why, there can be no doubt that the charge is for a dinner.

It was then suggested and adopted, that this item be struck off the account until such time as a voucher is produced for the amount.

A report from the committee for general purposes was read, and the following resolutions were recommended for adoption by the court, and adopted:—

"That in reference to a former order, that an account be prepared of the total expenditure of the commissions for the three years therein mentioned, and that there be shown therein the average cost of management as compared with the expenditure in each commission. (In reference to the above resolution, the court, on the motion of Mr. E. Chadwick, added the words, "with the law charges, specifying the names of the solicitors by whom such respective sums had been received.")

"That it is recommended to the court the committee have power to call in the assistance of a public accountant, if necessary, for the purpose of systematizing and simplifying the accounts of the several commissions."

"That it is recommended by the court that, in examining the sewers for the purpose of flushing, the surveyors, by the clerks of the works, do take note of the state of the sewers, and in respect to the accumulation of deposit in cesspools."

"That it is recommended to the court that measures be taken by the surveyors to carry out, in the several districts of sewers, a systematic gauging of water in the sewers in different classes of streets where all the houses at present drain into the sewers."

Mr. Chadwick then moved—"That Sir E. Buxton, Dr. Southwood Smith, Dr. Arnott, Sir James Clark, and the Rev. W. Stone, be added to the committee for General Purposes, with power to add to their number."—Mr. Leslie moved that it be an open committee.—Sir. E. Buxton inquired whether the hon. commissioner meant it to be open to the public.—Mr. Leslie dissented from this, but his wish was that it should be open to the whole of the commissioners.—The Rev. W. Stone was opposed to an open committee, as any member of the court might come in and occupy the time of the committee on a point perhaps already decided. After some discussion, the consideration of the question was deferred.

New Books.

Photography, a Popular Treatise designed to convey correct General Information concerning the discoveries of Messrs. Daguerre, Talbot, and others. By an Amateur. Lumley, Chancery-lane.

This is a very clear and interesting account of the steps which have led to photography, as we now know it, and of the *rationale* of the processes, originally read by Mr. Joseph Ellis before the Literary and Scientific Institution of Brighton. Niepce, Talbot, Daguerre, and Claudet have all justice done to them. The Daguerréotype process may be thus briefly described:—A piece of copper, plated with silver, is first carefully cleaned and highly polished; it is then coated by the vapour of iodine, and afterwards exposed to that of chlorine or bromine; the proper focus of the object having been obtained, the plate is in darkness inserted in the place of the ground-glass screen of a camera-obscura; the aperture of the camera is opened to admit the image, for a time decided by preceding experiments, and then closed; the plate is removed (still excluded from light) and placed in a box with mercury slightly heated to expedite volatilization, until the picture, which before would not have been perceptible, is fully and clearly developed; finally, the type-invested surface is subjected to the solution of hyposulphite of soda, for the removal of iodine, so that there shall remain upon the plate only the mercury which represents the image. The picture is formed of molecules of mercury of inconceivable minuteness, which with inimitable nicety have, by volatilization and some peculiar attraction, attached themselves in various degrees to those parts of the plate whereon the light has fallen. Consisting thus of atoms more minute than the down on an insect's wing, the slightest touch would destroy its finish, if it were not set. This is effected by boiling upon the tablet a solution of hydrosulphite of soda and gold, whereby a transparent coating of gold is precipitated over the picture.

Of the possibility of *electrotyping* the images thus produced,—of depositing, by means of electricity, atoms of copper or other metal so inconceivably minute that every molecule of the volatilized mercury, of which that image is formed, yields its impress and gives us a counterpart in solid metal, we have already spoken as a marvellous result of science.

The practical application of photography has to be carried much further than has yet been done. Mr. Ellis's little book will be found very interesting.

A Manual of Gothic Mouldings: illustrated by nearly 600 *examples.* By F. A. Paley, M.A. Second edition. Van Voorst, Paternoster-row.

On the first appearance of this work we mentioned it with much commendation, as an important addition to the means of obtaining a knowledge of Gothic architecture already at the command of the student. In this new issue the author has made considerable improvements: woodcuts are introduced to elucidate the text, and five plates of mouldings have been added to the previous sixteen.

Miscellanea.

Free Exhibition.—The Society for the Encouragement of Arts and Manufactures have prepared a free exhibition of specimens, illustrating the progress of lithography in England, comprising the highest works of art by the most eminent artists and lithographers, and *free tickets* of admission may be had of all members of the society, and of Mr. Mortlock, 250, Oxford-street; Mr. Phillips, 359, Oxford-street; Mr. White, 210, Regent-street; Messrs. Graves, 6, Pall-mall; Messrs. Colnaghi, 13, Pall-mall East; Mr. Cundell, 12, Old Bond-street; Mr. Pickering, 177, Piccadilly! Mr. Milledge, 65, Fleet-street; Messrs. Greensill, 148, Strand; Mr. Tenant, 149, Strand; Mr. Bell, 186, Strand; Messrs. Smith and Elder, Cornhill; and Mr. Moon, Threadneedle-street. &c. The exhibition is open every day from ten till four, and will close on the 8th.

Projected Works, &c.—Tenders have been called for by advertisement for the erection of engine-sheds and workshops at Bristol, for the Midland Railway Company; the erection of house, coach-house, stable, &c., at Bedford; also for a supply of timber of various kinds, larch sleepers, oak keys and pins, malleable iron, railway keys, nails, cast-iron wheels, chairs, castings, tubes, and brass, copper, and tin, for Carlisle and Newcastle Railway Company.

A Sanitary Song.—*The Man in the Moon* is singing to the apathetic and the obstinate. Hear him:—

"Close your eyelids and fold your arms
Good easy people about,
In filth and stench, from sewer and trench,
Have your nap securely out.
Cram your dead into reeking vaults,
As herrings are crammed in barrels,
Then cheek by jowl, with the dead men foul,
Go on with your loves and your quarrels.

Only—a plague may be coming;
Only—beware of the knells
Which a livid grisly phantom
May ring on your own door bells.

"Leave court and alley to stagnate—
Never attempt a cure—
Keep the air stifling, keep it health rifling—
Never dig drain or sewer.
Rotlike, rotting, rotten,
Leave all things to hang as they grow;
Have your sixpenny balls in those festive halls,
Where the dead lie in coffins below.

Only—a plague may be coming;
Only—beware of the knells
Which a livid grisly phantom
May ring on your own door bells."

The Metropolitan Association for Improving the Dwellings of the Industrious Classes, held their annual meeting last week, at the offices, Coleman-street, for the purpose of receiving the report of the directors, and other business. Sir Ralph Howard took the chair, and Lord Robert Grosvenor and others addressed the meeting. Very few of the shareholders were present. The secretary said, in answer to some questions, that 17*l.* 10s. per share had been paid up on the 20*l.* shares; that when the remainder should be paid up, and the buildings finished, about 3,000*l.* would remain, which would be sufficient to enable the society to build a dormitory to accommodate 150 persons. He added, that the sum now in arrear was 1,420*l.* and that the gross annual income from the buildings, when tenanted, had been calculated at 1,527*l.* 10s.

Potsdam.—The newly-built "Friedenskirche" (Church of Peace), near Sans-souci, is a building in the Byzantine style, with a detached tower, which is to be built very high; it was planned by Persius, and is to be executed by Arnim, under the direction of Stüler. The ceiling is open, and the interior is painted in compartments. The altar-niche, which is semi-circular and adorned to a great height with marble, is extremely expressive; the arched dome is decorated with an ancient mosaic from an old Italian church, representing our "Saviour surrounded by the Evangelists," in the Byzantine taste on a gold ground. This church, of a beautiful style of architecture, is picturesquely seated on a little lake.—*Art-Union Journal.*

The Iron Trade.—The South Staffordshire masters, thinking it of no use longer deceiving themselves into the idea that the nominal price of 5*l.* for forged pig-iron is a real price, have at length decided on formally announcing what every one knew already, that an 'immense reduction' has 'just taken place;' the actual price, with perhaps a little nominality about it even yet, being now declared to be 3*l.* 10s.

Competition.—Designs for a literary institution for the Odd Fellows, M. U., have been advertised for at a premium of 30*l.* for the most approved, and 15*l.* for the second best, unless the architect be employed.

Railway Newsvenders.—Sir: The proper thing would be for railway companies to reserve the privilege of selling newspapers to old respected or injured servants. I must disagree with you on the subject. A host of vendors, when one will do, is against true economy, and is also a nuisance. For themselves, such a method of living as those poor competing newsvendors follow, is, I believe, most dangerous to their eternal welfare. Every thing is against their moral improvement.—*yv.*

PARIS.—Considerable improvements and additions are about to be made at the Luxembourg Palace, at a cost of nearly 50,000*l.*—— The decoration of the church of St. Germain-des-Prés is proposed to be completed, comprising the ornamentation of the choir and stained glass for the upper windows; the former is estimated at 720*l.*—the latter at 2,000*l.*——Designs have been invited in competition for a theatre at *Algiers* to accommodate 1,500 spectators. The cost is fixed at 48,000*l.*

EXPLOSION OF SHOALS NEAR THE TEMPLE.—Dredging having failed to remove a formidable shoal in the river, opposite the Temple, a series of sub-marine galvanic explosions is to be tried at high-water, to the great, though probably groundless, dismay of the 'Templers,' whose nominal predecessors, once on a day, would have scarcely been so squeamish. Captain Fisher has already removed shoals from below bridge, and has thus materially increased the safety and accommodation of the river, especially for large vessels.

ARCHITECTURE AT THE ROYAL ACADEMY—Professor Cockerell will commence his lectures on Thursday the 6th.

FIRST COMPENSATION CASE.—BATTERSEA PARK.—Sir: Mr. Lee's letter, read with a legal eye, seems to show that the decision of the jury on Mr. Chabot's claim was correct, as to title. The grant of the manor of Battersea and Wandsworth to Viscount Grandison, in 1627, as stated by Mr. Lee, was, "with all the rights, &c., meadows, waste grounds, marshes, &c., thereto belonging or appertaining, *as* part, parcel, or member of them," &c.; and Mr. Lee says (correctly enough), that "land left by the tide belongs *to the crown*." King Charles I. granted all marshes, &c., *appertaining to the manors*, but, unless the grant contained much wider terms than those which Mr. Lee has quoted, he did not grant those which *appertained to the crown* in any other character than that of lord of the manors.—A LAWYER.

TENDERS.

The following are the amounts delivered to Mr. Francis, architect, for a church at Botleys, near Chertsey, Surrey:—

Haymond and Nixon	£2,697
Lock and Nesham	2,668
R. and G. Curtis	2,584
Bird (Hammersmith)	2,549

TO CORRESPONDENTS.

"*Yeovil Town-hall.*"—We have received a reply to Mr. Stent's letter from Mr. J. Davis, but are unable to insert it. We will give the pith of it next week.

"*R. P. C.*"—Were the sketches sent made on the spot?

"*X. Y. Z.*"—Suggested means of communication between passengers and guards in railway carriages are so numerous just now, that our correspondent's, unless very superior, is likely to escape attention.

"*W.*"—The decision of the magistrates, in respect of the Lunatic Asylum plans, appears to have been singularly overlooked. The architects who received premiums were, Mr. Daukes, Mr. G. Godwin, and Mr. Harris, and Messrs. Allom and Cross.

"*Auctioneer.*"—We have not time to give such special information.

"*Moniteur des Architectes*" contained no engraving.

Received.—"M. S. B.," "T. D. S.," "T. R.," "E. A." (shall appear), "E. R.," "H. B.," "Public Baths and Washhouses" (next week), "F. H. W." (next week), "E. F.," "O. P.," "M. S.," "C. W. O." (was overlooked), "J. T. I.," "Senex," "Captain A.," "C. K. S.," "G. F.," "T. C.," "T. I. M."

Books Received.—"The Art-Union Journal" for January, enlarged and greatly improved; "Caldwell's Musical Journal," Part VII.; "The Tradesman's Book of Ornamental Designs," Part VIII. (Orr and Co.); "Christian Memorials," designed and drawn by W. Osmond, jun., Salisbury (Masters, Aldersgate-street); "A Treatise on Water Colour Painting," by Thos. Miller (56, Long-acre).

ADVERTISEMENTS.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £50,000, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the pro ursation, personal application at the office would in all cases be desirable, the party bringing with them the abstract of title, plans, &c.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter and Stainer, 12a, Cumberland Market, Regent's-park, London. Their extensive and successful application to Public Offices, Bed-rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED.

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily adapted to any sash, and, where thorough ventilation without draught is required, will be found invaluable, and especially as a cure for smoky chimneys.—Supplied Wholesale and Retail by E. and W. H. JACKSON, Window-Glass Warehouse, 313, Oxford-street.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick. TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

N.B.—T. A. has several Lots of dry cut Stuff to sell at reduced prices for cash, previous to stock-taking at Christmas.

MUIR'S PATENT  PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

PATENT BELLS.—Messrs. MEARS beg to call the attention of the trade and the public generally to these articles, which they are now prepared to supply in any quantity and variety. The composition is of a pure metal, called the Union Metal, and the bells are of very beautiful tone and cheaper than those made of the ordinary bell-metal.—Orders received at the Bell Foundry, Whitechapel, for House, Cattle, Clock, and other Bells.

PATENT METALS for Bearings.—Engineers and all Manufacturers in Brass, &c., &c., are respectfully invited to test the quality of these new alloys, which have already received the sanction of eminent engineers and parties connected with public works. One sort, for bearings and engineering purposes generally, will be found superior in quality and cheaper than the metals now in use. Other sorts will be found of a better colour, a more brilliant surface, and bearing a higher polish than any ordinary brass. Messrs. MEARS will be happy to send any quantity as samples, or to make any castings from patterns sent to them.

ARTESIAN WELLS, BORING TOOLS, PUMPS, &c.—Engineers, Architects, Surveyors, Builders, or others requiring a good supply of WATER, may have any quantity procured by applying to W. SPELLER, 14, York-street, Blackfriars-road, London; where can be had any quantity of Tools for Sinking or Boring, from 2 to 20 inches diameter, and from 100 to 2,000 feet depth; also, Men and Tools to Bore for Railroads, Mineral, &c., in any part of the world. Boring Tools and suitable Pipes for Exportation, with full instructions for their use.

Builders, Contractors, Brickmakers, Barge and Ship Builders, and others, can be supplied with Wrought or Cast-iron Pumps, Double or Single, for Excavation or Deep Wells, from three to twelve inches in the bore, and from 8 to 150 feet in length.

HOT-WATER APPARATUS for Conservatories, &c., on the most economical and improved principles.

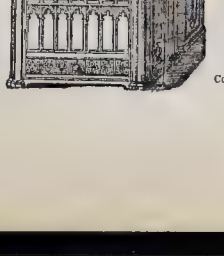
ESTABLISHED 1793.
NOT TO BE EQUALLED IN PRICE AND QUALITY.

PATENT-IMPROVED and PANELLED IRON SAFES, DOORS, ROOMS, CHESTS, &c.—E. TANN and SONS' Patent Reliance Chemical Compound-filled Safe stood the test at the late fire, with loss of life, at Water lane, Blackfriars, and preserved its contents. The Safe may be seen at the Patent Reliance Guarded Iever Lock and Safe Manufactory, 1, Hope-street, Hackney-road. Iron Doors for Party-walls, Safes, &c., kept in stock. N B The Trade supplied.

THE most perfect DRY GAS-METER in the World.—N. DEFRIES, Dry Gas Meter-maker, in directing the attention of the Public and the Gas Companies to his having just erected an extensive Factory, 10, Hampstead road, in conjunction with his old-established premises, 67, St. Martin's lane, begs to say that he can now MEET any DEMAND for METERS, from 2 lights to 1,000. The sale of 18,000 meters and the rapidly increasing demand, stamp as complete a meter that eight years' experience has proved to be unaffected by weather, by time, or by injurious gas. He invites attention to the fact of many of his large meters having received attention at the Houses of Parliament, the Royal Dockyards, the Thames Tunnel, Theatres, Churches, Club houses, &c., and has powerful and flattering testimonials at either factory, which may be obtained on application.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.



COLLINGE'S PATENT HINGES.—Sole Manufactory, 64, Bridge-road, Lambeth, where a great variety are always on view, for church, park, railroad, coach house, and all other doors and gates, of large or small dimensions, a gate of a ton in weight moving with these engines as easily as a wicket; they are also admirably adapted for drawing-rooms, being highly ornamental, and folding-doors fitted with them may be removed and replaced at an instant. Rising and spring hinges, with very superior fastenings, for exterior gates, at moderate prices. To be seen at CHAS. COLLINGE and Co.'s Patent Axletree, Sugar-Mill, and Spherical Hinge Manufactory, 64, Bridge-road, Lambeth.—A liberal discount to the trade.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURE FITTINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 63, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

TO BUILDERS, STONEMASONS, TIMBER MERCHANTS, AND OTHERS REQUIRING CRANE POWER.

THE LONDON VULCAN IRON COMPANY having erected a Crane, capable of lifting Twelve Tons, on their Landing Wharf, No. 13, Earl street, Blackfriars (late Forest's Wharf), are prepared to treat by contract or otherwise with any party requiring the use of same. Castings executed to any extent.

Goods Landed and Stored.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Top and Full Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pits; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices. CAST-IRON UPSETS.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

2 ft.	2 ft. 3 in.	2 ft. 6 in.	2 ft. 9 in.	4 ft.
£3. 6s.	£3 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS AND CARPENTERS.

A CONSIDERABLE SAVING will be effected in the purchase of IRONMONGERY, by applying at P. K. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	9d.	1s.	1s. 6d.	9s. per 1,000.

Best Sheet Floor Brads 15s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6¼d., 7d., 8d., per inch.

Self-acting Kitchen Ranges, with Oven and Back Boiler. Wrought Bars and Bright Fittings.

2 ft., £3. 3s.	3 ft. 6 in., £3. 12s. 6d.	4 ft., £4.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 13, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6¼d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3d. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

FENDERS, STOVES, and FIRE-IRONS.—The LARGEST ASSORTMENT of STOVES, KITCHEN RANGES, and FENDERS, as well as General Ironmongery in the world, is now on Sale at WILLIAM S. BURTON'S late RIPPON and BURTON'S extensive warehouses. Bright steel fenders, 2 feet, from 30s. each: ditto ditto, with or-molu ornaments, from 60s.; rich bronzed scroll ditto, with steel bar, 10s. 6d.; iron fenders, 3 feet, 4s. 6d.: 4 feet, 6s.; ditto bronzed, and fitted with standards, 3 feet, 9s.; 4 feet, 11s.; wrought iron kitchen fenders, 3 feet, 4s. 6d.; 4 feet, 6s.; bright register stoves, with bronzed ornaments, and two sets of bars, from 80s.; ditto ditto, with or-molu ornaments, from 6l. 6s.; black dining-room register stoves, 2 feet, 18s.; 3 feet, 27s.; bed-room register stoves, 2 feet, 16s.; 3 feet, 24s. The new economical thermio stove, with fender and radiating hearth-plate; fire-irons for chambers, 1s. 9d. per set; handsome ditto, with cut heads, 6s. 6d.; newest patterns, with elegant bronzed heads, 11s. A variety of fire-irons, with or-molu and richly cut heads at proportionate prices. Any article in the furnishing ironmongery 30 per cent. under any other house. The money returned for every article not approved of. Detailed catalogues with engravings sent (per post) free.

WILLIAM S. BURTON'S (late RIPPON and BURTON'S) stock of general furnishing ironmongery is literally the largest in the world, and as no language can be employed to give a correct idea of its variety and extent, purchasers are invited to call and inspect it.—39, Oxford-street (corner of Newman-street). Established in Wells-street 1820.

NOTT'S PATENT STOVE,
FOR
CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at
THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.
Engravings of the Patterns, with
THE REDUCED PRICES,
will be forwarded on application to the Warehouse,
80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments Conservatories, &c.

PEAKE'S TERRO-METALLIC DRAIN AND CONDUIT PIPES;

ROOFING, RIDGING, PAVING, AND OTHER TILES;

BUILDING, PAVING, AND MANY-FORMED BRICKS, &c.

Of at least One Hundred Sorts and Sizes.

THOMAS PEAKE,
4 WHARF, MACCLESFIELD-STREET SOUTH, CITY-ROAD BASIN, LONDON,
A CENTRAL SITUATION,
AND THE TILERIES, TUNSTALL, STAFFORDSHIRE POTTERIES,

Begs to remark that his Establishment was founded upwards of a century since, and for forty years has been carried on by the late Talbot and Himself. The last forty years he has introduced his Manufactures into the metropolis of the Cotton Department of British enterprise Manchester, and other parts of the Country, with complete success, where they continue to be duly appreciated. What the cost of trans it has been of late so reduced, as to enable him to keep a respectable assortment in London, will be seen by applying Messrs. Watt, Parker, and the agents, but one superintends the depot personally at Lyon what he has created in Town as well as in other places, he would t t trust that his Terro-Metallic Goods will be continually adopted as they shall become known. That he is sincerely grateful to his numerous customers for their favours during so long a period, and respectfully assures them, as well as the Public generally, that they may rely upon the advantages derived from his extensive experience for a third of a century being continually exercised against the future and present. NO MATERIALS, as Cements, can be more desirable than his Terro-Metallic for covered sewers and other sanitary purposes required either at home or abroad, by the Nobility, Clergy, Gentry, Civil Engineers, Architects, and Builders;—also by the Owners and Occupiers generally of Land, Mines, Buildings, Gardens, and other Property. The late Mr. London, the late Mr Telford, C.E., and the Incorporated Church Building Society amongst other persons and institutions, have borne very important testimony to the excellence of this material. Its durability, strength, efficiency, durability, and ease adopt ation, are great desiderata, and the sanction of the Inspector of Sewers for Westminster in 1846, wrote,—"I consider them" (viz., the Terro-metallic Pipes) "are admirably adapted, from their material and Strength, as well as from their Straightness and Smoothness, for house and other drains." Surely STRENGTH, STRAIGHTNESS, and SMOOTHNESS are not unimportant characteristics! The Terro-Metallic has NECESSARILY a Firm Body, intense heat being indispensable to fuse its surfaces, forming thereby a natural and estimable glaze; this glaze, however, being natural, will expand or contract with the body, and consequently will remain unimpaired. Such Building is not always the case when bodies are covered with artificial glazes. The variety of ordinary and unsolid earths, of which bodies are formed, to receive upon their surfaces glassiness by means of fatuginous agents, such as salt from sea water, and the great difference in the cost of forming the Terro-Metallic to its admirable compactness, solidity, and strength; and many clays would be thereby reduced from a large article or vessel into a bit of shapeless scoria. Experiments have demonstrated this to be a fact, and this could be easily repeated. Indeed, persons in the habit of using brown glazed bottles, milk-pans, steans, pots or mugs, need not be informed of the DIFFER-ENCE of ability to stage prevalent in such articles, and incomparable from EXCRUCIATY test of their durability, an uncertainty which may pass by the happy use of Terro-Metallic Pipes for important in household vessels, as in articles designed for parliament work behind our streets and buildings. It is submitted, therefore, that Terro-Metallic Pipes are, for obvious reasons, a desideratum for purposes as in many cases, of the greatest importance, being more durable, and of a smoother body, or that the pipes may be laid near the surface of any street or road without risk of injury by heavily laden carts passing over them, but double pipes may be laid in newly formed streets without danger of fracture or breaking line by subsidence. The sockets of these pipes are roomy and deep, with well-formed shoulders, which are of a piece with them, not stuck to them after they are made. It is also further submitted that the Terro-Metallic cannot fail to take preference against every other material of inferior firmness, solidity, and strength of bodily texture, in proportion as the Public shall severally have an opportunity to judge for itself by examining and comparing it in every point of view with all competing materials, and letting according to their intrinsic merits respectively.

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Plain Tiles, of more than ordinary and uniformly rude manufacture, in the Midland Counties, are still efficient upon roofs where they have lain undisturbed for 150 years; and a mansion called Turnhurst, the last residence of the celebrated civil engineer, Brindley, and the estate in Staffordshire, Sudbury Hall, lately occupied by her Majesty the Queen Dowager, the seats of Earl Talbot and Lord Hatherton, also churches, and other public buildings are covered with Plain Tiles 11 inches by 7 inches by 7-8ths of an inch, of which 900 lay 300 square feet, the gauge being, and weigh from 30 to 35 cwt. Bricklayers usually do both tiling and pointing. The Incorporated Church Building Society prefer these Tiles to all other materials, excepting Lead and Copper. 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A Plain Tile of moderate size is used than red deals, 11 inches by 3 inches. The principals are 10½ feet apart; there are two side trees on each side, 8½ inches by 3 inches; the spars are 3 inches by 2½ inches, and 18 inches apart. The laths are 3 inches wi le, by 1 inch thick. The pitch between a third and a fourth of a right angle, the interior of buildings comparatively warm in winter and cool in summer, and thereby preserve the timber of the roof. Their appearance in perspective upon buildings erected in the Early Gothic style is supported; the effect of which also depends between a third and a fourth of a right angle, numerous devices, "shewing off some of the most pleasing alternations of straight and waved lines." The PAN TILES are both of the usual form, and of a pattern, which is considered more ornamental than the ordinary Pan Tile, of which the upper edge overlaps the lower edge, both made larger and I ider than has been usually made. CURVED AND ITALIAN TILES are furnished, with wedge-shaped stop or fillet pieces to the tops, for covering the joints of the everlasting covering. Of the different kinds it has been said, "In short, we consider them as the best of all existing tiles, whether of small or large buildings." RIDGE AND HIP TILES are plain, capped, rolled tops, and of various patterns of vertical ornaments. Early Gothic tiles are moulded to suit the angle formed by the roof, the ridge and hip pieces, and a fillet end at the angle with bits of iron, like slate ridges, to come apart as soon as the clips shall rust away; the pitch should be studied in the orders of the buildings in which they are to be applied, and adapted to be used through them. VALLEY TILES are equally efficient and more economical and durable than Lead, Zinc, &c. PAVING TILES consist of Squares, Blue and Red, of several sizes, of octagon and small squares of different colours; of lozenges, of diamonds, and neatly worked thin floor-bricks, for intersection with each other, to form a variety of pleasing pavements. To lay these Tiles, make the ground solid, and spread a little sand or fine furnace ashes over it; place the Tiles upon mortar, or other material, thinly spread, but keep the joints free, and then afterwards with sharp sand, which should be spread over the Tiles, and swept to and fro for a few days with a besom. Lay boards upon the Tiles to walk upon until the mortar, or other material in which they shall be laid, is set firmly. Square Tiles, from 4 inches to 14 inches inches, are extensively used in the floors of Fireproof Warehouses at the ports of Liverpool, Hull, and Preston; also for all the floors of Fireproof Cotton Mills and other large buildings. Comparatively speaking, these tiled floors yield neither sand nor dust; the bearings and axles of machinery, therefore, as well as the cotton, silk, woollen, or other fabric being wrought by it, suffer less injury; in these floors than any other. Smaller squares, and other forms of Tiles, are used to cover Aisles in Churches, Entrance-halls, Parochial Rooms in Parmeries, and other respectable Dwellings, Cottages, Kitchens, Cellars, Sculleries, &c. They are easily cleaned, even from grease.

BRICKS, to any reasonable dimensions, are supplied; those 9¼ inch by 4¾ inch by 2·7-8ths, are in great request for Tunnels, Bridges, Canal-locks, Brewers' vats, and various works upon Railways, Canals, &c. In distant localities, where the carriage is expensive, the Peakes are ready to be facing of brick-breadth. Also, FIRE BRICKS, FRONT BRICKS, CLEAN BRICKS, WARE-HOUSE, and BARN FLOOR BRICKS, and PAVING BRICKS of every description, as well as pallasades, SQUARE BRICKS, of every description, SPECIFIC BRICKS, &c. &c. Arched Bricks, Square Bricks, Bricks for Cope walls. Brass-moulds for the manufacture of any of these articles required either at home or abroad, by the Nobility, Clergy, Gentry, Civil Engineers, Architects, and Builders;—also by the Owners and Occupiers generally of Land, Mines, Buildings, Gardens, and other Property. The late Mr. London, the late Mr Telford, C.E., and the Incorporated Church Building Society amongst other persons and institutions, have borne very important testimony to the excellence of this material. Its durability, strength, efficiency, durability, and ease adopt ation, are great desiderata, and the sanction of the Inspector of Sewers for Westminster in 1846, wrote,—"I consider them" (viz., the Terro-metallic Pipes) "are admirably adapted, from their material and Strength, as well as from their Straightness and Smoothness, for house and other drains." Surely STRENGTH, STRAIGHTNESS, and SMOOTHNESS are not unimportant characteristics! The Terro-Metallic has NECESSARILY a Firm Body, intense heat being indispensable to fuse its surfaces, forming thereby a natural and estimable glaze; this glaze, however, being natural, will expand or contract with the body, and consequently will remain unimpaired. Such Building is not always the case when bodies are covered with artificial glazes. The variety of ordinary and unsolid earths, of which bodies are formed, to receive upon their surfaces glassiness by means of fatuginous agents, such as salt from sea water, and the great difference in the cost of forming the Terro-Metallic to its admirable compactness, solidity, and strength; and many clays would be thereby reduced from a large article or vessel into a bit of shapeless scoria. Experiments have demonstrated this to be a fact, and this could be easily repeated. Indeed, persons in the habit of using brown glazed bottles, milk-pans, steans, pots or mugs, need not be informed of the DIFFER-ENCE of ability to stage prevalent in such articles, and incomparable from EXCRUCIATY test of their durability, an uncertainty which may pass by the happy use of Terro-Metallic Pipes for important in household vessels, as in articles designed for parliament work behind our streets and buildings. It is submitted, therefore, that Terro-Metallic Pipes are, for obvious reasons, a desideratum for purposes as in many cases, of the greatest importance, being more durable, and of a smoother body, or that the pipes may be laid near the surface of any street or road without risk of injury by heavily laden carts passing over them, but double pipes may be laid in newly formed streets without danger of fracture or breaking line by subsidence. The sockets of these pipes are roomy and deep, with well-formed shoulders, which are of a piece with them, not stuck to them after they are made. It is also further submitted that the Terro-Metallic cannot fail to take preference against every other material of inferior firmness, solidity, and strength of bodily texture, in proportion as the Public shall severally have an opportunity to judge for itself by examining and comparing it in every point of view with all competing materials, and letting according to their intrinsic merits respectively.

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A Plain Tile of moderate size is used than red deals, 11 inches by 3 inches. The principals are 10½ feet apart; there are two side trees on each side, 8½ inches by 3 inches; the spars are 3 inches by 2½ inches, and 18 inches apart. The laths are 3 inches wi le, by 1 inch thick. The pitch between a third and a fourth of a right angle, the interior of buildings comparatively warm in winter and cool in summer, and thereby preserve the timber of the roof. Their appearance in perspective upon buildings erected in the Early Gothic style is supported; the effect of which also depends between a third and a fourth of a right angle, numerous devices, "shewing off some of the most pleasing alternations of straight and waved lines." The PAN TILES are both of the usual form, and of a pattern, which is considered more ornamental than the ordinary Pan Tile, of which the upper edge overlaps the lower edge, both made larger and I ider than has been usually made. CURVED AND ITALIAN TILES are furnished, with wedge-shaped stop or fillet pieces to the tops, for covering the joints of the everlasting covering. Of the different kinds it has been said, "In short, we consider them as the best of all existing tiles, whether of small or large buildings." RIDGE AND HIP TILES are plain, capped, rolled tops, and of various patterns of vertical ornaments. Early Gothic tiles are moulded to suit the angle formed by the roof, the ridge and hip pieces, and a fillet end at the angle with bits of iron, like slate ridges, to come apart as soon as the clips shall rust away; the pitch should be studied in the orders of the buildings in which they are to be applied, and adapted to be used through them. VALLEY TILES are equally efficient and more economical and durable than Lead, Zinc, &c. PAVING TILES consist of Squares, Blue and Red, of several sizes, of octagon and small squares of different colours; of lozenges, of diamonds, and neatly worked thin floor-bricks, for intersection with each other, to form a variety of pleasing pavements. To lay these Tiles, make the ground solid, and spread a little sand or fine furnace ashes over it; place the Tiles upon mortar, or other material, thinly spread, but keep the joints free, and then afterwards with sharp sand, which should be spread over the Tiles, and swept to and fro for a few days with a besom. Lay boards upon the Tiles to walk upon until the mortar, or other material in which they shall be laid, is set firmly. Square Tiles, from 4 inches to 14 inches inches, are extensively used in the floors of Fireproof Warehouses at the ports of Liverpool, Hull, and Preston; also for all the floors of Fireproof Cotton Mills and other large buildings. Comparatively speaking, these tiled floors yield neither sand nor dust; the bearings and axles of machinery, therefore, as well as the cotton, silk, woollen, or other fabric being wrought by it, suffer less injury; in these floors than any other. Smaller squares, and other forms of Tiles, are used to cover Aisles in Churches, Entrance-halls, Parochial Rooms in Parmeries, and other respectable Dwellings, Cottages, Kitchens, Cellars, Sculleries, &c. They are easily cleaned, even from grease.

BRICKS, to any reasonable dimensions, are supplied; those 9¼ inch by 4¾ inch by 2·7-8ths, are in great request for Tunnels, Bridges, Canal-locks, Brewers' vats, and various works upon Railways, Canals, &c. In distant localities, where the carriage is expensive, the Peakes are ready to be facing of brick-breadth. Also, FIRE BRICKS, FRONT BRICKS, CLEAN BRICKS, WARE-HOUSE, and BARN FLOOR BRICKS, and PAVING BRICKS of every description, as well as pallasades, SQUARE BRICKS, of every description, SPECIFIC BRICKS, &c. &c. Arched Bricks, Square Bricks, Bricks for Cope walls. Brass-moulds for the manufacture of any of these articles required either at home or abroad, by the Nobility, Clergy, Gentry, Civil Engineers, Architects, and Builders;—also by the Owners and Occupiers generally of Land, Mines, Buildings, Gardens, and other Property.

"I beg to call the attention of the Court to the necessity of its taking steps to procure immediately a further supply of Straight and Curved Lengths of Terro-Metallic Drain Pipes, of 9 inches diameter, with Sockets to them, as the new Sewers will soon be worked up. It is also desirable to procure a supply of Bevelled Pieces of the same description, to suit the Sewers * * * Pipes of this shape, similar to the model presented herewith, for the Gullies and Gully Drains. Fig 2 shews the mode, by means of pipes, of connecting private drains with new sewers; and as it is essential, both as regards the public good and economy, that they should be so laid in this way, I am glad to find that they are being constructed. I propose that a large quantity of them should also be procured. * * * I also propose that in lieu of using bricks, as at present, for connecting private drains with the sewers already constructed, that Terro-Metallic Pipes should be used in their stead." *Proceedings, 1846.*

"Which (viz., Flat or Plain Roof Tiles, with lower ends ornamental) would produce an agreeable shade, shewing off some of the most pleasing alternations of straight and waved lines that this species of material is capable of producing." *Page 238, sec. 420,* where Plain Tiles are figured.

"The Bricks, being made of clay peculiarly good in quality and triturated by machinery." (The peculiar machinery for the purpose was invented by Mr Talbot, but was perfected at the expense of his work. The advertiser has not seen such machinery in other Potteries.) "They are burned carefully in kiln and I grant me, in fact, the most Newcastle blue brick, the hardest and most sonorous of any made in England. *Lyell Tables, page.*"

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"Every thing tending to facilitate the sweeping of chimneys by machinery is particularly deserving of public attention. We have been much interested by the sight of a newly-introduced machine for the purpose, which is called the Improved Chimney Sweeping Machine, and is manufactured by Mr. Peake, of Tunstall, Staffordshire, and preparing the clay." *History, etc., of the Borough of Stoke-upon-Trent, by John Ward, Esq., page 100. Simpkin, Marshall, and Co., 1830.*

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UNSOLICITED TESTIMONIALS, NOTICES, &c.

"I consider they," the Terro-Metallic Drain Pipes, "are admirably adapted, from their material and Strength, as well as from their Straightness and Smoothness, for house and other drains." *Extract from a letter by John Phillips, Esq., Surveyor to the Honourable Commissioners of Sewers for Westminster and part of Middlesex, &c.*

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LISTS ARE READY, CONTAINING PRICES OF THE ARTICLES PER NUMBER; ALSO THE COST PER SQUARE, PER YARD, PER FOOT, &c. APPLICANTS WOULD OBLIGE BY STATING IF THEY WANT THE PRICES IN LONDON OR IN STAFFORDSHIRE.

Reference to sketches of some of the articles:—They are to a scale of 3-4ths of an inch to a foot, or thereabouts.

N. 1 Plain Roofing Tiles.
No. 2 Ornamental Roofing Tiles
of various patterns.
AA 2. Pan Tiles.
2 B } Italian Tiles.
2 C }
D 2 } Grecian Tiles.
E 2 }
2 D. Grecian Ridge.
2 E. Grecian Eaves Tile.
Plain Roof Tile.
A 3. Italian Ridge.
No. 4. Capped Ridge Tile.
5. Plain Ridge.
C 3 to P F 5. Plain Saddle,
grooved for ornaments.
C 5 to P F 5. Rolled Saddle.
grooved for ornaments.
B 5. Pyramid Ridge.
C 5. Vandyke Ridge.
D 5. Trefoil Ridge.
E 5. Fleur-de-lis Ridge.
F 5. Fleur-de-lis Ridge.
P F 5. Fleur-de-lis Ridge.
G 5. Inverted Arch Ridge.
6. Capped Ridge.
A 6. Gothic Cap Ridge.
7. Rolled Tile Ridge.
10. Quomel Hips.
11. Quomed Vallies.
A 12 } Paving Tiles.
B 12 }
C 12 } Paving Tiles
D 13. }
15. Paving Tiles.
A 15. Paving Tiles }
No 16. Paving Tiles. }
17. Skirting Tile.
18. Skirting Tile.
19 Skirting Tile
21. Paving Bricks
20 Channel Brick.
D 30. Channel Tile.
33. Kiln-floor Tile.
40. Wall Coping.
41 Wall Coping.
No 44 Drain Guard.
46. Garden Edging.
A 46. Garden Edging.
48. Drain Shell.
51. Plain Pipe.
52. Rebate Pipe.
53. Do. Pipe.
B 53. Conical Pipe.
B 64. Flue Lining.
C 64. Flue Lining.
C 65. Chimney Top.
66. Chimney Top.
67. Chimney Top.
[Entered at Stationers' Hall

The Builder.

No. CCLVII.

SATURDAY, JANUARY 8, 1848.

THE proper regulation of buildings in towns is a difficult point to achieve, because the rights or supposed rights of the individual are constantly warring with the convenience and protection of the public. "People are very indignant if any thing is assumed for the public at the expense of what they deem their rights, though they are always ready to claim protection from the public against the waywardness of a neighbour who has only exercised the same freedom of action which they claim for themselves." Preventing my neighbour from doing what he likes with his own because what he desires to do may annoy me, is a vastly different thing from preventing *me* from doing what I please with *my* own. "The mercer, or other neighbouring tradesman," says Professor Hosking, in his work on this subject, and of which we now propose to give an outline,* "who would readily consent to the propriety of abating the cellar-flap and the contingent dray-ropes to the beer-way of his neighbour the publican, on the same side of the street, because the obstruction they occasion to the footpath may drive customers, or other possible purchasers of their wares, to cross the street, does not hesitate to spread out sun-blinds with their stay-rods over the footpath before his own shop-window, and that without the slightest regard to the annoyance occasioned thereby to the general public. Both mercer and publican readily concur, nevertheless, in opinion, and they do not fail to urge it whenever occasion offers, that hucksters or traffickers of a more humble grade should be prevented by law from depositing their goods and vending their wares in the streets, to the obstruction of the public way, and to the injury of the settled trader!"

We have two things to do, then, to bring about the desired end: 1, to frame such laws as are necessary; and, 2, to make the necessity so evident as to prevent objections, and obtain ready acquiescence for the rules. "Regulation," says our author, "whether it be of buildings or of any other matters at the disposal of individuals, can only be rendered effectual by the intervention of the Legislature; and as regulation, when applied by statute, involves both restraint and compulsion, the purposes for which rules may be imposed, and the circumstances under which regulation is required, ought to be such as to command general acquiescence in the necessity and propriety of the imposition."

The corollary we loudly echo, and commend it to the especial and continued attention of those who are to frame the amended Buildings Act.

The main object of Mr. Hosking's book is to show the propriety of certain rules for the general good, with the view of obtaining general assent to them, and the wisdom of enforcing them, although at times repugnant to individual interests. This object, we are bound to say, the professor has achieved very successfully, although, if carried out to their full extent, the writer's arguments would justify a greater amount of interference than we should be disposed to advocate, or even to permit unquestioned.

The object to be gained must be sufficiently important to the public to justify the annoyance and taxation of the individual; and, in all cases, the protection of the many at the cost of the one requires for its enforcement the most judicious hands. In many, many cases the interests are identical, and the increased first-expenditure required would prove as much a saving of money and anxiety to the builder as of risk and injury to the public. It takes some time to make this fully and generally understood: any such clear exposition of it, as the book before us affords, in various respects, is most valuable.

"The purchaser must necessarily pay more for a well-built and well-drained, than for an ill-built and undrained house, but, buying the latter, he soon finds to his cost that he has bought too cheaply;—the walls bulge, the floors gape and creak; the lead on the flats and gutters, being without drips, after puckering in summer, cracks in winter, and as the snow thaws the ceilings fall; whilst the cesspool overflows or returns its filth to the house by the drains which led it thither;—he suffers in health and in purse, and thus the public by its members suffers."

The necessity of establishing rules for preventing the spread of fires in towns is so generally admitted, that regulations to that effect are sure to receive assent. But, as our author points out, the root of the evil to be checked, —the cause of the danger to be avoided,—is the inflammable nature of the buildings erected, and yet interference to compel a better mode of construction than that now followed would scarcely be tolerated at present. A feeling is entertained by a large number of even the enlightened portion of the community, that so long as any injury resulting from their mode of proceeding would fall apparently only on themselves, and not on the public, they should be permitted to take their own course. Every house, however, or nearly so, contains a public, and it surely is a question to be seriously entertained, whether the head of an establishment should be permitted to expose his family and dependents, through ignorance, prejudice, or avarice, to risk and, in many cases, to certain injury (however slowly and imperceptibly it may be produced, as by bad drainage and want of pure air and light), without interference in their behalf; especially as so much evil may be remedied by easy and inexpensive arrangements. Indeed, who can say that a wider public will not eventually suffer, though the immediate injury fall only on the individual. A family deprived of their natural protector may become chargeable on the public; the loss of an active bread-gaining member of society is itself an injury to the community; so that in truth, those who rest on the above argument could scarcely object to sound rules enforcing good structural and economical arrangement, as well inside as outside the dwelling.

Petty and vexatious interference is, of course, to be deprecated and strenuously opposed. The payment of ten and sixpence to a district surveyor before you can let a scraper into the front wall, and such like abominations, are not embraced by this line of reasoning.

The means of cheaply rendering buildings fire-proof is considered at some length by Mr. Hosking, and the buildings in Paris are made to afford some useful hints. Nothing can be worse in respect of facilitating the progress of fire than the hollow timber partitions, commonly used in all stories above the basement, by means of which and our inflammable staircases it is, that fire extends itself so rapidly throughout ordinary dwelling-houses: — "the substitution of a brick wall for the cross timber partition, would, in most cases, at the same time justify the abatement of a half-brick of the thickness otherwise necessary to party-walls, and give an indestructible internal support to the floors, whereby also one of the means by which fire travels with such fearful rapidity through a house would be removed. It is true that there must be openings, as doorways and fittings in them for doors, in such internal partition wall; but the wall could not carry fire up from floor to floor through its own heart, as the hollow wood-lathed quartering partition carries it."

"Any step, indeed, from the hollow quartering partition towards a solid wall is a step towards security. A brick wall is, perhaps, the best internal partition for all the purposes of strength and safety from fire; and in small houses, which will not afford the expense of 9-inch walls, half-brick walls with 9-inch jambs at the doors, and short 9-inch piers on alternate sides of the partition, at intervals of three or four feet in length, will give sufficient strength; but even quartering partitions, if based upon brick walls, may be rendered nearly proof against fire by brick-nogging them, especially if care be taken to fill in with brickwork between the joists over the head of one partition and under the sill of another, as well as between the timbers of the partitions. Filling in between the joists, and up as high as the skirtings go, will do something, indeed, towards diminishing the dangerous tendency of even lathed and plastered timber partitions; whilst the adoption of the plan now commonly practised in Paris, in forming not only internal partitions, but the rearward external inclosures of buildings, would secure to the structure the structural efficiency of timber in carrying weight, and give the solid and incombustible character of a brick or stone wall to a partition or enclosure which is structurally of timber.

The plan referred to is, to frame and brace with timber quarterings much in the manner practised in England, except that the timber used in Paris is commonly oak, and is very generally seasoned before it is applied in building in the manner referred to; and that, as before remarked, the carpenter's work, or *carpentering*, of the French is not so good as that of the English. The framed structure being complete, strong oak batten-laths, from two to three inches wide, are nailed up to the quarterings horizontally, at four, six, or even eight inches apart, according to the character of the work, throughout the whole height of the enclosure or partition; and the spaces between the quarterings, and behind the laths, are loosely built up with rough stone rubble, which the laths, recurring often enough for that purpose, hold up, or prevent from falling out until the next process has been effected. This is, to apply a strong mortar, which in Paris is mainly composed of what we know under the name of plaster of Paris, but of excellent quality, laid on from or upon both sides at the same time, and pressed through from the opposite sides so that the mortar meets and incorporates, embedding the stone rubble by filling up every interstice, and with so much body on the surfaces as to cover up and embed also the timber and the laths;—in such manner, indeed, as to render the concretion of stone and plaster, when thoroughly set, an independent body, and giving strength to, rather than receiving support from, the timber."

In the construction of staircases in Paris a similar process is adopted with excellent results. The same strong batten-laths are applied to the soffits, or under-surfaces of stairs, and the spandrels, or irregular triangular voids,

* "A Guide to the proper Regulation of Buildings in Towns, as a Means of promoting and securing the Health, Comfort, and Safety of the Inhabitants. By William Hosking, Architect, and C.E., one of the official Referees of Metropolitan Buildings, and Professor of the Principles and Practice of Architecture and of Engineering Constructions, at King's College, London. London: John Murray, Albemarle-street.

formed under the steps and risers, are filled in over the laths with stone rubble, packed up so as to rest upon and be supported by the laths. Mortar is then forced up from below into the rubble, and made to pass through and incorporate the rubble into a concrete mass, and so as to extend over the laths which carry it, and produce as neat a surface as if the plaster were merely held up by keys through slight laths, as with us; whilst the result in the one case is an almost incombustible structure, and in the other an easily inflamed and rapidly inflammable piece of hollow woodwork.

An ordinary plastered ceiling resists the action of fire for a long time; by a slightly increased expenditure it might be made to afford an effectual bar. The French (the carpenters aud joiners there, we may as well say at once, are much inferior in skill to ours) make their floors as nearly fireproof as can be desired.

"According to their practice, the ceiling *must* be formed before the upper surface or floor is laid, inasmuch as the ceiling is formed from above, instead of from below.—The carpenters' work being complete, strong batten-laths are nailed up to the under sides of the joists, as laths are with us; but they are much thicker and wider than our laths, and are placed so far apart, that not more, perhaps, than one-half of the space is occupied by the laths. The laths being affixed—and they must be soundly nailed, as they have a heavy weight to carry—a platform, made of rough boards, is strutted up from below parallel to the plane formed by the laths, and at about an inch below them. Mortar is then laid in from above over the platform, and between and over the laths, to a thickness of from two inches and a half to three inches, and is forced in under the laths, and under the joists and girders. The mortar being gauged, as our plasterers term it, or rather, in great part composed of plaster of Paris, it soon sets sufficiently to allow the platform—which, it will be readily understood, has performed the same office to the mortar which centering performs to the parts of an arch or vault—to be removed onwards to another compartment, until the whole ceiling of any room or story of a building is formed. The plaster ceiling thus formed, is, in fact, a strong slab or table, in the body of which the batten-laths which hold it up safely in the air are incorporated, and in the back of which the joists, from which the mass is suspended, are embedded."

The flooring joists are also covered with a table of plaster above, about three inches thick, laid on rough battens in short lengths, and which is afterwards covered with either paving tiles or a boarded floor.*

Throughout the work, it will be seen, much valuable information in respect of construction is given, and of the evils attendant on bad practices. Some of the remarks to this effect we quoted on a previous occasion, and many of the latter have been continuously exposed in THE BUILDER. The common custom in all large towns, of omitting or removing the outer walls throughout the ground-floor story, on two sides of corner houses, to admit of returned shop-fronts—a practice so full of danger as to condemn itself the moment it is reflected on—is properly condemned:—

"Commonly a doorway is made upon a canted or diagonal line cutting off the corner where two fronts intersect, and leaving the quoin or outer angle of the building above to overhang a void; whilst the support given to the brestsummers placed under the walls of the upper stories is generally either slight fir story-posts, or even slighter iron columns, and which supports are not unfrequently placed over openings in the walls below, and almost always over timber in some form or other, in situations and under circumstances most liable to induce decay. Plastering and joiner's fittings cover up the parts upon the soundness of which so much is made to depend, and, consequently, danger will hardly appear unless accident develop it in such manner as to attract attention in time to avert it, until the wretched fabric falls upon the heads of the indwellers, and of those persons who may be otherwise within reach of the ruin."

To the use of bearing-beams and girders of *cast*-iron our author, of course, also objects, as being fraught with danger; and he advocates very strongly the employment of floors upon girders, or framed to strong trimmers, the girders on the trimmer-joists running into and bearing upon the piers or solids of the walls, as being far preferable to single floors, of which every joist runs for itself into the walls.

"Girders, as the basis of, or to carry, floors, render plates in the walls wholly unnecessary, by depositing the weight in the right places, without requiring plates to carry it on from the weaker to the stronger places; and being of necessity stout and rigid, they form a fair tie and strut to the walls into which their bearing ends are tailed, and upon which they rest. Moreover, girders, being of infrequent recurrence, may be allowed to tail into party-walls without injuring their efficiency as a means of stopping fire, and so buildings of several stories may be rendered stiffer, or less liable to be acted upon by movements upon the floors within them, than when all the floors bear upon the same walls, and these the walls which are too commonly the most infirm."

The single or unframed floors carry the weight and vibration to which they are exposed into the walls, over voids as well as over solids, while by means of girders the floors may be brought to bear upon the solids only. The following paragraph embraces, suggestively, several other points as well as this:—

"An arch over an opening in a wall, or a common vault pressing against a wall, may tend to render insecure a structure in other respects fully adequate to its purposes of enclosing or of dividing buildings, and of bearing the greatest direct vertical pressure that can at any time be brought to bear upon it. The timbers of floors may be laid in, or be let into, walls, so as to expose the walls to serious injury, and to lead to danger; and roofs may be so composed and placed upon the walls of buildings as to thrust them out. Cantilevers acting as levers, and cornices only prevented from falling by otherwise superfluous parapets, and many other things, some of which pass under the name of architectural decorations, tend either to lessen the stability of walls, or to impose the necessity of greater substance in their structure than would be necessary if such things, when applied, were applied with structural propriety."

In lieu of iron columns or story posts to carry a fire-proof floor, brick piers, for safety-sake, should be used. A two-brick pier, says our author, well built of paviour's, or Dutch clinkers, set in a well-compounded mortar, will carry safely almost any weight that can be imposed upon it.

"An excellent mortar for resisting the action of fire, and proper to be employed in building any such slight brick piers as substitutes for, or instead of employing, iron columns, may be made of pozzolano mixed with fresh-ground lime of chalk from the lower beds; and as real pozzolano is an imported substance, and likely to be expensive, its place may be very well supplied by an artificial substance of similar character, produced by burning any marly clay that is fit for brick-making to a grey clinker, and reducing such clinker to a grain of the size of coarse sand. Three-fourths of this substance to one-fourth of fresh-ground lime, mixed dry in the first instance, and when so mixed, rendered plastic by the addition of soft water, will yield a mortar capable of resisting fire for a long time, and water, if need be, as long as any bricks that can be set in it."

We must pass on to the chapter on Drainage, which shows that Mr. Hosking has a just appreciation of the deadly effects of decomposing soilage retained in ill-constructed drains, still questioned, with unaccountable blindness, by some otherwise sensible men. Amongst other matter, our author points out the injury done to visiters at watering-places by the discharge of the town drainage upon the much-frequented sea-beach.

"Cast-iron mains are commonly used at these places to conduct the soilage from the sewers and drains a little way out from the land, and these are commonly allowed to terminate at half-tide level or thereabouts, so that they are for half their time discharging noisome and pestilential streams under the nostrils of those who betake themselves to the beach for air and exercise. But ladies, with books or with needlework, and nurses with their charges, are apt to resort to the propped up and clean-looking round iron pipes for the convenience they offer as seats; and as they sit, they, and the children who play about them, inhale the poisonous gases which the soilage of the town emits, and many a family returns inland from the sea-side fevered with the stench at the sea-beach, rather than invigorated by the sea-breezes."

The illness of all his own children, on one occasion, was thus caused.

He agrees with those who say that house-drains and sewers seldom require to be of the large sizes of which they are usually made, without going so far as some:—

"All soilage drains should be made water-tight, that the liquid parts of the soilage may not escape into the subsoil, and leave the solid matters in the drain; and in using drains of small size, as soil drains, to dwellings, care must be taken to protect them from the access of any substance capable of resisting the available current of water. With care in this respect there are very few ordinary dwelling-houses, in towns, of which the soil and water drainage will not find ample room to pass along in a tube equal in capacity to a cylinder of 6 inches in diameter."

This being the case, we may reasonably hope that the amended Buildings Act will not as now preposterously enforce that drains shall have a diameter of not less than nine inches; the absurdity of which we have on various occasions pointed out.*

As to the size of common sewers, Mr. Hosking still thinks that where they pass "under roads which are considerable thoroughfares, they ought to be built large enough for workmen to pass into them to clear obstructions and to effect repairs; with access from above-ground at bye-places provided for the purpose in laying out the scheme, so that the roads and streets be not at any time unnecessarily deranged for any such purposes."

In a postscript to the work, to get to which we pass for a time the chapter on the "Ventilation of Buildings,"—our author raises his voice strongly (with more emphasis, indeed, than elsewhere in the book), against the recommendation contained in the recent report of the Sanitary Commission, to cleanse the sewers

* At Nottingham, in the neighbourhood of Charnwood Forest, where gypsum abounds, the floors of all houses were, till of late years, universally formed by an almost exactly similar process to that employed at Paris—stout reeds, however, being strewed over the joists as a basis, instead of split battens. The practice at Nottingham adds small coal and cinders to the plaster of Paris (gypsum) in making the mortar, and the surface is at once trowelled over to finish. In this manner is produced an almost indestructible floor, capable of any surface, and so secure a protection against fire, through its imperviousness to air, that, notwithstanding the unceiled and exposed joists below, houses in Nottingham are said never to be burnt, whilst the floors are said to be free alike from damp and from vermin.

It may be worth remark here, having reference to the employment of any substance such as cinder, being of the nature of pozzolano, or volcanic scoria, in mortar, to form a floor in the manner and of the substance above described (about three inches thick), that as all such mortars expand in setting, the walls of buildings may be forced out, and even thrown down, by the expansion of the plaster floors, if the whole surface of the floor in any story be at once covered with the mortar. A margin on every side of four or five inches, according to the size of the floor, should be left void until the expansion of the body has taken place, when the floor may be completed with an assurance of close joints, and without injury to reasonably stable walls.

* A similar enactment in respect of flues must also be altered in the new Act.

and cesspools of the metropolis, considering that, although undoubtedly desirable,

"To do it with an epidemic raging, and with a plague marching upon us with steady pace, in the midst of a mild and damp winter, would be, to say the least, most hazardous; while the benefit to be derived from it will probably not avail in any degree the 'back streets, lanes, courts, and alleys,' where, to apply the language of the report, 'people live irregularly, or on unsuitable diet, and at the same time filthily,' and consequently, it may be added, 'in the habitual respiration of an impure atmosphere.'"

It is undesirable, he says, too, because—

"However skilfully the operations may be conducted, it will be found practically impossible to avoid leaving heaps of the disturbed foul matters open to the air, for some time, and in some places; and the greater the force employed, the greater, in some respects, the danger to be dreaded, because of the enormous surface collectively of the filth beds, which will be for days, weeks, and months, throwing off poisonous exhalations."

On the importance of properly ventilating the sewers Mr. Hosking insists strongly, (as all would who have examined the subject) and defends Mr. Faraday's suggestion, that they should be brought into communication with the furnace-chimneys in operation throughout the metropolitan districts, and others to be erected specially for the purpose. Enough, however, for the present.

We have performed our task very ill if it be necessary to say, in conclusion, that Mr. Hosking's book shews clearly the effect which buildings are capable of exercising upon the health, comfort, and safety, of the inhabitants of towns, the importance of properly regulating them, as a means of insuring those essentials, and that it deserves the most attentive consideration of all our readers.

ON THE ARCHITECTURE OF THE GREEKS*

The proper light in which to view the architecture of ancient Greece is to take it as a study in artistic criticism from which the eduction and illustration of great principles of Design may excellently be obtained. And taking it thus, although the generation of architects preceding ours laboured under influences preventive of just and proper estimate which to us the march of improvement has in a great measure rendered null, still are we ourselves by no means yet possessed of fulness of power to appreciate by right criticism and to profit by careful study.

Those predecessors of ours were somehow here so blindly prejudiced, that truth was almost utterly invisible. Architectural design was—a certain thing at Athens!—a being born on the Acropolis,—and long since dead, save that we could detect the spirit yet haunting the old citadel of the Gods where it was so mysteriously generated—haunting the crumbling ruins of its substance, having no other home;—a genius of long bygone Greece, dead now and buried as it is dead, and buried long ago,—and to be searched for now as it is to be searched for in far tradition and the moulder-ing wreck. In its primary creation, complete development, and full perfection, Architecture was simply and absolutely a mystery of ancient Greece, and now only comprehended in the remains of ancient Grecian works. All else was spurious, if any thing at all. And I well remember myself, at the time when I took the dogmas of the teacher for granted,—how this was the only hypothesis on which I could at all get my judgment to retire,—those Greeks must surely have possessed far higher minds than we possess, and the degenerate modern must simply wonder and worship the grand old model. So immensely was the supernal virtue of its authority and pure perfectness exalted beyond all possible approach, except the enraptured reverence of the humble follower, that those old Greeks were simply Gods, and their works at once divine, their powers most inaccessible.

That such a sublimated sentiment could of course but very ill accord with any desire for right criticism will be at once apparent; the productions of the Greeks were virtually placed beyond all reach of just appreciation and discriminating study,—the best essence of their fruitfulness was unapproachable.

This dogma of the divineness of Greek models has now very much passed away,—at least in so far that if we have not altogether brought down the idol from its throne, we have put other idols on its level—Roman, Italian, Byzantine, Saracenic idols, Gothic idols of twenty periods and peculiarities;—Greek architecture is now merely one portion in a much-extended integer,—and indeed at the present moment a portion very little noticed. But in so far that it is so—the old government not overthrown in its nature at all, but merely in its exclusiveness—the former obstacle is only exchanged for another, and the difference between them is practically, perhaps, extremely small: so long as we continue in our present reverence for old works as models of guidance and rules of practice, the best profit of their criticism is lost, and the value of their study nullified in its best nature,—our criticism can never retire upon first principles, nor our study build up knowledge upon their basis. Yet are we certainly progressing;—amid a multitude of sins against right judgment, in which this generation is just as much more reprehensible than the last as our offences are more grovelling, theirs more refined,—and for all that new bigotries are too often even more harshly bigoted than the old,—yet is it happily true that there are now appearing, in new features which architectural thought is gradually assuming, the germs of a better system of judgment: but it will require much more progress yet before we can judge well enough to practise well—to practise as our forefathers did in that freedom and originality which seem to us so unattainable,—or even, not to speak of this,—even to see fully the beauties of their works or discern well the excellency of their principles. And among the most valuable subjects for our study and emulation, when that time shall come, will be the grand and beautiful old works of Greece!

For if ever in the world's long history there was a time when the soul of man, in sufficient force to be the public mind, seems to have soared mightily and high on the wings of its best and noblest and most beautiful nature, it was when, among a hundred compeer lustres, the eloquence of Pericles, the strange wisdom of Socrates, the thoughtful fancy of Phidias, threw the enchanting combination of their brilliancy around old Athens!

Now when I discard and denounce, as an unreasonable thing, that worship of Greek design which prevailed in the architectural world for half a century up to a recent period (a spirit which, so far as it still exists, still maintains the same unapproachable position, the same supernal and mysterious virtue in antiquity), I would at the same time say this, that we do our architectural world wrong if we allow ourselves to suppose that such romantic faith is so much an aberration of intellect—so much an extraordinary phenomenon in thought—as to deserve to be very contemptuously derided, or its adherents very violently spurned. On the contrary, among the many dogmas whose several reigns form so strange, eventful, and severe a history of man, I would not place this reverence of ours except as one of the most excusable of all.

For in every thing, we very well know, the tendency to learn by uninterrogated dogma is one of the strongest principles in our mind—and growing, perhaps, rather than lessening, as the world grows older;—we have to learn so much and so quickly,—and all the while in all this bustle and distraction, ever increasing with increasing progress. When Architecture is taught and learnt by unquestioned dogma, it has only the same reason for complaint with every single subject throughout the whole catalogue of knowledges. When the learner demands principles which he may follow, and, obtaining such, puts his implicit faith in them, and follows them as a matter of course,—this is but the common custom of all learning,—exception only proving the rule. And when the learner in this Fine-art of ours, seeking for principles on which to stand, found rest for his foot at last, and refuge, on the Acropolis of Athens, assuredly I will say that the faith, if it was weak, was grand and generous, that put its trust in that old rock, and clung to the glorious ruins of Phidias! Perhaps in no other age, no other nation, of the world before or since, could the elevated mind obtain a model so severely, serenely beautiful! We rightly blame no Greek worshipper for credulity,—and his faith in its enthusiasm we rightly smile at as the weakness of a simple man; but he who adores the Sun of the Zenith bows before at least the loftiest idol of all,—and if we smile at his fear we can never but admire the excellency of its poetry. The reverence for the works of the genius of ancient Greece was a reverence for a very exalted thing; and he who, seeking a model, selected this, certainly made his choice the noblest that the world affords. Ever keep before your mind that Genius disdains all Model-rule;—never forget that Art owns government from Nature and Reason alone and never from Precedent; but cherish for ever those fascinating relics, for Genius shews in them one of its most successful efforts;—and acknowledge, for it is its due, that the precedent of that exquisite people is worthy of perhaps the very nearest approach to reverence that precedence can claim.

First, then, the tendency, so natural, to lose sight of first principles,—to seek for system, and, thus seeking, to adopt the dogma of the teacher too uninquiringly; and secondly, the fact that dogmatic reverence, when it rested on the works of the glorious Greeks, had found a study the most rarely exquisite;—in these we find assuredly no small excuse for the weakness of the Greek worshipper,—indeed in many views of the question almost good reason for his faith, and just grounds for his demands.

It is my purpose to enter more in detail upon the incidents of the reverence for Greek art; but this I must leave to a resumption of my discussion: and I intend also to examine in some degree less generally the merits of Greek works; but such is naturally the conclusion of the theme: at present I will only remark now upon one point which may not be unimportant.

A reverence for the architecture of classic Greece may signify two things. In one of these senses I disclaim it entirely:—the system which would put design under its Model-rule as a sort of government by supernal right, and which thus of course declares it by implication absolutely good and above all possibility of fault or failing, is quite beyond my power of mind to comprehend. "Why should we grope," says Emerson, "among the dry bones of the past, and put the living generation into masquerade out of its faded wardrobe?—the sun shines to-day also." But in the other sense I delight to own a reverence most admiring and full of reliance. Only for mere merit, though,—and here is the point. To reverence the Art of Greece because it is old, leave to the curious antiquary. To reverence it in association with the remarkable people among whom "grew the arts of war and peace"—the land long ago the beautiful young mother of civilization and truth—the home of the hero and the sage when the world was unsophisticated—virtue and wisdom when these were simple, "unadorn'd adorn'd the most,"—to reverence it for the sake of Homer and Plato and Alexander,—leave to the fascinated historian and the poet. But to look into its beauties, and, feeling their excellency, to admire,—to try to surpass, to equal, to amend, even to disapprove, and, feeling the hardness of the task, wonderingly and gratefully to render the praise of understanding—the homage of intellect,—this reverence for the exquisite memorials of the refined and elegant Greeks I should feel ashamed to think I did not feel. And the Parthenon and the Theseum and the Monument of Lysicrates need no association to enhance their value,—merit alone is a sufficient claim. I believe their eminence to be far from unsurpassable; I hope the world may yet surpass it: but I know that that eminence is very lofty; and if ever it be surpassed it must be by a giant effort! Robert Kerr.

* Read at a meeting of the Architectural Association, at Lyon's Inn Hall, on the 17th ult.

The Brick Trade.—The importation of bricks, duty free, into the port of Archangel, has lately been conceded by an imperial ukase.

CHARGES AGAINST THE ARCHITECTS IN THE LATE WESTMINSTER SEWERS COMMISSION.

MINUTES OF EVIDENCE TAKEN BEFORE THE SANITARY COMMISSION.

The minutes of evidence taken before the Sanitary Commission contain one extraordinary feature, to which we are impelled to draw attention, even before considering the important statements they present on structural and sanitary questions. It is no less than a series of charges against the architects and surveyors in the late Westminster Commission, of a very degrading character. They take the shape, in some respects, of charges of ignorance, incompetency, and scandalous dishonesty, against the profession generally, but in that light are simply ridiculous. They are, in truth, however, charges against the individual architects and surveyors who were in the commission, and they demand, and will doubtless receive, an immediate reply: with which end in view we feel it our duty to extract the statements in question.

Mr. L. C. Hertslet, clerk to the Sewers Commissioners, was asked,—

"Do you consider architects, builders, agents, or persons in trade; or attorneys, and conveyancers in practice; to be persons who can be considered qualified to act as 'indifferent' (that is, impartial) commissioners within the meaning of the Act?—Certainly not. A person having a delicate sense of public duty would scarcely like, if he had a previous knowledge of the fact, to accept an office in which he could not act in an unbiassed manner without frequently offending his employers and customers; and in which, if he could not be tempted unduly to make friends, he would be sure to make bitter enemies.

Is there not a clause in your recent Act prohibiting commissioners from acting, when interested, under a heavy penalty?—There is a clause, but no penalty is attached to it.

How is it that the clause was so loosely worded? Who drew the clause?—The clause, as originally drawn, contained the penalty, but the Court of Sewers struck it out before it went to Parliament.

Is the effect of the clause apparent? Is it serviceable to protect the public?—I fear not. In a recent instance, when the chairman rebuked a commissioner interested for voting, he said he should do as he pleased, there was no penalty."

"Have you not fair reason to infer, and that constantly, connection, more or less direct, in the supply of goods or execution of works between trading and professional commissioners which you have no means of proving judicially?—I regret to be obliged to say that, among a certain class of the commissioners, private rather than public interest appears generally to be consulted. [Does this mean the *professional* commissioners?]

Will you give a few instances?—The following is one:—Prices are sent in to the surveyor by several parties; a commissioner calls and inspects them: on the following day or so, notice is received from one of the parties who sent in the prices (on whose premises the commissioner was seen after the inquiries at the office) stating that the price first sent in was an error, and substituting the price of the lowest tender. Again; I state in court (as clerk) that a certain notice has not been received from a public company, which, under their Act, they ought to have given. A commissioner, being an officer of that public company, leaves the court, and in an hour afterwards the notice arrives. I could pass in review the meetings of the court from time to time, and in the greater part of them I could cite something of that kind more or less palpable. I again repeat that I speak of a section of the court only. Unhappily, however, those commissioners who took the most active part in obtaining a fair hearing for the officers have not recently attended the court, and things are gradually resuming their former state.

Do the district surveyors interfere in those places where houses are being built, from the owners of which they will receive fees for superintendence?—Some of them in the new districts do, very much.

Can you give any recent instances?—I will give one out of several which occurred about the same time:—A speculative builder, on a large scale, applies to the court to provide him an outlet by rebuilding a sewer; the court decides that he must build the sewer himself, as what he imagined to be a sewer is only a road drain. The builder accordingly presents a petition for leave to build a sewer about 900 feet in length at his own expense, which the court grants: he, however, meets the district surveyor upon the stairs, who tells him that the court has decided wrongly, advises him to return and withdraw his petition, and persuade the court to build the sewer at the public expense, which was accordingly done at a cost of about 700*l*."

"Have the attendances of the architects, builders, and practising attorneys, diminished?—No; I think the reverse.

Does the dinner-party consist of that class of commissioners?—They compose the majority of it; without them it would soon expire.

Presuming the entire respectability of the tradesmen and professional men above described, can you say that any one of them had paid such special attention to the subject of the sewerage, and the connected questions of hydraulics, that if you were the owner of buildings, and had to expend your own money in works of drainage, you would apply to any of them for advice, or would intrust to them your own money for the purpose?—The pertinacious resistance offered by a certain class of architects to the recent improvements, and the extraordinary objections taken by some of them, astonished me, and convinced me that drainage is a subject to which they have not attended. In 1844 the question was referred to several architects standing high in their profession, and taking a prominent part at our court; and though they appear to have felt the necessity of a reduction of the size of sewers, they proposed a considerable addition to the cost per foot run, in order to have a granite bottom. They strongly recommended a sewer calculated to cost, at their lowest estimate, 16s. 4d. per foot run,—exclusive of the digging, which would be about one-third more. Mr. Cumberlege, Mr. Chas. Mayhew, and Mr. Pownall, however, assisted very materially in breaking up the old order of things, and in carrying through the new plans; but they seldom attend at present."

"From your own observation and experience, and judging by such examples, if you were the owner of property which required an extensive outlay, would you, if you were unaware of the possession of any special knowledge by them, intrust the outlay of your own money, even to a court or assemblage composed entirely of architects, any more than to an assemblage of tradesmen in the present ordinary state of professional knowledge and of common interests in the amounts expended?—From the experience I have had in the Westminster Court of Sewers, I should prefer to consult clear-headed non-professional men rather than architects engaged in the ornamental and fine arts department of their profession, and mainly because such men would be less prejudiced, and have less to unlearn."

Mr. John Phillips, surveyor to the court, examined.

"Which class of commissioners have been most strongly supporters of improvement?—Certainly not the architects, nor the attorneys connected with them. In saying that, I wish of course to make exceptions. Among large bodies there will always be found those who think and act for themselves without being biassed by the acts and opinions of others.

In what way do you find the commissioners of the class you speak of interfere?—In the first place, in the ordinary daily business, by personal solicitations to go out of the usual course to serve particular friends who are in trade or otherwise connected. Thus I have received notes from commissioners, asking me to oblige them by employing persons; and these notes bear, of course, but a small proportion to the number of verbal solicitations. The persons recommended may be very proper persons; but supposing they are not so, and they are refused, it is natural to expect displeasure from those commissioners. Then again, one is exposed to requests in respect to works in which commissioners or their friends are directly or indirectly engaged. The requests may appear harmless, but taking the whole together, they have a tendency to prevent the officers doing their duty discreetly. Clerks of the works have expressed to me the same sentiments. I wish to declare as a public officer, that as the commission is now constituted, I and the other officers have found it, and do still find it, impossible that we should do our duty as we ought to do.

Do you find the class of commissioners connected with building operations in the district favourable to economical works?—Decidedly the contrary. When I propose works of improvements which would save expense, I know from what side opposition will come."

Witness being questioned as to the use of certain materials, was asked,—

"By what class of commissioners was the court led to adopt the inferior material?—By the architects. It is the liability to vexatious interference in matters of detail like this which causes a great deal of the annoyance under a commission constituted as the present is."

He then makes a charge against an individual member of the court, for having insisted on the substitution of a less scientific plan for joining sewers, than one proposed by the witness.

Again, he is asked,—

"What class of commissioners opposed the adoption of your improved form?—Mostly architects and professional persons connected with building matters.

What objects may architects and tradesmen serve by maintaining uneconomical works?—If I may say so, without intending the least disrespect to individuals, I should say that the architect is connected with and dependent upon the builder, just in the same way as amongst the inferior members of the medical profession, the physician is dependent upon the apothecary who supplies medicines and recommends physicians."

[Mr. Phillips has more knowledge of the sciences connected with drainage than he has of the position of architects, or he would not have received the assistance he had from The Builder in his progress, nor held his present appointment. To the statement of the opposition offered to him, we say nothing; we know it was true. Our observation applies only to the reason he gives for it.]

"What sized sewers has it hitherto been the practice to use in narrow courts, alleys, and short streets?—A sewer 5 feet high by 2 feet 6 inches wide, which is of sufficient capacity to drain 500 ordinary courts or streets.

Were those enormous sewers directed by the commissioners who were architects?—Yes; the forms were originally laid down by a former chairman."

To establish the charges, then comes *Captain Bague*, R.N., who had acted as chairman during the last year. Being asked if he wished to make any observations on these examinations, reports of which he had read, the captain said—

"No, I do not; I think what I have read is a very well drawn up statement, both on the part of the clerk and on the part of the surveyor. I think, generally speaking, it is a manly, straightforward piece of evidence, which I think does them great honour and great credit.

So far as facts may come within your own knowledge there is no point upon which you feel inclined, from your own observation, to give any contradiction to the evidence which they have given upon oath?—I should say not. I have been a very close observer of the conduct of the Commissioners of Sewers. Gentlemen present must be aware that, looking to them as a large body of men collected together, and in a great measure connected with each other, it would be a hard matter to say anything more than the clerk and surveyor have said."

We do not reprint this evidence without compunction; but feeling that if the body of gentlemen attacked have not a sufficient answer to the charges, they deserve reprobation, and that if they have, as we sincerely and earnestly desire may be the case, it is desirable the opportunity should at once be afforded them of laying it before the public, we put aside our scruples,

And pause for a reply.

Institute of Architects.—On Monday evening Mr. Ambrose Poynter, V.P., will read a paper on Ornamental Leather Hangings.

ON MONUMENTAL INSCRIPTIONS.*

IF we consider the inscription of monuments—we shall find that they were most profuse in times *primæval*, and those arrow-shaped lapidary writings of Persia, with which whole faces of rocks, if we may say so, are covered; the stupendous row of Assyrian monumental inscriptions; the hieroglyphics of Egypt, in fine, bear testimony to the amount of *thought* and adoration which must have pervaded the builders of these stern, and sublime structures. As far as we may already conjecture from the interpretation of Egyptian inscriptions deciphered by Champollion, Rosselini, &c., they contain concise and fervent imprecations and prayers to Ammon-Rá, Osiris, and others of their divinities; shewing again and again, that sublimity, and flippancy, and buffoonery never can go together. The oldest Grecian inscriptions have been lost, and one of the oldest recorded may be that engraven at Thermopylæ in memory of the defenders of their country, thus pithily given in Latin: –

"Siste viator—heroa calcas."
Stop, traveller—thou treadest on heroes' ashes.

Several, especially German travellers, have made it of late their particular business to collect and publish inscriptions in Greece, Asia Minor,—to whose works we must refer those especially interested in this matter.

The chief requisites of monumental inscription are brevity, condensation of thought and ideas, extreme correctness of language, and—if such can be combined—a certain *point*, or spirited winding up of the sentence or sentences. The greatest men of modern times have not disdained to devote their talent to these brief-though-they-be compositions; amongst others, Aless. Manzoni, whose inscription on the tomb of the unfortunate Countess Confalonieri (wife of the Milan exile) is generally known. Frederic the Great and Joseph II. were the composers of the inscriptions of some of the monuments they erected for the benefit of the public, for instance, that on the Royal Library at Berlin:—

"Fredericus Apollini et Musis."
Frederic to Apollo and the Muses.

Very original are those of Emperor Joseph—so that on the first public park established at Vienna:—

"To all men dedicated, recreation-place—
by their esteemer."

Another requisite of a monumental inscription is, that it should be *didactic*, and inculcating some principle or moral rule. Thus the hieroglyphics of Egypt can be called open and patent prayer-books, embellished and emblazoned, as it were, in the most stupendous and gorgeous manner. They were read and *understood*.

But in the lands of the East customs and manners remain perennial. And thus the Mahomedan religion has copied from the men of old this praiseworthy habit—and their mosques and minarets are covered with admonitory and consoling inscriptions from their holy writ. We will not venture to draw a parallel of popular happiness and contentment between those nations and us Western people as we are now. But, strange to say, *that* nation which was hitherto considered the most sturdy and contented amongst us—we mean the Swiss—have preserved the custom of domestic inscriptions, with which transitory observation we shall conclude our remarks. Even so far back as the liberation wars against Austria, some of their then chiefs were known for the multiplicity of inscriptions with which they ornamented their houses. This has continued up to the present time, the Swiss peasant and burgess priding himself on the didactic or pithy inscriptions with which his dwelling is adorned. There can be no doubt, that the repeated reading and pondering of wise sayings will beneficially impress the mind. And thus every lover of his kind must wish that, in future, our public monuments, nay our private dwellings, would receive the appropriate and copious ornamentation of suitable inscriptions—serious, pithy, concise, *improving*. Goethe, whom, it seems, no radius of literary or civic life ever escaped, has had a similar idea, that *monu-ments* are, properly speaking, not so much intended for the departed, whom nothing terrestrial will probably ever touch or benefit, than for the *improvement* of the living and existing. He says:—

"*Euch*—nicht Ihnen errichted ihr monumente."
To *you*—not others, monuments are erected.

* (From the "Ausland.")

AVERAGE COST OF GAS.

As a sort of average locality, in which neither the advantages of the pit-mouth, as at Wakefield, nor the disadvantages of a more distant coal market, as in the metropolis, might be thought or alleged to interfere with a right result, we applied to a private establishment not far from Leicester, and obtained from it a note of the particulars of the cost of gas manufactured there on the premises, and including every outlay in its production and management. The following is the note referred to, verbatim et figuratim, with the exception of the name in the title:—

Expenses of Gas consumed at —— ——, May 19, 1845, to May 19, 1846.

DEBTOR.

	£	s.	d.
To coals at 11s. 6d. and 10s. per ton	124	3	6
Half expense for man and boy (other half to steam-engine)	40	6	0
New retorts and wear and tear	40	0	0
Total	204	9	6

CREDITOR.

	£	s.	d.
By sale of coke	47	11	3
Cost of gas for year	156	18	3
Total	204	9	6

Weekly consumption—	
26 weeks, average	20,000 cubic feet.
26 " "	40,000 "
Cost, 2s. per	1,000 "

Now, it must be here remarked, that in place of a moderate per centage of interest on the original or other outlay for gas-house and apparatus, we have a sum of 40*l.*, which would constitute such a per centage on a comparatively enormous amount of sunk capital—doubtless far more than the sum so expended. We have also to add, that no return is made on any thing but coke,—ammonia, gas tar, and other products, such as those of purification, breeze, &c., and the lime or other material used, being regarded as so much waste. And, finally, we must consider, that here we have, under all these positive disadvantages, which, after all, render this return a very high one—much above a fair average one of the kind alluded to—an article, nevertheless, produced, *on a small scale*, at 2s., including all necessary and contingent expenses; while, in the same vicinity, at the same period, the same article was selling, *on a large scale*, at more than 7s.! We shall have something more, too, to say on this particular subject ere long.

WE ARE UP AND STIRRING.

THE Bishop of London, by his letter to his clergy, calling on them to promote habits of cleanliness among their parishioners, as the cholera is approaching, has done much good. One might almost say, would that the cholera were always "approaching;" but never amongst us.——Sir George Grey has issued his mandate for the inspection of the metropolitan parish and union workhouses, with reference to the special arrangements necessary, in the event of cholera reaching the metropolis. The choice of inspectors being left to the Poor-law Commissioners, they have appointed Dr. Arthur Farre, Professor, of King's College Hospital, and Mr. Joseph Toynbee, surgeon, and Fellow of the Royal Society.——As a sanitary measure, also, it is satisfactory to us to see that the seedlet in the stigma "Light and Health-tax," planted by ourselves upon the obnoxious window-duty, has begun to germinate in the form of meetings for the establishment of something like the association suggested in THE BUILDER, the first of which meetings took place on the 23rd ult., in the parish of St. Martin-in-the-Fields, for the appointment of a committee, and for co-operation with the other metropolitan parishes. As remarked by Mr. Labram at that meeting, while assuring the meeting that old members of committee "would go to work with redoubled energy, and no doubt with ultimate success," this question "has now formed itself into quite a different feature, being considered one of the first ingredients in promoting the sanitary condition of the poor of this metropolis." A committee was appointed to co-operate with other parishes in obtaining the abolition of this tax.

Our provincial news of progress is still from the northward and westward. At Norwich, we find the *Chronicle*, in a comprehensive article, pointing out what has been done, and what has *not* been done, the latter plus however, and the former minus. The detail is most instructive of the identity of circumstances, which are being developed in so many different cities, towns, and villages—an identity as complete, in fact, as human nature everywhere is with itself—all differences between black races and white notwithstanding. The same detail of stagnant pools, insupportable effluvia, undrained streets and houses, scarcity of cleansing water, close and crowded, dark and filthy lanes and alleys, might be stereotyped, with proper names of cities and of citizens in blank reserve, and stand for the state of hundreds of other noxious and lamentable abodes of human congregation. —— A new arrangement of sewerage is about to be made at Lynn, where Mr. Utting, surveyor, is now engaged in taking the levels of the drains. —— At Doncaster, the Sanitary Committee appointed by the town council, are employing the police to fish out nuisances, when notice to the proprietor of the nuisance is issued, giving a certain brief time to abate it, failing which, he is instantly brought up for it, and made to pay the penalty of disobedience, and of disregard or contempt for the health and comfort of the community.

A lustrative paradise is pictured forth by Douglas Jerrold, who vaticinates in a most hopeful strain of—how the cholera will be prepared for by the Parliament, the corporation, the parochial authorities, the clergy, and the people at large, from all of which it appears,—if Jerrold be a true prophet, as *he* evidently is a *good* one whose good wishes are so "borne in upon him" as to become "the father" to such prophecies,—that all of a sudden every one will be enlightened with the true light of intelligence on this most vital, yet most deadly subject, and that all its power and all its horror will vanish in the twinkling of an eye.

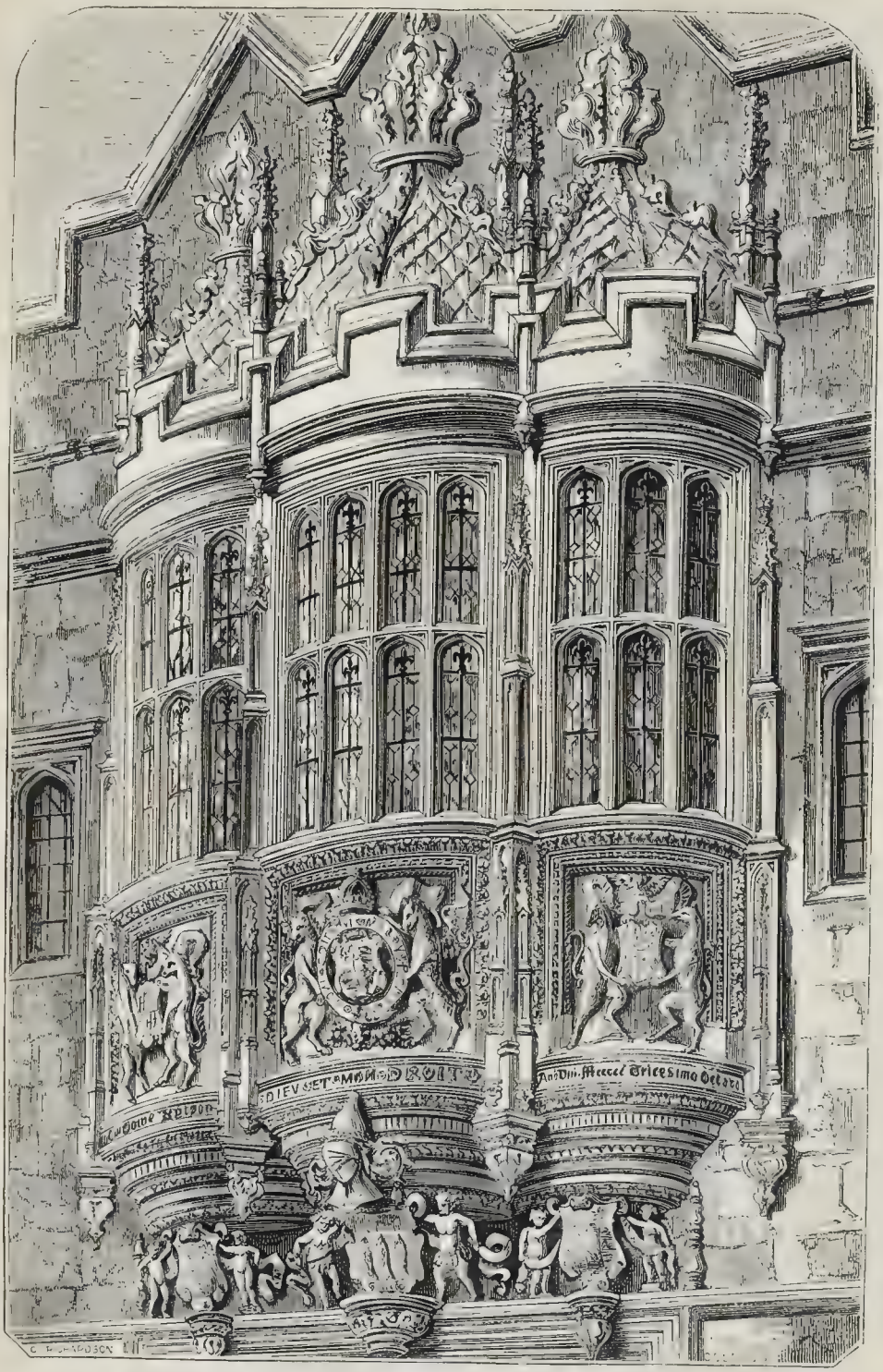
At Ware, in Hertfordshire, an intelligent committee have been investigating the sanitary state of the town, and have recently made a report, to which we shall refer next week.

BALANCE GIRDERS.

SIR,—Permit me, in explanation of the properties of the balance and girder, mentioned a few weeks ago, to add, that the balance contains four times more sectional area of base, and three times less leverage at the centre of power, than an ordinary girder of the same length and weight, and that at this point it is supported upon a fulcrum; whilst, on the contrary, the centre of power of the girder is the centre of a bridge, without a fulcrum there to support it, and the increased leverage and reduction of power of a girder, at this point always quadruple, as its length and weight are doubled. In relation to the arch for bridges, whether it be of the catenary, the elipse, or of any other form, the centre of power is the key-stone without a fulcrum to support it, and, like the girder, its power is directly as the depth and inversely as its length. In short, the arch and the balance are as unlike each other in every respect as the circle and the plane, and so is the effect of transit loads upon them; nor does the arch afford the capabilities of the balance for bridges; such as levelness of road, freedom for navigation, extent of span, &c.

The most simple way of testing the power of the balance girder is, by supporting a balance at the centre, the ordinary scale-beam, for instance, and it will bear, in a horizontal position, a load to the full extent of its power; and two scale-beams in length, united at the centre and their extremities, resting upon two abutments, constitute a girder; but it would require their weight of additional material to make it of uniform dimensions as a girder; but even then, how insignificant would be its power in comparison with that of a balance of the same weight and length.

A LOVER OF MECHANICS.



TRIPLE BAY WINDOW, HENGRAVE, SUFFOLK.

DETAILS OF BAY WINDOW, HENGRAVE HALL.

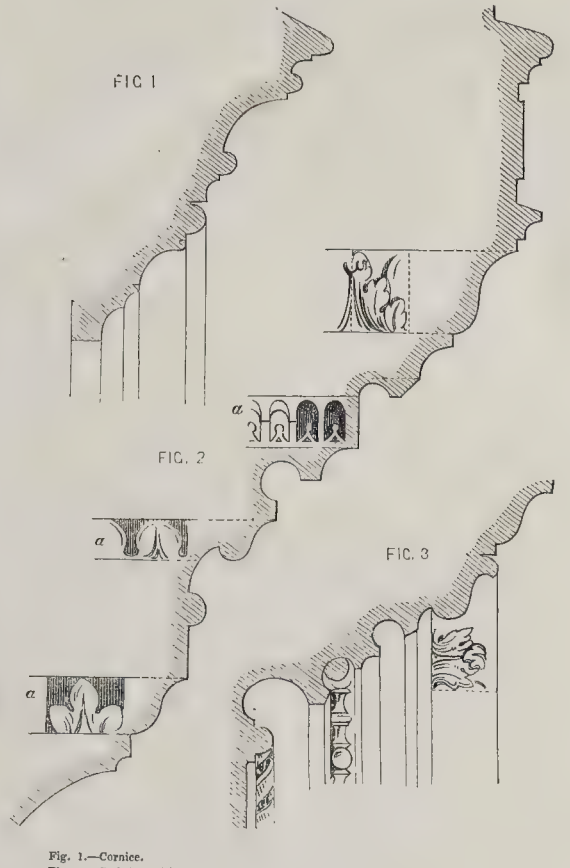


Fig. 1.—Cornice.
Fig. 2.—Corbel mouldings; the ground of mouldings, at *a*, *a*, painted dark brown.
Fig. 3.—Mouldings of panels under window.

HENGRAVE HALL, SUFFOLK.

THE accompanying engraving represents the triple bay window in the gatehouse at Hengrave, a fine specimen of the style of the Tudor period. The following passages from the lamented Mr. Gage Rokewood's "History and Antiquities of Hengrave," descriptive of the hall generally, and of this window in particular, will be read with interest:—

"The influx of wealth into England, at the commencement of the sixteenth century, produced a visible change in the domestic architecture of the country. People, affecting splendour in the style of their mansions, looked less to that security which had been the main object of the castle. The introduction of the quadrangular building was the consequence. The Duke of Buckingham had just given the country a remarkable example, in his castellated mansion at Thornbury, of a structure having a military appearance, and, at the same time, displaying the magnificence of a palace and the convenience of a private dwelling. Thus the embattled manor-houses, which were now raised, partaking still less of defensive qualities, assumed regular shapes, and were distinguished in a particular degree by their richly-ornamented portals, turrets, bay windows, and oriels. Such were King Henry's palace of Nonsuch, and Wolsey's mansions, Hampton Court and Whitehall; such Gosfield Hall and Beaulieu, now New Hall, in Essex, the one raised by Lord Wentworth, and the other by Queen Anne Boleyn's father; and to these examples we may be allowed to add Hengrave Hall, begun by Sir Thomas Kyston about the year 1525, and completed by him in 1538, 'the gateway of which,' says Mr. Gough, 'is of such singular beauty, and in such high preservation, that, perhaps, a more elegant specimen of the architecture of the age in which it was erected cannot be seen.'

We may here observe, that although the embattled manor-house had laid aside the defensive character of the castle, and was therefore beneath the jealousy, yet it was not above the avarice of the crown, for a royal license was made as necessary to the building of the one as the other.

Sir Thomas Kyston built this manor-house on a flat, close to the parish church; from which circumstance, among others, it may be conjectured to have occupied the site of the more ancient hall of the family of De Hengrave. The approach was by a straight road, raised above the level of the country, fenced on each side by a deep ditch, lined with a triple row of trees, and terminating at a large semi-circular foss, over which a stone bridge led, at some little distance, to the outer court. This court was formed by a central lodge, the residence of the keepers and falconers, and by a range of low surrounding buildings used for offices, including a stable for the horses of pleasure. Beyond was a moat, inclosing the mansion, which is a quadrangular structure of freestone and white brick, embattled, having an octangular turret at each angle, with turrets larger and more ornamented that flank the gatehouse or entrance to the inner court. By the removal, in the seventeenth century, of the outer court, and in 1775 of a mass of building which projected at the east and north sides of the mansion, together with a high tower, the house has been reduced one-third, at least, from its original size. It now occupies 18,500 square feet of ground. The moat has been filled up. There was a bridge over it figured with devices, in polished flint work, and also a drawbridge, communicating with the church.

At some distance to the east and west were detached buildings, comprising the dovecote, the grange, the great barn, the mill, the forge, the great stable, and various offices, separate kennels for the hounds and spaniels, and the mews for the hawks. The mansion had also its great and little park, as has been before observed, a vineyard or orchard, and gardens, a hop-ground, and a hemp-ground, and was well provided with fish-ponds; a bowling-alley occupied the space between the north side of the house and the moat, having the convenience of an open corridor, communicating with the hall; and a pair of butts was placed on an artificial mound still visible in the upper part of the park. That the grounds were laid out in the true Dutch style may be concluded from these items in the household expenses for the year 1575:—

"In rewarde to the Dutch gardner for his travayle, from Norwich to Heng^{e} to view ye orchardes, gardyns, and walkes, iijs. iiijd.

Paid to the Dutchman for clypping the knotts, altering the alleys, setting the grounde, finding herbs, and bordering the same, xls."

The water-works were finished in 1583, as appears by an entry of account in that year:—

"Payde to Martin Plomer, at London, for bringing hoame of the water to all the offices at Hengrave house, from the springe heade, at the new layer, as y^{t} doth appere by his bill, in pticulars, made of the charge of the same, xvijl. xviijs. ijd."

The engravings in Mr. Gage Rokewood's book exhibit the present state of those parts of the building, which are perhaps unique examples of the taste of their time in the domestic architecture of the country.

"Among the architectural peculiarities, perhaps the most remarkable is the form of the turrets; those of the gate-house resemble the mitre-headed turrets of King Henry the Seventh's Chapel, at Westminster; of King's College, Cambridge, and of St. George's, Windsor; whilst the others, without crockets, or other ornament, remind us of the domes of the palaces and temples of the East. Of the chimneys, some few on the west side are spiral, some are reticulated, and one or two others, like those at St. Asyth, are made to represent reeded pillars with capitals; but it is in the gate-house that the Tudor magnificence is chiefly conspicuous.

This structure has an arch obtusely pointed: in the spandrels appear the Kyston crest,* a unicorn's head erased. The space above is filled by a triple bay window, the domes of which are rich in scale work and crockets, and have basements, or brackets, elegantly terminated in pendant corbels; each square compartment in the lower division of the window contains a shield: that in the centre displays the arms of France and England, quarterly, supported by a lion and a dragon, and ensigned by the crown of England, with the motto—

"Honi soit qui mal y pense."

in a garter encircling the shield. On the frieze is the royal word—

"En Dieu et mon droit."

The dexter shield bears the arms of Sir Charles Cavendish, quarterly, first and fourth sable, three harts' heads caboched argent, attired or, for Cavendish; second and third argent, a chevron sable between three croslets gules, for Smith: impaled with those of his lady, Margaret Kyston; supporters, unicorns. The sinister shield has the arms of Thomas Darcy, Earl Rivers, and Mary, his Countess, quar-

* The original crest granted to the family was a unicorn's head erased sable, the ears and beard, or, on his neck three besants, the erasures gules being on a demi sun, placed upon a torse argent and gules. They received, in lieu of this crest, a grant of one more simple, viz., a unicorn's head sable issuant out of a demi sun or.

terly, first argent, three cinque foils gules, Darcy; second argent, a fess between six oak-leave gules, Fitzlangley; third, argent a fess erminois, between two bars gemelles sable, Harleston; fourth argent, a chevron, in the dexter canton an armulet sable, Wauton; fifth gules, a goat saliant argent, Berdewell; sixth quarterly gules and argent, in the first quarter an eagle displayed vert, Pakenham: the whole impaling Kyston; supporters, griffons, bearing on the extended wing of each two roses.* On the frieze below the two last shields are these words:—

Opus hoc fieri fecit Tome Kyston.
Ano Dni Mcccccº Tricesimo Octabo.

Upon the brackets of the windows are fixed three other shields, hanging over the entrance, and supported by the figures of naked boys, wreathed with garlands. The centre shield, surmounted by a knight's helmet, bears the arms of Kyston; sable, three Luces hauriant argent, a chief or. On the dexter shield are the arms of Sir Thomas Kyston, impaling those of Margaret his wife; viz. first and fourth, paly of six, argent and azure, on a chief gules three besants, for Donnington; second and third argent, a chevron between three mullets gules, said to be the coat of Broughton. The sinister shield presents the arms of Sir Thomas Kyston the younger, impaling those of Elizabeth his wife, as follows: sable, gutté d'eau, on a fess argent three Cornish choughs proper, for Cornwallis; second, sable, three bars gemelles argent, Buckton; third, sable, a cross moline or, Braham; fourth, argent, a bend between six croslets fitchy sable, Teye; fifth, argent, within a bordure, ingrailed gules, two chevronels azure, Tyrrel; sixth, azure a chevron between three sea pies argent, Stamford. The battlements of the gate-house, assuming the appearance of small gables, the points of which, crowned with richly-carved hooped garlands and vanes, correspond with those of the triple dome below, give height to the whole, and complete the beauty and harmony of the design."

* The shields, with their supporters, adorning this window, are part of the original design, though some of the bearings are of later acquirement. Hence, neither the unicorns, nor the griffons, supporting the arms of Cavendish and Darcy, belong to these houses. The Kyston crest furnished the unicorns; and probably the griffons, with the roses, were borrowed from the devices of the merchant adventurers, who have the Pegasus for supporters, with two roses on the extended wing.

AS TO THE CITY OF LONDON SEWERS.

Sir,—The opinion of that utterly unknown person, "the late Surveyor of the City Sewers," having been mentioned by Mr. I'Anson, in conjunction with that of a gentleman with whose name his ought not to be whispered in a summer's day, will you permit that insignificant body to speak a word for himself in your useful publication? I certainly have a very obstinate opinion that a semi-circular-bottomed sewer is sufficiently, if not perfectly, adapted for every purpose of sewage; and I have also a very obstinate opinion that the sharply-curved bottom of an egg-shaped sewer is marvellously inconvenient for walking in; and I have also an extremely impertinent opinion that there is a vast deal of humbug in the popular cry of "egg-shaped;" and I also have a very indignant opinion that there has long been a settled purpose to decry every thing connected with the city, and to suppress every thing that may in the slightest degree be creditable to it. In the spirit of fairness and even-handed justice, will you allow me, Sir, to put the public, through you, in possession of some facts, which have, in high quarters, been sedulously kept out of sight? In 1768 George Wyatt introduced the use of semi-circular-bottomed sewers and of barrelled drains in the city of London; and they were never deviated from until 1829, when I, in carrying out the London-bridge sewer, which was projected and commenced by my good master, Samuel Acton, advised the use of the ellipsis. George Wyatt at first used upright sides; but at least as early as 1778 he introduced the practice of sloping the sides outwards. I need not point out to you, Sir, that such a section recognizes the principle of the egg-shape. His successor, Nathaniel Wright, always built his sewers with upright sides. His successor, Samuel Acton, in 1823, re-introduced the nascent egg-shape, making the sewer in Walbrook 6 inches wider at the top than at the bottom; and in every sewer built by him between 1823 and 1829, a similar practice was adhered to. I, for him, and in my own works, when I succeeded him, used the illiptical section, until inconveniences were found attendant upon it. Of later years I used George Wyatt's invention, the sewer with sloping sides.

In 1846 the commissioners, at the instance of Mr. William Lawrence, a commissioner, adopted the truly-formed egg section. In your publication I, under an anonymous signature, shewed how the egg-form should be described. Had I been so mean-spirited as to have claimed the invention of another as my own, the works of Sebastian Serlio are so sufficiently scarce, as in all probability to have allowed me many years possession of the borrowed plumage. I am not so fortunate as to possess the book; it is probably more than twenty years since I saw it, but my impression is, that he only shewed how an elliptical form, adapted for the outline of vases, could be described; and that the application of the principle to striking an egg really was my own. I have since that even described an egg by points obtained without the use of any centre.

As to the introduction of curved junctions, about thirty-one years since I submitted a plan for building upon the then vacant ground between Edinburgh and Leith, containing that systematic sewage which I thought adapted for the locality. Several miles lineal of sewers were delineated, without a single instance of any other junction than in bold curves or in acute angles.

In January, 1832, I, for my master, laid down an extensive series of sewage, connected with his main trunk at London-bridge, in which the principle of junction in the largest curves which could be obtained was distinctly shewn. This was not carried out, because that I saw it advisable to change the course of the trunk line; but long lines of sewer were built by me with circular junctions, not only before that I had heard of their being used elsewhere, but before I had even remotely thought there was any thing marvellously beyond the pale of common sense in the contrivance. These, Sir, are truths; they can be—they have been—established, by reference to dates and records; but, because that it subserves some purpose in every practicable way to depreciate the city of London, these truths are held to weigh as nothing; and it is yet daily in the mouths of itinerant lecturers, that "all the sewers and all the drains within the city have flat bottoms, and that no improvement whatever has been originated in, or adopted by, the city."—I am, Sir, &c.,

"The late Surveyor of the City Sewers."

THE CONDITION OF RAILWAY LABOURERS.

During the discussion on the Railways Bill, in the House of Commons, Mr. Stafford urged the claims of the labouring population engaged on railways, and said, in considering the hundreds and thousands of labourers whose interests were affected by railways—in considering the millions of money which had been embarked in these speculations, he had only been able to discover, among all the Acts of Parliament which had been passed on the subject, one solitary Act in reference to the labourer; and this simply related to the payment of special constables who were required for keeping the peace. The House must be aware that, in dealing with this large body of labourers, they were dealing with a new nation—a nation because of their numbers and power, and a new nation, because, whatever difficulties the House might have in interfering with vested interests, there were no difficulties of that kind when they were at the commencement of a new system, and giving laws to a new state of society; so that, whether as regarded the question of residences, or the question of comfort, or the question of health, or the question of morals, he maintained that their responsibility in reference to those things was far greater than it would have been if they had to deal with existing usages and established rights. On the question of residences, the Rev. J. R. Thompson was asked before a committee, appointed in 1846, "Are the huts at all equal to the class of houses which are generally occupied by the labouring population?" He answered, "I never saw any thing to be compared to them." "Will you describe them to the committee?" he was asked. He said, "I can only describe them as being built against a hedge or bank, the rafters sloping from this bank, and the sides and ends of turf. In some cases, I believe, they are just boarded inside, in some cases they are not; in some cases there is no partition; man, woman, and child all sleep exposed to one another. Mr. Rawlinson was asked, "What is the effect upon the habits and characters of the men, where there is a want of accommodation? Can you tell us from your experience?" He replied, "I should say, where the men are crowded together, as they are in that district, the work being carried on night and day, the beds in all the cottages were let double, and as soon as one set of men came out of them, after they had had their meals, another set were to take their place. The rooms were overcrowded; there could be no separation of the sexes; and demoralization existed to a large extent among the native population. With reference to drawbacks, the Rev. R. Wilson was asked, "Do you think generally men would be disposed to work for lower wages, if they were sure to be paid weekly, and in money?" He said, "I think, undoubtedly, they would—no doubt they ought. There is another thing deducted from their wages, which is beer, whether they like it or not; by the rules on certain parts of the railroad, the labourers are compelled to take a certain quantity of beer." Mr. Rawlinson said, "these men were getting upon that work from 3s. 6d. to 4s. a day, yet such was the excitement and lawless habits of the men in the district, that it was no more to them than 2s. 6d. a day, if they could have been comfortable and quiet, and could have lived rationally:—the high wages were a curse rather than a blessing to them." It is to be hoped that some effectual means may be speedily devised to improve the condition of the immense masses of men gathered together on these works.

PUBLIC BATHS AND WASHHOUSES.

Sir,—Your correspondent "A Londoner," in his letter in The Builder of December 25, on "What should a Sanitary Bill contain?" has made a statement which ought not to pass without notice. He asserts that the "Act" empowering and allowing public corporations and parishes to erect baths and washhouses is a complete failure. I might ask him which of the *three* public baths and washhouses he means by *the* "Act?" but without putting him to the inconvenience of answering such a question, it may be sufficient to say that, in other respects, he evidently wrote "without book." Public baths and washhouses are not like watch-boxes or turnpike-houses. They cannot be run up in a week; and the best mode of constructing them and fitting them up has yet to be learned. "A Londoner's" letter reminds me of the question which a little child asked the other day—"Pray, papa, has *all* London been *discovered* yet?" If your correspondent will pay a visit to Orange-street, Leicester-square, he will see the best possible proof that Sir Henry Dukinfield's Acts are not "a dead letter" in the parish which has the advantage of being his vicarage. If he will inquire of the vestry-clerks of several neighbouring parishes, he will find that the "Act" has been adopted by them, and that it is not for the want of good will but of sites (not easily to be found in London, as I can tell him from experience) that the works have not been commenced. If he will go beyond Cockneydom, he may inquire of the town clerks of Manchester, Birmingham, Leeds, Newcastle-upon-Tyne, Hull, Preston, Bristol, Bath, Exeter, Plymouth, Southampton, Worcester, and other boroughs in England, as well as of Dublin, how far the corporations of those places regard the Acts as "a dead letter."

The fact is, that the adoption of the Acts, considering how lately they passed, has been more general than could have been relied on

two years ago. The model establishment in Goulston-square has progressed but slowly, and till it be completed, many will hesitate to follow its plans; but as "Rome was not built in a day," so we may say that the Roman institution of public baths will not be established in this country with great rapidity. Country towns will not be the less willing to follow the metropolitan example when they find, that there has not been "more haste than good speed" in London. "A compulsory provision" for the establishment of public baths and wash-houses is a very pretty theoretical speculation; but there could not be a surer way (for the next ten years, at least) of ruining the cause, than attempting to pass an Act to make such a provision.

I am quite as earnest as any Londoner in desiring the general establishment of public baths and wash-houses; but I know too much about the matter to agree with your correspondent. N. R.

NOTTINGHAM AND NORWICH SCHOOLS OF DESIGN.

At a *conversazione* in connection with the Nottingham School of Design, held on the 21st ult., Lord Lincoln took the chair. In the course of an address his Lordship justly remarked—Whether viewed as a means of cultivating a sense of beauty in nature and in art, —a means of cultivating that sense of beauty which I am sure, more than any other, tends to elevate the mind, and to instil the purest and most elevating thoughts into the hearts of those who, after days of toil, frequent institutions such as this, instead of giving themselves up to coarser and more sensual pursuits,—I say, whether viewed in this light, or as bearing more immediately upon the pecuniary interests both of those who are endeavouring to obtain excellence, and upon those in whose service they are employed; in whatever light we view them, I think we shall feel institutions such as the School of Design can hardly be overrated in their ultimate importance. When we look at the sudden variations of fashion with regard to the materials, more especially those which are the staple commodities of this town; when we consider the improved taste which I do believe prevails both in this and other matters with regard to the existence of design; still more, when you look to that intense competition which now prevails with regard to manufactures in all parts of the world; when we look at all these things, it does behove us, if we value our manufacturing interests and the possession of that market which we have hitherto enjoyed, not to slumber or sleep upon our post, but to exert ourselves to the utmost. I believe it is thought these schools are good for those whose business may be to invent designs, but useless to the artizan. Now, I believe a greater fallacy than this cannot exist. There are practical men in this room; and I am sure, if appealed to, they will say that even those whose occupations may be merely that of the artizan will yet find the greatest advantages in those studies; that they will become important workmen; and, I believe, that this is an undeniable fact, that an immense amount of work is constantly spoiled by those who have not the taste to appreciate the designs they are called upon to execute.

Mr. John Walter, M.P., also addressed the meeting.

From the report read by Mr. Hammersley it appears that the school at this moment averages 152 students, and the daily attendance averages 96.

In the same week the annual meeting of the Norwich School of Design took place, for the distribution of premiums given by Sir John Boileau.

The Bishop of the diocese, who took the chair, said, speaking of the arts,—Painting had a power more strongly engrafted upon us than any other art. He would say, in regard to himself, that the happiest hours of his life had been dedicated to the study of what he saw in the varied departments of creation. He considered every new taste and every art as equivalent to another sense. A person might travel through the most beautiful scenery, and be unimpressed with what he saw, if his mind was not filled with knowledge and taste for the works of God. He, on the other hand, could not walk over a heath without seeing the beauties which others might not perceive if they were without a knowledge of painting. He would say, that every thing which improved their talent added to their happiness: it added to their happiness in a temporal point of view, as it might be the means of advancing them in society, and of making them more respected. He believed there was no mind, however insignificant in the eyes of men, into which, if the right chords were touched, they might not infuse a spirit to raise it in every point of view. From the humblest classes the brightest ornaments had been produced. He hoped that those who had the means and the power would assist in carrying out the great objects they had in view, in infusing a taste for science and art in every possible branch, in every possible way, for the benefit of the humbler classes.

There is no decrease, we are informed, in the number of subscribers or students at Norwich; but the manufacturers are complained of, as well as the citizens at large, for taking little interest in the school.

"HEALTHY LODGINGS, WITH THE ADVANTAGE OF A GULLY-HOLE OPPOSITE."

Certain facts and opinions recorded in our report of a paper read at the ordinary meeting of the Institute of Architects on the 13th ult., as to sewers, may lead to such an advertisement as that with which we have headed this article, and require, in passing, some little comment; more especially as there is, probably, even still more risk of a fatal check to the sanitary agitation,—sanitary fever, as such an effort of human nature to throw impurities out of the corporate system may, indeed, be called,—by any thing like a *damper* rising from the *sewers*, than of any "dangerous frenzy" being excited by too many precautionary exhortations.

It appears to be "a fact, that when London was ravaged by the cholera, no case occurred amongst the workmen employed in the sewers." Now, a fact is a fact, and ought to be received with all due reverence and respect, but it is often a two-edged weapon, and ought to be cautiously handled. We are indebted to Mr. I'Anson, however, for bringing such a fact under notice, even although he himself makes no comment upon it, whether cautious or otherwise; but mistaken inferences are exceedingly apt to be deduced from such a fact, and the sooner the possibility of that be obviated the better; especially when reinforced by such another fact, as that a female declared she had never been well till she came to live "near one of the open street-gratings so much complained of," and to enjoy the sanitary benefit of the emanations from the sewers. Lest, therefore, there should be any thing like a general and undue anxiety, in consequence, to escape the ravages of cholera by fostering the contents of sewers as a sanitary agency, or even by running into sewers themselves for respite and for refuge, or to sewer-valves or gratings for the wholesome breath of life and health, we wish just to bring a parallel couple of facts under notice.

It is a fact, for instance, that while thousands may be slain by an undue dose of opium, no confirmed opium-eater will be slain by a similar dose. It is likewise a fact that many a one has never been relieved from pain until he came to experience the *benefits* of opium. But is not opium *a deadly poison?* Does not opium, habitually used, abbreviate the life? And will not opium in very small proportion rapidly slay its thousands and its tens of thousands, who are *not* habitually *within* its noxious influence, while it is slowly, but most surely, eating into the vitals even of these? The corollary is too obvious for formal exposition, and affords the most friendly excuse for the "facts" that we can find.

As to the additional fact that an experimenter has found it difficult to obtain a cubic foot of noxious gas from the sewers, the intimation is rather inexplicit. We are not informed whether it be meant, that in the usual state of the atmosphere of sewers such is the case; but, at all events, it did not require such knowledge to assure us that the experimenter must have pitched upon a very different state of matters from that in which the unfortunate victim, Grosse, drew his last breath. We believe there is truth in the remark of another speaker, that "although the gases from sewers are, doubtless, bad, more evil results from the badness of our house-drains than from the sewers." But the Dean of Westminster's *fact* is also, at least, as good as any of those adduced, 'on the other side' of the question.

NOTES IN THE PROVINCES.

The entire village of Thornton, in Lincolnshire, consisting of cottage and farm buildings, with 2,500 acres of well-cultivated land, says the *Lincolnshire Times*, was last week offered for sale by Alderman Farebrother in eight lots, five of which found purchasers at prices varying from 45*l.* to 65*l.* per acre, buildings all inclusive.——Another of the Norfolk churches, says the local *Chronicle*—namely, that of Methwold—has been rendered fit for the due and decent celebration of its sacred offices by the removal of unsightly and dilapidated pews, with which it was disfigured, and 'an ugly screen' and gallery with which the west window and tower were blocked up. The interior has accordingly been rebenched with open seats and the centre of the nave given to the poor, while the side aisles are appropriated to the rich. Mr. Thomas Farrow, of Diss, builder, designed and carried out the repairs: an organ has also been added.——Extensive alterations in the parish church at Danbury, says the *Chelmsford Chronicle*, are to be commenced early in the spring, when a considerable portion of the body of the church will be rebuilt.——A small theatre, according to the same paper, has been built at Warley barracks.——A decorated octagonal font has been added to Dunmow Church, from a design by Mr. Smart, master of Dunmow Diocesan Schools, traced partly from the ancient fonts of the church, and executed by Mr. Wm. Ollett, jun., sculptor.——The new Graving Dock at Southampton is nearly completed by the contractor, Mr. Cubitt, of Gray's-Inn-road. The *Hampshire Independent* speaks highly of its workmanship—brickwork with granite copings —as already mentioned in The Builder, and of the rapidity as well as apparent solidity with which it has been constructed.——The waterworks at Newport, Isle of Wight, are so far completed as to allow the supply-pipes, which are of galvanized iron (iron dipped in a bath of zinc, is it not?) to be laid on to several establishments.——The Birmingham Council Committee for building the jail appear to be receiving no countenance from those very rate-payers whose interests in 'the bond' of the late contractor and his sureties they were so officially anxious to uphold. The rate-payers themselves are about to memorialize the council to release the sureties "on payment of the sum of 2,000*l.*, which, with 1,500*l.*, the value of the work already done and unpaid for, makes the amount of the bond given by them for 3,500*l.*;" but with which amount, our readers may remember, the committee and council were not content, and accordingly demanded the full amount of the bond, even over and above the value of the work already done! Considering that the sureties, hopeless of anything like generosity, or even justice, without an equally expensive lawsuit, had at last consented, and had even offered to pay the full amount of the bond, it must be a strong moral impulse which is actuating the rate-payers thus virtually to reprove their own ultra-zealous representatives. The memorialists deem their intervention a matter of mere right and justice to the sureties in "so extraordinary a bargain," and do not hold the council justified by any mere saving to the rate-payers, the whole amount being only about one halfpenny in the pound on a single rate! "They also submit, that had the contractor lived, the rise in the price of materials and labour, which has so much enhanced the second contract, was the result of a cause—the enormous extension of the railway system—which the contractor could neither foresee nor provide against, and would of itself have entitled him to proportionate relief on every principle of even-handed justice; and if this be true in reference to the contractor, much more does the rule apply to the contractor's securities."—— Extensive alteration and improvements have been made in Kidderminster Church. A new

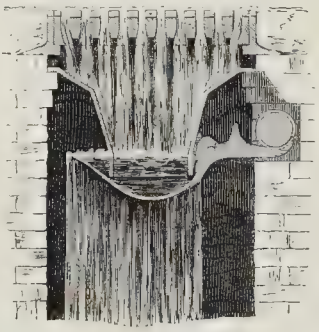
entrance has been made through the tower, where large clustered columns support an arch, the lower part of which was formerly blocked up and disfigured by the western gallery, and the head-work with lath and plastering. Through this opening access is gained to the centre aisle. The unsightly and cumbrous gallery having been removed, the western window appears to good effect. A continuation of the southern aisle has been made to communicate with it by a pointed archway in the eastern side of the tower, and is pewed with open sittings of carved oak.——Thursby parish church, says the *Carlisle Journal*, having been recently rebuilt, the reverberation of sound was found to render articulation almost utterly unintelligible. A parabolic sounding board was accordingly put up, and although its utility in other cases has been regarded as but equivocal at best, the experiment in this case seems to have been successful. The board put up is a semi-parabaloid described by half a revolution of a parabolic curve, and is so fixed, over the pulpit, of course, that the mouth of the speaker may be in or near the focus of the curve.——The blast-furnaces of the Ayrshire Iron Company, at Dalry, are to be stopped—an announcement which has caused much dismay in the district, as a vast body of workmen will be thrown out of employment at this inclement season. So rapidly have the wages of the miners too fallen, that they are now paid only 2s. 11d. a day, whereas some time since they received 5s. a day.——At the anniversary of the Glasgow Master Ironfounders' Association, held the other day, it was stated by Mr. Neilson, that since the introduction of his hot-blast process, the yearly manufacture of iron in Scotland had increased from 40,000 tons, in 1828, to nearly 500,000 tons.——Another large block of commercial buildings is about being erected in Liverpool. The front will be in Dale-street, adjoining the Royal Bank Buildings. This front, which will be of stone in the ornamental style of the Renaissance, is comparatively narrow, but behind the site expands into a quadrangle surrounded with buildings, and with an additional frontage to Sweeting-street of about 45 yards. The whole premises occupy 1443 square yards, inclusive of the quadrangle. The cost, exclusive of site, will be about 16,000*l*. The architect is Mr. J. A. Picton.

RAILWAY JOTTINGS.

A CURIOUS and indeed amusingly ingenious little instrument, as an alarum from passengers to guards, has been invented by Mr. Jonathan Hunt, of Kennington-oval. We know not what he calls it, unless it be an alarum whistle, but it is in fact a double whistle-pump or squirt-whistle, designed to be fixed on the top of each carriage, with the handle within, so placed as to be easily and rapidly worked by hand both up and down, during each of which movements the compressed air is made to force its way out of a railway whistle, one at top, the other at bottom of the cylinder. The most amusing feature in the whole, however, is the fact that, owing to the difference of power or purchase in pulling down and forcing up the little piston through the cylinder or pump, it has been found desirable to lessen the top whistle and enlarge the bottom one, so that the alternate screech of the high note and the low must remind one strongly of the powerful bray of the ass. The only fear, probably, is that it might be handled at times with rather more appropriateness than propriety,—but if any thing in the whistle line be ever adapted to such a purpose, nothing short of the notorious ass-power engine itself is likely to excel Mr. Jonathan Hunt's really very ingenious invention. From a personal inspection, the *Mining Journal* has no hesitation in gravely testifying to its efficacy, as well as its ingenuity.——One chairman of a board of directors, during the week just past, received by way of presents, and 'among other items' 140 turkies and 50 geese! a goodly number of *geese* and *turkies* truly! Most of them,—the great director not being hungry, or in such imminent peril of starvation as his friends must have supposed,—were distributed amongst his less fortunate friends; and, 'strange to say, in nine or ten instances the presents were unintentionally returned' to the very dispensers of the gifts,—a hint that they might have made a better use of them, either at home or somewhere else.——The Lambeth ratepayers have determined to quash proceedings against the South-Western Company for building a bridge-pier in the middle of Church-street. The company, as Mr. Tite, their architect, observed, had contributed liberally to the charities of the parish, and this appears to have softened the hearts of the parishioners.——The last arch of the Crimple viaduct, on the Harrogate branch of the York and North Midland, was closed on the 23rd ult. by the contractors, Messrs. Farrell and Sykes. This viaduct is 1848 feet long and 142 feet high, and consists of thirty-one arches of 50 feet span each. It has been constructed in twenty months under the superintendence of Mr. John Cass Birkinshaw, the company's engineer, and his assistant, Mr. Arthur Thackeray, of Harrogate.——A large portion of an embankment near Lamberton, on the North British line, fell in on Sunday week.

SELF-ACTING EFFLUVIA TRAP.

THE annexed diagram represents an effluvia trap, for which Messrs. Bunnett and Corpe have taken out a patent.



The diagram is a sectional view of a street-grating and gully-hole with the trap, which is represented in its ordinary position. The water flowing from the grating into the body of it, and over the edges of the moveable pan at bottom, into the sewer or drain, the lower part of the body of the trap is immersed in the water which is retained in the pan by the counterbalance weight, thereby forming a water joint and preventing smell from rising.

When the trap is choked with silt or other matters, the weight of the counterbalance prevents the opening of the moveable part till the body of the trap is two-thirds full of water. When this is the case, the trap is forced down by the weight of water in the body of it, the force of which is said to be sufficient to cleanse the trap, and flush the sewer or drain; the moveable part then rises to its former position, bringing up sufficient water to form the joint again.

What Mr. Bunnett considers improvements in this, on all similar traps, are the mechanical arrangement of the leverage and the form of the moveable pan.

PROPOSED TOWN HALL AND MARKETS AT YEOVIL.

IN reply to a communication on this subject, which appeared in a recent number of our journal,* we have received a long and smart letter from Mr. Davis. We have not room for the whole of it, but in justice give his exoneration:—"I am very sorry that so much time should have unavoidably elapsed before I could, in a prudent manner, reply to Mr. Thomas Stent's defamatory letter against me, which appeared in THE BUILDER of the 4th instant. The special commissioners of Yeovil have periodical meetings. The first they had after the publication was on the 22nd instant, when I caused to be laid before them the number of your useful publication containing his (Mr. Stent's) letter, to have a refutation to it by them (the commissioners). The following is an extract from a letter from Mr. Vining, their clerk, the 23rd instant:—'Sir, I was authorised to add, that you never either directly or indirectly, through me or to the commissioners, proposed, or even suggested that you should be appointed to act as their *architect*.' His letter is a wanton and unprovoked attack upon my character, which future circumstances will probably explain. I have made myself comparatively easy that the envious spirit and motive, under which the letter was penned, are clearly seen and understood by discerning minds.

"How bright soe'er the prospect seems
All thoughts of friendship are but dreams,
If envy chance to creep in;
An envious man if you succeed,
May prove a dangerous foe indeed,
But not a friend worth keeping."—*Cowper*.

Relative to a private interview with the Commissioners, I may truthfully inform you I never had one in the sense Mr. Stent implies. I have not the advantage of knowing either personally or by name one of those gentlemen. All my negotiations with them have been through a highly respectable gentleman. I never proposed nor hinted, directly nor indirectly, to the commissioners, nor had any idea of any position with them except that of the building contractor.

JAMES DAVIS, Builder.

Frome, Dec. 27, 1847.

P.S. I think it possible the mistake may have arisen from the fact that Mr. Davis, of Langport, being both an architect and building contractor in this much-ado contract, the editors of the local papers may have confounded his name with mine, when it was reported that Mr. Davis's estimate was adopted."

* Page 581, vol. v.

Correspondence.

LINGFIELD CHURCH.

SIR,—An extract from your paper, THE BUILDER, of December 11th, has just been forwarded to me, relating to the recent restoration of Lingfield Church, Surrey, in which you state that "the interior, if we may believe a correspondent on the subject, is *not very satisfactorily* restored." I beg to remark in reply, that the restoration has given satisfaction to the parishioners generally, and to very many strangers who have visited it. On the day of the re-opening there were about 1,200 persons present, including the Bishops of London and Winchester, all of whom expressed themselves much pleased at the manner in which it had been restored.—I am, Sir, &c.,

ROBERT FITZHERBERT FULLER,
Perpetual Curate.

Lingfield, East Grinstead, Jan. 1, 1848.

*** Out of respect to Mr. Fuller, we insert his letter, but have no reason to doubt the soundness of our previous correspondent's opinion. Politeness or want of knowledge influences many opinions.

Miscellanea.

FORGING AND WELDING.—If a piece of iron is filed while hot, the filings appear to increase in temperature as they fall to the ground. I am inclined to think that such is the fact, for if a piece of iron be taken welding hot from a forge fire, and subjected to a blast from the mouth, or common house bellows, it may be kept hot, or even wasted by the action of the blast. I have been informed, that nail-makers have a small pair of bellows fixed in front of their anvil, to blow on the iron while working it, to keep it hot. Perhaps some of your readers may be able to tell who first put this plan in practice. It may be worth considering whether nail-making is the only branch of art it can be applied to. As a practical smith, I have an idea that its use might be very greatly extended; for example, the welding of railway-tyres, forging axles, making cranks, shafts, anchors, &c. At all events, a trial on some heavy work might be made by any one having the opportunity, at a very little or no expense.—*Correspondent of Mechanics' Magazine.*

Projected Works, &c.—Tenders have been called for by advertisement for the erection of new schools and schoolhouses at Wivenhoe; new borough prisons at Plymouth; the various branches of work necessary in the erection of almshouses for the Trinity House, Hull; for sinking shafts and driving headings at Merthyr Tunnel, on the Vale of Neath railway, and for cuttings and earthwork at same tunnel, with formation of line of rail with masonry thereon on 40 chains at each end; also for making 160 yards of sewer at new parish burial-ground, Cambridge; for a supply of malleable iron, four to five tons, for the Liverpool Health Committee; and for the making of tiles at Dearham tile works, Maryport, by Carlisle.

Amendment of the Buildings Act.—The private committee appointed by Lord Morpeth to consider the defects of the present Act, and to suggest remedies, are now completing their report, and, if rumour speaks truly, will advise (what we have always urged must be done), the preparation of an entirely new Act, rather than any patching of the old one. Whether or not the Government will act upon this advice, of course remains to be seen.

Girder Bridges on Railways.—We understand that the Railway Commissioners, in reply to the inquiries of Sir E. Walker and Sir J. Jervis, as to whether, consequent on the late accident at the Dee Bridge, on the Chester and Holyhead, they intended to make any report on the conditions to be observed in the application of iron to railway structures, have replied that, "The commissioners for inquiry into the conditions to be observed in the application of iron to railway structures, are engaged in preparing experiments to enable them to arrive at satisfactory conclusions on the subject of their inquiry, before making their report. With respect to the girder bridges on the Trent Valley line, some of them are of similar construction, but of smaller dimensions than the Dee Bridge at Chester, and these have all been strengthened to the satisfaction of the inspecting officers of the commissioners.—(Signed) Douglas Galtin, Lieut., R.E.

St. Andrew's Cathedral, Sydney.—Sir: In glancing at your last number but one, my eye was arrested by a notice of a paper read before a society on the progress of the building of St. Andrew's Cathedral, Sydney. Not having had an opportunity of visiting the metropolis of New South Wales for three years, I was anxious to learn how the works of the cathedral were proceeding, and was sorry to read of a second contract "in a girt wall 330 feet long, and varying from ten to fifteen feet in height,—an amount of work which, when completed, will present an effective appearance." Verily the citizens of Sydney must be easily pleased if the walls at ten or fifteen feet above the foundations are likely to produce a sensation! But this report does not at all coincide with my remembrance of the edifice, which certainly three years since had the choir walls carried up to their full height, the "low lantern tower" at an equal elevation, while other portions of the building were of considerable altitude. The slender scaffolds that in skeleton then environed the works, looked very weatherworn; and I was told that the building had been eight years in hand, and at a standstill for a considerable time. The architect, I was informed on good authority, was Mr. Hume, of Sydney, the designer of a Jews' Synagogue, then just completed in the Egyptian style, near the cathedral, also of a temporary edifice of weather-boarding the cathedral *pro tempore*. Judging from the hopeless state in which two other Gothic churches in Sydney were standing roofless, albeit one of them was located in a freestone quarry, and collections were making at three Sunday services in all the churches in their behalf, I should fear that the cathedral will not be completed in our time, and that, perhaps, it had been better to have adhered to the design originally obtained from England, a showy lithograph of which, embellished by a grove of trees of very improbable future existence, figured in the print shops of George-street. I name these circumstances because I believe you willingly receive *correct* information concerning any buildings in any part of the world, even though communicated by

A Voice from Australia.

The Opening of the Ipswich Museum took place on Wednesday week, the Bishop of Norwich in the chair. Mr. G. Ransome, one of the secretaries, having read the report, in which it was stated that the prospects of the institution were such that the purchase of the present building, at a period not far distant, might be anticipated; the bishop then moved the adoption of the report. He believed even a little knowledge to be valuable, and the very objection of some to giving it to the lower classes, namely, that it would enable them to tread on the heels of the higher, was its strongest recommendation to him, for he believed that many of them required such a spur to onward progress. The knowledge of man at the utmost in any one age, is but a little, but that little was the germ that sprung up into more and more in master minds. The law of universal gravitation sprung from an apple as it fell to the ground; lithography, from the writing of a washing bill; mezzotinto from the cleaning of a gun-barrel; the pendulum from the swinging of a lamp;—a thousand instances of the rise of what was comparatively much knowledge out of a little, might be adduced. His lordship hoped the ladies present—those who were mothers of a young race of men—would influence their children's minds, as no others had the means and opportunity of doing with such powerful effect. Remember all, that education is the business of life, and life the education for eternity. Dr. Buckland and Sir John Boileau then addressed the meeting, and were followed with a brief address by the Rev. Mr. Kirby, whose age and frailty were painfully manifest to the sympathy of the meeting, but who, as the right rev. chairman observed, had spoken to their hearts with more than words. Mr. Ransome and others also addressed the meeting, and votes of thanks were given to the bishop, as chairman, and to Mr. Kirby, as president.

Fires in London during 1847.—On Saturday the official returns kept by the Fire Brigade of the fires that occur in the metropolis were made up, exhibiting a frightful catalogue of conflagrations—no fewer than 989 having taken place during the past year. If the Government were to impose a tax on constructions not fire-proof equal to half the cost of these fires,—which is a self-imposed tax,—the outcry would be great.

The Telegraph in America.—The *Pittsburgh Chronicle* gives a striking instance of the use of the electric telegraph on the other side of the Atlantic, and of enterprize on the part of a publisher. A speech by Mr. Clay was much looked for. It was delivered in Lexington on Saturday, and the proprietor of the *New York Herald* determined on heading his contemporaries. Express riders were ready, and in less than five hours his report of the speech (a full one) was in Cincinnati. Notifications had been sent along the line of telegraph to "look out," and at four o'clock on Sunday morning the publisher of the *Herald* had the satisfaction of receiving in New York a copy of the speech,—the distance being more than 1,100 miles! This was done during a heavy rain, and while a thunder-shower was passing over a portion of both the eastern and western lines. At Cincinnati, where it was to be copied in passing, the telegraph suddenly ceased working, to the dismay of the superintendent. Being short of proper hands, the superintendent mounted a horse and followed the line, through the pelting storm, until he found a break, caused by the falling of a tree, beyond Turtle Creek, a distance of twenty-one miles. He finished mending it at dark, and then returned to the city, and in the temporary absence of other competent operators, received the speech and sent it to New York, finishing it at four o'clock in the morning. Ah! these little "clicks" of the telegraph,—

"Though they breathe not a word,
Their voices are heard
At a distance no voice could reach;
And swiftly as thought
The words are brought,
And the lightning endowed with speech!

Though seas roll between,
And lands intervene,
The absent are close at hand;
The eye seems to hear,
And space disappear,
And Time is compelled to stand."

Builders' Benevolent Institution.—On Monday last the managing committee of this Institution met to balance the half-yearly account, when they had the pleasure of finding the balance exceed their expectations, remembering that the great pressure of the times must affect the affairs of the class of persons more especially connected with the building interest. The committee, notwithstanding they have only commenced operations during a short period of six months, have invested a considerable sum in the Government securities, and have also a considerable sum yet remaining in the hands of the bankers. It is to be hoped that the various classes in the building trades (as the Institute combines and relieves almost all connected with building) will give their united assistance in carrying out its laudable and philanthropic object, it being necessary to raise a sufficient sum to invest, in order to realize an income sufficient to enable the committee to grant and continue relief.

Electro-Telegraphic.—The opening of the central station in the city took place on Saturday last, when the communication was opened to the public to all parts of England, Devonshire and Wales excepted, and to Scotland, but more especially to Liverpool, Edinburgh, Glasgow, Newcastle, Leeds, Southampton, Norwich, Yarmouth, and various other parts. The price charged appeared to give considerable dissatisfaction, 5*l.* being the amount demanded for sending a message to Liverpool containing about the same number of words as there is in this paragraph, and telegraphed in about ten minutes. The company's patent expires in four years.

Maltese Antiquities.—The latest Maltese journals make further mention of the ancient chambers recently discovered near Civita Vecchia, which Dr. Vassallo, the Government librarian, considers, from the squareness of the forms, to be an excavated Egyptian temple of the time of Psammetichus, about seven centuries B.C.

Milton Church, near Gravesend.—Sir: A paragraph, in a late number of your periodical, stated that a walk for the church-key was often well repaid. You are quite right. So, a church, partially hidden by a wall, is well worth a walk to the gate, and round the edifice, as it will frequently disclose to the eye of the attentive observer some interesting, but unpretending relic of antiquity, well deserving of notice. Such, for instance, is the entrance to the church at Milton *cum* Gravesend. Much skill is shown in the arrangement of the mouldings, whereby considerable effect is produced. The style is that of the early part of the fourteenth century. The ground seems to have been raised two or three feet from its original level. The porch appears to be used as a vestry: its original roof has been replaced by one scarcely large enough to cover the walls, the embattlements of which have been almost destroyed. The gable presents a grotesque effect, having been entirely covered by a sun-dial, in the Grecian style (if any), a tablet beneath, with the churchwardens' names, and three panels, in the Gothic style, one above and one on each side of the tablet: the whole is painted white. If, instead of these useless and unsightly panels, an additional row of tiles had been placed along the sides, it would have preserved the walls from decay. The roof of the church is in the contrary extreme, and resembles that of St. Paul's, Covent-garden. An *Italian* roof, projecting two or three feet over the walls, and supported on brackets, forms an absurd contrast with the rest of the building, which is a plain oblong, in the *Decorated* style, with a western tower. There are four windows on each side; the third, on each side, from the west end, and also the east window, being in the perpendicular, and the rest in the decorated style: the latter are much dilapidated. This church affords one of those lamentable instances, which so frequently occur, of the want of knowledge on the part of those to whom the direction of the repairs of ecclesiastical edifices is usually intrusted. It is to be hoped that the notices which from time to time appear in your columns, will eventually lead them to apply for professional advice on future occasions. The porch is built in alternate courses of flint and white stone, with a benetura on the east side of the door.—J. W.

The late Mr. H. L. Elmes. — Another promising young architect, scarcely embarked on the sea of life, with every prospect of a voyage as full of profit to his country as to himself, has been snatched away. Mr. Harvey Lonsdale Elmes died on the 26th of November last, if we are rightly informed, in Jamaica, where he was staying with his young wife for the benefit of his health. St. George's Hall, and the Law Courts, at Liverpool, bear witness to the genius and assiduity of Mr. Elmes, and will long keep his name in remembrance. The Collegiate Institution, in the same town—a Tudor building of large extent—was also erected from Mr. Elmes's design, submitted in competition, although it was not carried out by him. Many anxious, even bitter hours, did the young architect suffer in connection with these works,—as all who would achieve great things may expect to suffer in their early struggles. A recollection of the uncertainty of this life, and the greater life to come, would lighten many disappointments, and show the futility of the load of care we build up for ourselves.

Competition.—Plans are wanted for the erection of a building at Cheltenham for the Committee managing the Church of England Training-schools there, for the accommodation of sixty pupils, the principal, vice-principal, and training-master, as required by the Committee of Council on Education. Premium or other payment not specified.

Conspiracy to Molest Workmen.—Two working carpenters were lately brought before the Lord Mayor upon a warrant under 6 Geo. 4, c. 129, s. 3, for the prevention of intimidation to workmen in the lawful exercise of their calling. They had been employed by a 'committee of workmen' to prevent any one from replacing men who had struck work at Mr. Trego's, of Coleman-street, rather than work till five o'clock P.M. during the short days! The Lord Mayor, on hearing the evidence against one of the prisoners, said, the case was one of so injurious a nature to the operations of trade, that they were determined to mark their sense of its importance by sentencing the prisoner to the full penalty of imprisonment, with hard labour, for three calendar months. The other prisoner seems to have laboured under the delusion that he was acting according to law and justified in what he had done; but his counsel promised, that not only he, but the 'committee,' also, would desist from further offence of the same sort; and, ultimately, the case was postponed, in order that the prosecutor might obtain further assurance of this.

The new Record-office.—A correspondent urges that a public competition should be invited for the design and arrangement of the intended Record-office, saying that as it is to be paid for by the public, it should be made to afford the talent of the country an opportunity of exhibiting itself.

Intended Prison on Wandsworth Common.—The new prison to be erected on Wandsworth-common is to be built from the designs of Mr. D. R. Hill, of Birmingham, who has been appointed to act as architect in the erection. The building will have accommodations for 540 males and 155 females. The plans are to be submitted to the Secretary of State, for his approval.

Architectural Rebuses. — The abbey church of Bath contains many instances of the use of the rebus in architectural embellishment. Prior William Birde, who built the splendid Gothic oratory which bears his name, and in great part restored the Abbey itself, is commemorated by a bird in the letter "W.," sculptured in various parts of the edifice. The glazing of the great eastern window in the manner called 'Bellot-wise,' records the munificence of one Bellot, who gave the coloured glass for the purpose; another, presented by one Mallet of Enmore, is ornamented with his coat of arms, and the motto, 'Malet meliora;' and a third was ornamented by one Biss, of Spargrove, with his arms and the motto, 'Biss fecit; sis felix bis.' The memory of Bishop Oliver King, whose dream of heavenly commission to rebuild the church is sculptured on the western front, is preserved by the device of an *olive* tree *crowned*. King Edgar, having been crowned here in 973, and having granted great privileges to the city, is represented with a roll representing the charter; and Osric, who endowed the foundation, is sculptured bearing a purse of money.—*Bedford Times.*

Foul Air in Wells.—Last week a well being opened on the premises of a surgeon, of Sudbury, it was found to be so full of foul air that the workman could not go down, a lighted candle being immediately extinguished when lowered. According to the *Gloucester Chronicle*, Mr. A. J. Green having slaked about half a peck of lime in a pail, and let it down while steaming, in less than ten minutes a candle burnt brightly, and the workman was able to descend and commence his work, in less than a quarter of an hour from the time of lowering the lime.

Cologne Cathedral.—A letter from Cologne says—"The Central Committee for finishing the cathedral of this city, has requested the Pope to attend the six hundredth anniversary of its foundation, which will take place in August next. The King of Prussia has also been invited. On this occasion will be uncovered the fine painted windows of the south aisle, which were presented to the cathedral by the King of Bavaria."

Wages and Work in Australia.—Carpenters' daily wages throughout the colony are quoted at 6s., blacksmiths at 6s. 6d., and day-labourers at 4s. to 5s., with an increasing demand. It is said that an addition of 8,000 to 10,000 labourers would not diminish the rate of their wages. Provisions, on the other hand, are plentiful and cheap, fresh meat rarely exceeding 2d. per lb., wholesale, 1d. to 1½d. per lb.

Death of Mr. Nelson, the Sculptor. —The Manchester papers announce the death in that town of Mr. Nelson, the sculptor of a fine statue, called "Venus adorning," which was exhibited some time ago at the Egyptian Hall, Piccadilly. He was 47 only.

How to become a Judge of Pictures. —"Sposin' its pictures that's on the carpet, wait till you hear the name of the painter. If its Rubens, or any o' them old boys, praise, for its agin the law to doubt them; but if its a new man, and the company ain't most especial judges, criticise. A leetle out o' keeping, says you, he don't use his grays enough nor glaze down well; that shadder wants depth; general effect is good though parts ain't; those eyebrows are heavy enough for stucco, says you, and other unmeaning terms like those. It will pass, I tell you; your opinion will be thought great. Them that judged the cartoons at Westminster Hall knew plaguy little more nor that. But if there is a portrait of the lady of the house hangin' up, or its at all like enough to make it out, stop—gaze on it—walk back—close your fingers like a spy-glass, and look through 'em amazed like—enchanted—chained to the spot. Then utter, unconscious like, 'That's a most beautiful pictur, by heavens! that's a speakin' portrait. Its well painted, too; but whoever the artist is, he is an unprincipled man.' 'Good gracious!' she'll say, 'how so?' 'Cause, madam, he has not done you justice.'"—*Sam Slick.*

Noting Requiremets.—Sir: When the late Sir Samuel Bentham had any object of improvement in view, he was in the habit of noting the *desiderata*. He remarked that, "in a general point of view, the bringing together and arranging indications of the nature of those in question, imperfect though the first attempt should be, seem the means best calculated not only to assist the production of well-arranged designs, but to enable those on whom the decision may depend to bring each particular to a test, and to form a correct view and estimation of any design, general or partial, that may be offered." Would it not be doing a general service, were you, Sir, in The Builder, from time to time to, present your readers with indications of the *desiderata* for different classes of buildings; and to solicit from your readers notes and observations on these indications, and to publish such of them as you might consider well founded. It would seem that, whether it were a question of a cottage for the labourer, or a costly pile for the safe keeping of our public records, such publicity of the requirements "could not but tend to the perfection of the design."—B.

TO CORRESPONDENTS.

"*T. C.*"—Anonymous opinions are of course worth nothing.

"*Pittori.*"—We cannot "recommend a builder who will undertake to erect a studio, or form one in an already built house for a permanent tenant." Inquire of a builder in some of the new quarters where houses are going up.

"*Shape of Sewers.*"—T. H. suggests that sewers and drains should have V shaped bottoms.

Postponed Unavoidably." — "Chronos;" "Cab-Stand Nuisance;" "Londoner's" (third letter); "Metropolitan Improvements," &c.

Received.—"J. A." (Ashton-under-Lyne), "J. B." (Burnley) many thanks, "Philo-Agonos" (next week), "J. A. P." (next week), "J. R.," "J. J. C.," "J. R." (shall appear), "T. G." (next week), "R. K.," "J. A." (has been overlooked—shall appear), "R. P. C.," "F. M.," "C. J.," "T.," "An Architect," "W. A. N.," "A Friend."

Books Received.—"Dolman's Magazine" for January; "Railway Engineering, or Field-work preparatory to the Construction of Railways, by J. Baker, C.E." (Longman and Co., 1848).

To Provincial Readers.—In reply to complaints of the irregular delivery of The Builder in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

NOTICE.

A few copies of the Volume for 1847 are in the hands of the publisher, and may be had on application, price 17s. 6d. each. Covers for The Builder *may be obtained at the Office, price 2s.; or the publisher will undertake to bind the numbers at 3s. per volume.*

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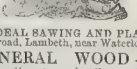
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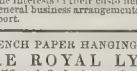
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FRENCH PAPER HANGINGS

THEATRE ROYAL LYCEUM.—Messrs. MARKS and Co. having, under the directions of Mr. Beverley, furnished a considerable part of the DECORATIONS of that Magnificent Theatre, beg to call the attention of Architects and the Trade to the same, and to the fact of their always keeping stock ready for similar purposes—in conjunction with their large Stock of generally useful Paperhangings, beginning from 8d. per piece to Two Guineas.—9, Princes street, Cavendish-square.

N.B. The Splendid Colour Patterns for the ensuing year is finished, and ready for inspection.

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The Builder.

No. CCLVIII.

SATURDAY, JANUARY 15, 1848.

THE distressing accident which happened at the Euston-square Railway station on Thursday, in last week, is probably known, through its fatal results, to most of our readers.

Works of very great magnitude are going on there, under the direction of Mr. Hardwick, the Company's architect, including a grand passenger-hall, about 120 feet long, 60 feet wide, and of considerable height, on which, if we are rightly informed, many thousands of pounds are to be spent. At one end of this fine apartment, the inclosing wall, of great thickness, was carried on a range of columns 2 ft. 4 in. in diameter, and 20 ft. high, formed in brickwork, to be covered with cement. This wall it was that came down (shattering a number of the workmen in its fall, one of whom, John Shea, a labourer, afterwards died), notwithstanding that, according to the evidence, it was erected in the best manner, and of the best materials,—a statement we should believe, as Mr. William Cubitt is the contractor employed. In which part of the construction the failure occurred, or what was the cause of it, appears not to be known, at least it was not elicited at the inquest, which was held on Monday, to inquire touching the death of the labourer who was killed. Indeed the inquiry was altogether of a very unsatisfactory character, and ought not to pass without severe comment.

It is most important for the interests of science, as well as for the sake of the public, that such an occurrence should be fully investigated to the utmost, and satisfactorily explained, whereas on the present occasion it has obviously been unwarrantably slurred over: no evidence was taken that can be in any degree satisfactory to the public, and no real attempt was made to arrive at a knowledge of the cause of the accident. Even the principals themselves were not examined, still less any impartial scientific men, possessing the confidence of the public, who ought unquestionably to have been called in to aid the inquiry.

We cannot avoid saying, that both the deputy-coroner, Mr. G. T. Mills, who presided, and the jury, stopped far short of their duty.

The only witnesses called were the men employed on the building, and Mr. Bavin, the architect's clerk of the works: we will give the material parts of their evidence.

John Hickman, a bricklayer, stated that he was at work at the time of the accident, upon a scaffold several feet from the ground. He was just about laying the top row of bricks upon the wall, when he suddenly observed the wall to bulge in the centre; he sprung from the scaffolding and escaped with a few bruises. He believed the whole of the work to be sound and firm, both as it regarded the quality of the materials and the excellence of the construction of the whole work. Could not account for the accident.

James Stevenson, foreman of the bricklayers, said the portion which had fallen consisted of a strong foundation-wall 7 feet wide, on which was a common pedestal of the like width, built crossways to the wall to receive pillars, upon the top of which latter an entablature and further wall was to be placed. The pedestals and pillars were the best kind of brickwork, put up with cement. The pedestals, the pillars on which had given way, were begun on the 21st of October, and finished on the 30th. On the 11th of November the columns were begun, and on the 22nd of that month they were ready to receive the entablature, with the upper portion of the wall. The pillars were eight in number. They were built in twos, about 20 inches apart, and there was a space of 7 feet between each pair. They were connected on the top by iron tension-rods, on which the entablature was placed.* None but the best workmen were employed in constructing the pillars; 5s. 6d. per day wages was paid to them. None of them had ever complained of the work being proceeded with too hastily. Witness could not account for the accident, and should have no objection to build from the same drawings again. He considered brick pillars in such a building perfectly safe, and his impression was that the superincumbent wall and not the pillars had given way first. The arches were begun on the 11th of December.

The coroner asked, Why a solid wall was not raised instead of the pillars, and witness replied, He couldn't say.

The coroner might as well have inquired why an opening is left for a door, or a bressummer put in for a shop front.

The witness continued,—He could not say positively, but should think the wall gave way about the centre: why it should do so couldn't tell.

Robert Batterwick, a foreman, said, though the works were done by contract, as between Messrs. Cubitt and the railway company, they were not so as regarded the men. He had never been apprehensive of danger, nor could he account for the accident. The columns were 2 feet 4 inches diameter, and 20 feet high. Between them and the outer wall of the building ran a gallery communicating with the various rooms in the station. Witness could suggest nothing calculated to prevent a similar accident. Witness did not think the works had been hurried, and, according to common calculations, the columns were sufficient to bear five times the weight they had upon them. The brickwork and masonry in all the new erections, at the Euston-square station, were of the most substantial character. Couldn't tell what occasioned the accident. Had not heard any opinion expressed as to the cause of it.

In reply to questions put to him, said the new building was to be erected on the same principle, but that some little difference might be made. Had seen columns built proportionably large, but never of that magnitude. Thought the plan was good.

Christopher Bavin, Mr. Hardwick's clerk of the works, produced a section of the building. It was his duty to overlook the works; he had done so, and had never discovered cause for complaint. In rebuilding the wall he should proceed precisely on a similar plan, and should not advise the use of stone instead of brick in the construction of the pillars.

The coroner remarked that if the building was to be put up again in the same way, it appeared a startling fact that the architect did not know how to act to prevent the recurrence of such an accident?

* In what condition, after the accident, were these rods found?

A "startling fact" indeed, if it were true; but on what ground the remark was made does not appear. The architect himself might at all events have been asked if this were really the case.

The coroner having suggested that possibly the wall started in consequence of some shock, Mr. Bavin said, that his impression was, that it was from some sudden displacement of the scaffold, from the snapping of a cord. The vibration of the scaffold would act upon the wall, and, perhaps, this might result in the downfall of it.

The coroner, in summing up, said, that if the jury felt satisfied, they might return a verdict to the effect that they had no evidence as to the cause of the accident; but if they desired to have the opinion of any impartial scientific man, he was quite ready to adjourn for that purpose. [He ought indisputably to have called for it himself.] It must, however, be borne in mind, he continued, that prudence was the result of experience, and, though improvements in the construction of similar works for the future might probably be suggested, still that would be no ground for imputing blame in the present instance.

The jury were of course satisfied to the extent suggested,—namely, that "how the wall fell there was not sufficient evidence to prove," and so included those words in their verdict as the quickest way of getting rid of the business. It does not appear to have occurred to them that it was their bounden duty to make every effort to *obtain* "sufficient evidence" of how the wall fell: for, so far from doing so, they omitted taking the most ordinary and obvious means of arriving at the truth.

All our readers will, we are sure, agree in thinking that this inquiry was conducted in a strikingly unsatisfactory manner, and that a further investigation is not merely most desirable, but should be insisted on. The position of both the architect and the builder (for whom we have great respect) places them so far beyond cavil, that our remarks cannot be supposed to have any personal reference, and enables us to call the more strongly for further information without fear of having our motive misinterpreted.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

THE lectures on architecture, at the Royal Academy, which were omitted last year, were resumed on Thursday, the 6th inst. The professor devoted his attention mainly to one or two points, alluded to incidentally in former lectures, but upon which he now dwelt with some stress. In introducing his subject, he described the view which he took of the purpose of these lectures, in which he was guided by the law of the Academy, and said that, having devoted a life to the subject, he endeavoured to expound those theoretical canons which are to be sought for in the examples of architecture. Thus, one year he had treated of the history of the art by its monuments, when he had first exhibited to them the large drawings of buildings in all parts of the world, and of all ages, and the large sheet of plans, drawn to the same scale; looking at which, he might use the words of Napoleon, when addressing his troops before the Pyramids:—"*Quarante siécles vous contemplent.*" These were the materials for the practice of the art; and without such they could do little:—as Sir Joshua Reynolds had said, "Nothing can come of nothing." In another course he had treated of the laws and principles of composition, which were most important parts of the studies required by his hearers, for though fashions were changing, and science constantly contributing to the resources of the architect, still these laws would be unaltered whilst the law of gravitation continued to

govern the working of the universe. Science was ever undergoing modifications, but the principles of art were unaltered by lapse of time. In another course he had entered into some account of the extensive architectural library, which the student should constantly be familiar with. Isocrates had said, "If you mean to be an architect, you will have great need of books." Through the want of a proper knowledge of what was contained in books, there was often the impertinence of calling those things discoveries, which were actually lying under our very noses. By Professor Willis it had been shewn, that the whole theory of the *coupe des pierres* of the Gothic architects—to discover which much labour had been incurred —was all clearly detailed in the work of Philibert de l'Orme. Another instance was in the use of concrete, which had been used by the Romans, and even so late as to have been employed by Sir Christopher Wren. About the time of the death of that great architect, it had been discontinued, and the method of building upon planks had been introduced from Holland, for which country, being employed where they were constantly wet, it might be well adapted; but, on a *moist* soil, the results had taken place which it was now felt to be so necessary to guard against. He then related the anecdote of the contest for a prize for the best poetical work, in which one competitor having decidedly produced the most beautiful poem, the judges were loud in their plaudits, except Aristophanes alone, who was silent, and who, on being asked the reason, produced the work of an author in which the same ideas and language were discovered—thus leading to the prize being conferred upon the competitor who really deserved it.—But he admitted that the multifarious business of the architect presented great difficulties in the full accomplishment of what was desirable.

In noticing the different opportunities for educating himself, now open to the student, as at the two London colleges and elsewhere, and the position of architecture in that academy, where it was united with the grand arts of painting and of sculpture, the lecturer reminded them that beauty was a part of the great scheme of the universe, and should constantly be sought for, along with those indispensible objects, to be provided for in our temples and habitations. Associated, then, as architecture was with the other arts, it became desirable to estimate exactly the advantages derivable from each, and what were to be the objects on which they should concentrate their attention; for, already, if the requirements of Vitruvius were to be insisted upon, it would be impossible to fulfil them: whilst every day, and every moment, had its allotted duty, we must not suffer ourselves to be distracted by pursuits which, however interesting and praiseworthy, are not clearly included in the objects of architectural study.

He then noticed the tendency in architectural drawing to imitate the art of painting, and he characterized it as contrary to sound doctrine and practice. The picturesque had been fatal to architecture in the 17th century; proportion, composition, knowledge of solids, and similar subjects, should occupy all their study, leaving the colours of the rainbow to the painter: pictorial illusion was lost time to them. Two causes had contributed to the circumstances he had referred to, the juxtaposition of architectural drawings and oil-paintings in the exhibition, and the public applause which was accorded to the works of the architectural draughtsman,—but all regrets were ineffectual.

The professor said that rarely had art and science been united in one individual; Wren was almost a solitary instance. Plato had spoken of there being in his time only one architect. Philibert de l'Orme had said that pretty drawings were but nets to catch a customer, and that those who make pretty drawings are those who least understand architecture. On the other hand, of the painter architects,—Scamozzi had said that the architect should have a consummate knowledge of drawing, and he spoke of the art of drawing as "a heavenly gift." Inigo Jones was rather a painter-architect,—Palladio had a better knowledge of construction. After mentioning that the aspiring character of architecture unquestionably proceeded from the pointed style, and that the dome of St. Peter's, at Rome, far from being that of the Pantheon raised in the air, as had been the common assertion, was distinctly traceable from medieval times; he said that when the position of the architect became elevated, pedantry overcame him; instead of "master," he was called "architect," and he then expressed by lines, what, previously, he had shewn by model and direction: since, he had further declined, and sought by ill-drawn lines and much cobalt, to vie with the works of painters. In reference to the importance of both art and science, it might be said, that each might have its own votaries, and the department of taste had, on the whole, been more successful than the mathematical.

He then pointed out some of the subjects in which the architect might be indebted to the landscape painter. Perspective was all in all to the architect, and nothing but companionship with the painter would give him that knowledge of the various points connected with the position of buildings in reference to surrounding scenery, and with their effect when executed. He exhibited a diagram from Möller's work, in which the altered appearance of a lofty building when viewed as a geometrical elevation, and in execution, were strikingly shewn. He recommended studying, by means of drawings on a small scale, the effect of outline, as not less important than that of detail. Vanbrugh, he was quite persuaded, had, with this object, made drawings of his buildings on a small scale; for, when they were approached, great want of correct detail was apparent. The Adams seem to have been the converse of this; with them, outline was disregarded.* He thus considered that the advantages to be derived from association with painters, were purely lineal, and not in colour and polychromy. All the drawings of the great masters, some of which he referred to at Bologna, sent in competition for the church of San Petronio, and which were by Palladio, Vignola, and others, had no colour nor meretricious attempt to seduce the judgment, but rigid outline.

In the decline of art, a different system prevailed; there were paintings in sculpture; perspective was attempted in bas-relief. Raphael had always avoided such errors, so did Vignola and Palladio; but Michaelangelo first sowed the seeds of the decline, which Borromini and Bernini carried out. Vasari's work is full of accounts of the perspective painters of his day.—He also alluded to the scrolls surrounding the tambour of the dome in the church of Sta. Maria della Salute at Venice, as instances of the state of things he had described. Their design was entirely unsuitable for masonry, in which he appeared to think that there should always be a recollection of the method of laying in courses. These scrolls were better adapted for metal work.—He had thus shewn the advantages which the architect could derive from painting and sculpture, and likewise the disadvantages. The architect's use of drawing was to be, in fact, to produce such delineations as a workman could comprehend.—The professor concluded by giving an anecdote related by the Marquis of Northampton, respecting an attendant in his family, showing the powerful effect which the architecture of the northern cathedrals could produce upon one who entered one of them for the first time.

The Polytechnic Institution.—At this admirably conducted institution, in Regent-street, where sound instruction and amusement are made to go hand in hand, Dr. Ryan has commenced lecturing on the chemical character of vitiated air,—the nature of infection, and the history of remedial agents. The Doctor very properly cautioned his hearers against trusting to any deodorising system, but to strive for perfect ventilation and cleanliness. The works for the new theatre are advancing rapidly. Mr. Thompson, the architect, had recently a very narrow escape. He fell off a scaffold, and was much knocked about, but has now recovered.

* So we understood the professor; but we think some of their works, and, in particular, the drawings preserved in the Soane Museum, would establish the fact, that they were not inattentive to outline, and that, in fact, they adopted the plan of making preliminary sketches on a small scale. In studies of plan, the collection we have alluded to has great interest.

ROYAL INSTITUTE OF ARCHITECTS.

An ordinary meeting was held on Monday evening, the 10th inst., Mr. Charles Fowler, V. P., in the chair, when a large number of presents were announced, including drawings of the Town Hall of Morpeth, considered to be by Vanbrugh, from Mr. B. Perry, and a work from M. De Lassaulx, of Coblentz, on the construction of churches, with especial reference to a mode of forming vaults, to avoid the necessity for buttresses, and admit of the use of thin walls. Several members were elected.

Mr. Tite then introduced to the meeting Mr. Layard, whose communications from Nineveh, communicated through Mr. Mair [printed in The Builder], had afforded so much gratification; and he expressed a hope that he would increase this by a personal communication.

Mr. Layard expressed his acknowledgments, and said if matters of interest presented themselves during his travels he would not fail to communicate them to the Institute. He had little to say of the external architecture of Nineveh: scarcely a fragment of the walls remained which would afford a clue. The date of the ruins discovered was still a mystery, but there could be no doubt of their extreme antiquity. He would afford them one proof of it: the earliest buildings in Nineveh were buried, and the earth which had accumulated over them, had been used as a burial place by a nation who lived 700 years before Christ. Probably the buildings dated from 1,200 years before Christ. The rooms were lined with slabs of marble, covered with bas-reliefs, such as those now in the British Museum, which were joined together by double dovetails of iron. The doorways were flanked by winged figures of greater height than the slabs: on all these figures was the mark of blood, as if thrown against them, and allowed to trickle down. The walls were of sun-dried bricks, and where these shewed above the sculptured slabs, up to the ceiling, they were covered with plaster and painted. The beams, where they remained, were found to be of mulberry. That the slabs should have been preserved so long puzzled many. In truth, however, the bricks, being simply dried in the sun, in falling had returned to earth, and had thus buried the tablets and protected them. The buildings, he said, were provided with a complete system of *sewerage*. Each room had a drain connected with a main sewer. Mr. Layard then proceeded to say, that in the midst of the ruins he had discovered a small chamber, formed of bricks *regularly arched*. The dates of these buildings were, as he had said before, lost in obscurity. Certain it was, however, that Nineveh was utterly destroyed 700 years before Christ, and the bas-reliefs sent over by him belonged to an earlier period, because they were, in many cases, found in positions shewing that they had been taken from other buildings and re-used: the sculptured face of the slab, for example, was turned to the wall, and the back re-worked.

Mr. Bonomi expressed surprise at hearing that the cramps were of iron: in Egypt they were all of wood.

Mr. Donaldson (first remarking that the cramps of the Parthenon were of iron) said that Mr. Layard was entitled to their applause for what he had done, especially when it was remembered that most of it had been effected at his own risk and cost, and that he had successfully competed with those investigators who were sent out by the French Government. It was desirable that we should be acquainted with the modes of construction pursued at different periods. Relative to the sun-dried bricks, he should be glad to know if the external face of them were covered with plaster to keep out the wet.

In reply to this and other questions, Mr. Layard said he did not know of any external plastering: the interior colouring was partly enamelled, and displayed human figures as well as decorative ornaments. The chamber of which he had spoken was covered by a perfect arch of bricks, was nearly a semi, and 12 or 14 feet in diamenter. The sewers were not arched.

Before proceeding to the paper of the evening, Mr. I'Anson said he wished to correct a statement made at the last meeting by the present

chairman, to the effect that the new sewers of Hamburgh were *egg-shaped*: they were oval.

Mr. Poynter then read a paper on "Ornamental Leather Hangings," which was illustrated by a number of fine specimens contributed by Mr. Pratt. The reader ably traced the history of this material, shewing its use in Egypt at a very early period, and giving numerous instances of its occurrence in old buildings. In the sixteenth and seventeenth centuries, after its use had been revived, it was very extensively employed. A fine leather was used, on which figures were either impressed, or merely painted. It was not certain that there was any manufactory of it in England: it was chiefly imported here from Belgium and France. Where it was first generally used in modern times was doubtful—some thought Spain, others Venice. It was, at all events, certain that at Venice, in the seventeenth century, the use of leather hangings was universal. The first step in the process of preparing the leather, after joining the skins, was to silver the whole surface: parts which were required to look like gold were varnished with coloured varnish. After being silvered, the leather was laid on blocks, on which the forms required had been cut, and passed through a press. The borders and more minutely decorated portions were executed with metal stamps, such as bookbinders used,—a more costly process. At Blenheim, in what was called the Titian Gallery, the paintings were executed on leather, and were, as every one knew, not by Titian. The reader described some fine examples existing in Rouen, also one that was exhibited, of which the subject was Antony and Cleopatra,—one of a series which formerly belonged to the celebrated Lord Clarendon. He trusted that when museums were formed illustrative of the arts of the middle ages, specimens of ornamental leather hangings would not be wanting.

Mr. Crace said, that in Paris they employed plaster moulds to give the impress to the leather, and used much flock to ornament the face of it.

The chairman, before adjourning the meeting, said it was his melancholy duty to allude to the loss of two members of the profession. The first was Mr. Kay, a member of the Institute, whom all there knew and respected, and with whom he had been intimately associated during the early steps for establishing the Institute. The second, Mr. Lonsdale Elmes, was not a member of the Institute, but, as a most promising architect, claimed their regret. The works he had executed in Liverpool reflected the greatest credit on him. Some time ago, when the prince consort was in Liverpool, he went over these buildings, and was so well satisfied with them, that he presented to Mr. Elmes a gold medal. A slight fall, it appeared, getting out of a carriage, was the immediate cause of Mr. Elmes' death, at the early age of thirty-two; but disease existed which would probably have carried him off.

A NEW PICTURE OF PART OF LONDON.

THE GOLDEN-LANE DISTRICT.

THE calamitous circumstances affecting the public health and welfare which have rendered legislation for the sanitary improvement of towns so urgent, to secure all classes that amount of health and comfort, without which other and higher bestowments too often fail to accomplish their purposes of amelioration, are too well attested by the irresistible evidence of facts, to break down under any weight of opposition, and must force their way to speedy triumph. For without the vantage ground of some such improvements in our social state as it is the object of sanitary reform to develop, religion and education will have to struggle with disadvantages calculated powerfully to obstruct, not to say defeat, their combined attempt to achieve the regeneration of society.

When it is considered how imposing a portion of the whole nation towns constitute, and with what rapidity they are increasing, such a fact as the following speaks trumpet-tongued. It appears that while one million of the inhabitants of large towns lose annually upwards of 27,000 of their number by death, the same number of the inhabitants of rural districts, suffer a loss of only 19,300; the loss on the part of the million of inhabitants of large towns exceeding that of their more favoured fellow-countrymen, by little less than 8,000.

In the rural districts the deaths are as 1 in 55; in towns as 1 in 38; the average in the two being 1 in 46. In Rutlandshire, to take a particular county, the average of human life is twice the duration of that of Manchester; and from this latter place regiments are twice recruited, for once from the rural districts: such is the broad distinction between the health of towns and the health of the country.

Many parts of the metropolis are in so dreadful a condition, seldom visited by those capable of inducing improvement, that a description of them would scarcely be believed.

The neighbourhood of Goswell-street (St. Luke's), Whitecross-street, Golden-lane, and Old-street, presenting labyrinths of courts and alleys without any drainage, affords an example of this, and we are glad to find that a local committee has been formed, through the endeavours of Mr. F. Moseley, for ameliorating the calamitous condition of the neighbourhood; and that a petition to the legislature, praying for a bill of health, is in course of signature.

After pointing out the way in which every inch of the ground has been covered, the petition shews "that, under such circumstances, the most hardy frame amongst the inhabitants became weak and a prey to ill health; fever and pestilence prevailed, and death made rapid strides, when a fresh source of enterprise was embarked in, though further prejudicial to the health of the district (the formation of graveyards), in the midst of a population whose understandings were not sufficiently informed to be able to appreciate the insidious agents of sickness and death in activity around them. Five of these graveyards are situated between Golden-lane and Whitecross-street, a space of six acres, and upon which 6,000 people are packed. Three out of the five of these graveyards thus commenced, being the speculation of undertakers.

That it is within the present century that this social revolution has been produced (this memento of disregard for fellow-man) by which 13,000 of their fellow creatures are now dragging out the days and nights of their existence in abodes barely fit for animals, without underground or surface drainage, any thorough draught of air (the entries to this labyrinth being by narrow archways, of which from Golden-lane alone there are thirty, and the multiplicity of courts which branch off being *cul-de-sac*), while the rooms generally have not been built more than 12 feet square, and each appropriated to a family in which they live, sleep, and many carry on trades."

"That with these sources of pestilence, there are as surely moral contaminations which alike radiate and diffuse their effects, sooner or later, over the metropolis. Long familiarity with all kinds of loathsome sights and stenches outside these miserable abodes, begets an indifference to cleanliness and neatness in the interior, which soon extends to their personal habits. Men and women crowded together in these courts and alleys, are thus withdrawn from observation and the influence of good example, and are neither shamed out of vice nor won over to the practice of virtue."

Is it to be wondered at that the clergy and more intelligent inhabitants of this miserable district are at last speaking out?

AWARDS OF OFFICIAL REFEREES.

OUTBUILDINGS AND FENCES.

MR. R. P. BROWNE, of Greenwich, laid information against Mr. Slous, of Lewisham-road, to the effect that the latter, without having given notice, had erected a shed building at the back of his house, composed wholly of wood, contrary to Schedule D, parts 1 and 2, of the Act.

At the hearing of the case, Mr. Slous admitted that the works had not been altered in pursuance of the notice within forty-eight hours from the date of it, but stated that he had subsequently *removed the slating of the roof*. It appeared from the statements of the parties that the erection in question was inclosed at the back and sides by wooden party fences, which Mr. Slous had raised with weather boarding to the further height of 18 inches, and in front by a wooden inclosure with doors and windows in it, and that the erection adjoined to the gardens of other premises on each side, and to a brickfield not in the occupation of Mr. Slous at the back, but that there was no building within 60 feet from it. Mr. Slous contended, that having removed the slating off the roof he had rendered the erection conformable to law, *the inclosures being now merely wooden fences, and not inclosures to any building*; and, further, that being himself only a tenant-at-will, and his neighbours on each side being also tenants-at-will under the same freeholder, who was also the leaseholder of the ground adjoining at the back, the erection in question, if it should be deemed to be a building, was insulated within the meaning of the Act.

The Official Referees awarded as follows:—

"That notwithstanding the removal of the slating, the erection in question is a building within the meaning of the Metropolitan Buildings Act, and that inasmuch as the said building stands adjoining to ground in other occupation on three sides thereof, the same is not insulated within the meaning of the said first-mentioned Act; and that the said building not being inclosed with the materials by the said Act directed to be used for building external walls and party walls, and not having footings as required by the said Act, is contrary thereto, and we do hereby direct the said Thomas Davis Slous forthwith to remove the same."

Costs of the office, 1*l.* 8*s.* 6*d.*, and 1*l.* 8*s.* to the district-surveyor, to be paid by Mr. Slous.

*** We have received a letter on this matter stating, that in removing the slates, Mr. Slous thought he was fully complying with the surveyor's request. The letter continues,—"The charge brought by the district-surveyor when before the referees was, that the part added to the fence ought to be removed as well as the slates; he also contended that the front, being formed with doors and glass, could not be considered a fence, and he was justified in taking the whole into the account, as forming a building. Mr. S., in reply, contended that the Act did not prevent him from raising the fence. (This point was admitted by the Official Referees.) Mr. S. also contended the front was no more than a cross fence, although it was formed with doors and glass, there being no roof, and by retaining it he did not infringe upon the law. He would ask, could not he have a fence with a plain surface, and call in an artist to sketch on the face of it a similar front to that just removed, or any other picture the pencil could shadow forth. This point was also admitted; and yet, in the face of these plain facts, they think proper to condemn the whole as a building, because it is an inclosure; they might as well say the garden is a building because it is inclosed with a fence."

STEAM PIPES.

An information was laid by the district surveyor for the western part of London against Mr. J. Fraser, of Commercial-road East, to the effect that, no notice having been given as required by the Act, he had fixed steam pipes on the inside of his premises nearer than 14 inches to combustible material, contrary to the provisions of Schedule F and section 5 of the Act.

At a hearing, it appeared that the steam-pipes in question were used for warming a leather-dresser's factory, and for drying leather in course of preparation, for which purpose the heat must not exceed 60 deg. or 70 deg., or the goods would be damaged, and was not for the purpose of the manufacture of japanned leather; that the pipes were 4 inches in diameter, and not inclosed, but laid along over the floors, and from 9 to 4 inches distant from it, and supported by iron blocks raised with wood; that they were supplied from a low-pressure boiler, with which no machinery is connected, but which will stand a pressure of about 30 lbs.; and Mr. Fraser contended that, under these circumstances, the pipes did not come within the Act, and that no notice to the district-surveyor was necessary in respect thereof.

The referees awarded, that "Notwithstanding the low temperature at which the steam-pipes in question are intended to be used, the rule in Schedule F of the Act, as to any metal or other pipe or funnel for conveying smoke, heated air, or steam, does apply to the said steam-pipes, and that notice to the district surveyor ought to have been given by the said John Fraser in respect of the fixing thereof, in accordance with the provisions of the said Act

(sec. 13) in that behalf; and further, that inasmuch as the said pipes are fixed on the inside of the building nearer than 14 inches to timber, the same are contrary to the said Act; but being of opinion that no danger can arise from the said steam-pipes, which are not inclosed, and are nowhere less than their own diameter distant from timber or other combustible material, we defer to make any direction in respect thereof, so long as the same are used for their present purpose only, and not for the business of japanning leather, or any other purpose requiring greater heat."

UNIFORMITY OF TIME.

THE SUN 'SETS CORRECTED.'

SIR,—Several weeks ago I read in your paper some very sensible remarks on the proposal to establish a literal uniformity in all the clocks of Great Britain. I was in hopes that you would have returned to the subject, but I have not seen any further observations from your pen upon it. The notion, however, is, it seems, still entertained and advocated, and even to a certain extent carried into execution: could you find space for a short protest against one of the most foolish and ignorant pieces of quackery that I ever heard seriously suggested?

Much is said about the *convenience* of having the same time all over the country. No doubt this *would* be convenient in some respects, *if it were possible;* but unfortunately it is absolutely *impossible*. Unfortunately, it so happens that the earth takes twenty-four hours to revolve on its axis, and therefore the time at any two spots on its surface (not in the same meridian) *cannot* be the same: why then *call* it so? *Calling* it noon at Bristol at ten minutes to twelve will not make it so, and cannot make it so; it is simply *false*. Time is a *fact*, just as much as space, and just as local in its nature; we might as well insist on saying that Bristol is at the longitude of Greenwich, as on saying that it is noon at Bristol when it is noon at Greenwich.

It is only the *smallness* of England that prevents every one from seeing the entire absurdity of this proposal. Let us imagine it carried to its full extent (and all the arguments for it as applied to this country are just as strong, nay stronger, for its application to the whole world, were it practicable)—let us imagine, I say, one (nominal) time established all over the earth, so that at one place it should be called noon at midnight, at another at sunrise, at another at sunset! Every one will start from the folly, the *nonsense*, in fact, of such a childish attempt to "annihilate both space and time" by Act of Parliament: but because it is only a matter of a few minutes in England, the *reductio ad absurdum* is not so glaring, although the principle, of course, must be the same, whether the variation be great or small.

Even the convenience of the plan I never could see. True, it is convenient *now* for a traveller to know at Bristol what is the London time, because the railway bills are made out by London time; but I could never see *why they should be so*. Why should not the arrivals of the trains be marked in the bills in the *real*, i.e., the *local* time? Why should everybody be forced either to have his watch *wrong*, or to make a sum whenever he wants to be at a station in time? I can see no reason, except that the present plan saves the persons who make out the railway time-tables and the guards the trouble (no great trouble either) of allowing for the difference between travelling east or west. The convenience of being able to regulate all clocks from Greenwich by electric telegraph has been insisted on; but to attain *that* it is not necessary to have false time; the true difference between Greenwich and any other place being known, the clocks can be regulated accordingly.

Nothing can be really convenient which is contrary to truth, to principle, and to common sense: and I feel satisfied that numerous practical *inconveniences* (not perhaps all yet discovered) must attend the working of this precious plan, to say nothing of it making us the laughing-stock of every scientific man in Europe. We pride ourselves in being a people who "know what's o'clock;" but the favour with which this project has been received makes it but too plain that we do not even understand *the meaning of the words*.

Instead of this agitation for (so-called) uniformity, I wish you, or any other sensible persons, would get up an agitation for truth and reason, and make at once the *quietus* of this proposed nuisance, which, for the ignorance, the wrongheadedness, the utter confusion of ideas that it betrays, is quite a disgrace to the nineteenth century.—I am, Sir, &c.,

Greenwich, Dec. 31, 1847. CHRONOS.

SANITARIAL STATE OF WARE, HERTS.

IN November last a committee of the parishioners was appointed to examine and report on the condition of Ware, and the best means of putting it in a proper state of cleanliness. After a most careful examination, the vicar, Mr. Blakesley, taking as in duty bound a most active part in it, they last week brought up a report on the first part of the inquiry, and will speedily follow it up with a second, containing recommendations. The result of the survey has been "to bring under their notice more than 450 tenements, the occupants of which are suffering from the operation of one or more influences, notorious for their effect in shortening life and generating or aggravating disease of an infectious character. Of these 450, no less than 329 labour under more than one of the evils referred to, and 38 of the number are affected by the whole of them. Reckoning the low average of only four persons for each tenement, there results no less than 1,800 human beings living obviously exposed to preventible causes of disease, which, if originating among them, may easily spread to the remaining part of the population;" and this in a town containing not quite 5,000 persons.

The causes of disease alluded to are—1. Defective surface-drainage. 2. Defective refuse-drainage, 3. Proximity to extraneous accumulations of decomposing substances. And 4. Insufficient accommodation for purposes of cleanliness.

It is to be hoped that the committee will proceed vigorously in effecting the removal of the evils. The necessity must be tolerably clear to every inhabitant after reading the following passage in the report:—

"An analysis of the burial register in the parish church has shewn that whereas during the ten years ending with 1837, the average duration of human life in Ware was $33\frac{4}{10}$ years: during the ten years ending with 1847 it has sunk to $31\frac{7}{10}$ years—being a diminution of more than five per cent. in the length of life, and this although one of the years in the former period (1831) was distinguished by an extraordinary mortality, no less than 134 persons (of whom 79 were under five years) having been buried in the churchyard, and the average age having been in that year brought down to $17\frac{2}{10}$ years."

NOTES IN THE PROVINCES.

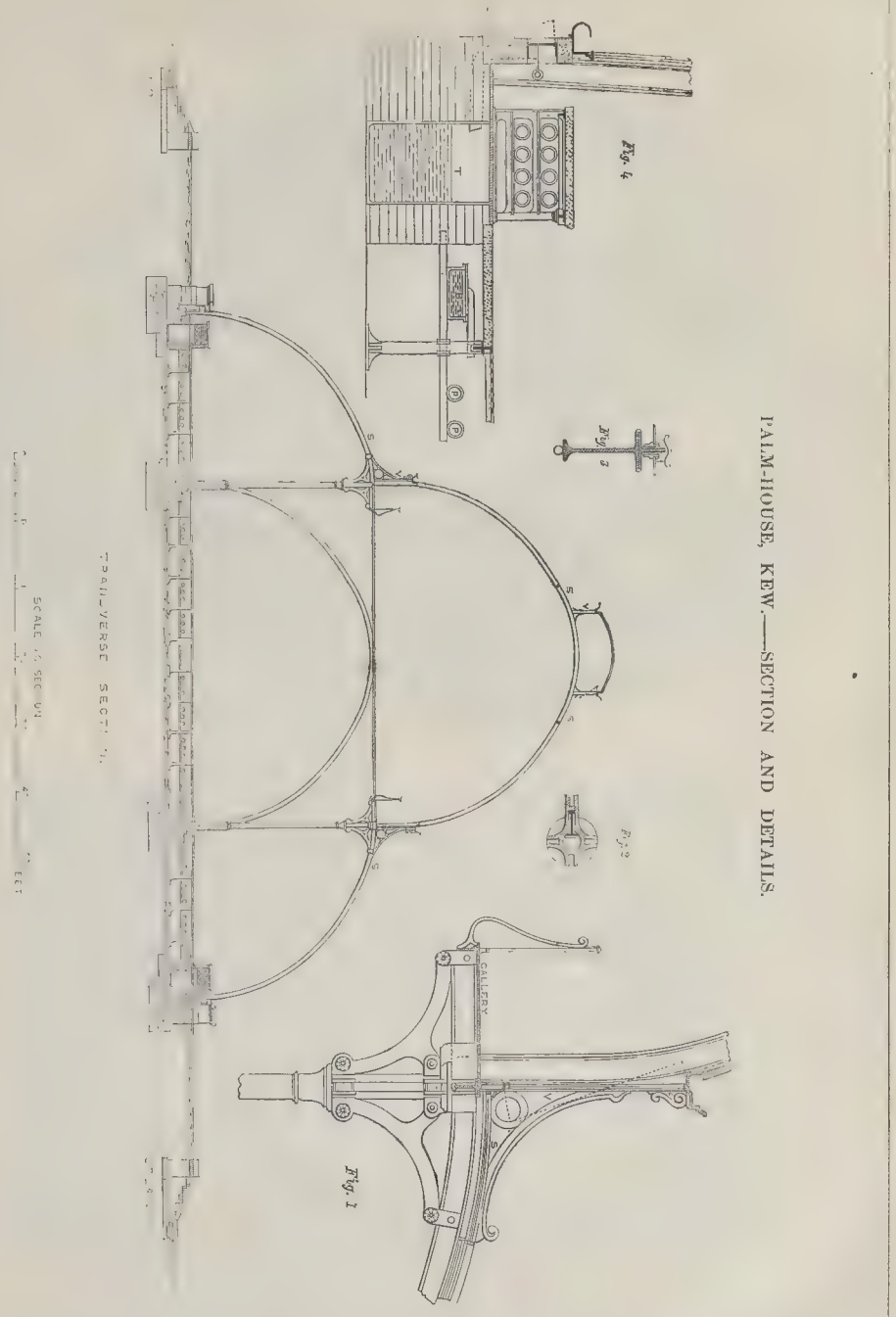
The "Elder Brethren of the Trinity" are threatening to desecrate the Nelson column at Yarmouth, by lighting it up as a beacon,—warning all and sundry, we presume, and our trans-channel rivals in particular, that as they are right in alleging that Britannia no longer "rules the waves," *straight* across the Channel at least, we think it of no use longer keeping up a mere show of respect for those who once helped her to do so. The "Elder Brethren of the Trinity," however, were scarcely those who might have been expected to throw *such* a light upon the memory of other days;—but the proposal is one by which the immense sum of one hundred and fifty pounds may be saved, and "twa dougs killed wi' ae stane," as the Glasgow Bailie sagaciously remarked while proposing to make the "moniment o' Nelson" there "a mile stane too." This singular propensity to make monuments to Nelson subservient to some other or secondary purpose, and thus to stamp their original one with obloquy, as more or less unworthy of standing alone in the face of day (or night either, it now appears) is not confined to Yarmouth and Glasgow alone. At Edinburgh the Nelson column is sacred to the memory of "every thing in the confectionary line,"—and, indeed, it is a gimcrack concern itself, such as those of the inverted spy-glass order which we see even surmounting *rounded eminences* within the Taafy shop itself, of which it is at Edinburgh the well-known "sign." But we daresay there is no fear of the Charing-cross "moniment" being at least converted into "a mile stane too," by any thing like disrespectful inscriptions, for, doubtless, the restrictive order to "stick no bills," may, by a very fair stretch of signification, be held to comprehend either type or chisel within its sweep. We are not so sure, however, after all, that the Yarmouth proposal would be disrespectful, at least so much so as even the "Stick no bills" at Trafalgar-square has so long, by inference, been. It was proposed, even as a matter of respect to Caxton, that his monument should be lighted up, and certainly, considering the uses of lighthouses in guarding our mercantile Navy, and in warning all and sundry, and even the French, against too near an approach to its coasts, the mere lighting up of a monument to Nelson on these coasts, were the unworthy motive kept out of view, might even be made to assume the aspect of an opportune revival of that merited respect with which few of Nelson's monuments seem to have hitherto been treated. ——The church of Methwold, Norfolk, the spire of which is a noted land-mark for many miles, not by water exactly, but over the fen district, has been restored interiorly in its wood-work, and deprived of its whitewash. An unsightly gallery has been removed, and the western arch, and windows of the steeple restored to view, and open seats for 500 provided.——In the restoration of the carved work in Lincoln Cathedral, the Dean and Chapter are voting annually between 2,000*l.* and 3,000*l.*——St. Neot's Church was to be re-opened on 12th inst., after six months' progress in restoration and repair.——The Rev. William Conway, Curate of St. Nicholas, Rochester, has commenced the erection of a church at his own expense. The estimated cost is about 6,000*l.*, and he intends endowing it with the sum of 50*l.* per annum,—another of those proofs of liberal feeling amongst the clergy which we have so often the pleasure to record, and which we doubt not will lead to still further emulation equally commendable, though probably not among the precise class to which this rev. gentleman nominally belongs, and who unfortunately seldom have the power to display what such an instance may be held to represent the great good-will of even that class of clergy to do, had they but the power.—— A stone font, in memory of the late rector of Darlaston, the Rev. S. Lowe, M.A., has been completed by Mr. P. Hollings, from a design by Mr. Hamilton, of Wolverhampton, architect, and erected in the church.——The Warwickshire Lunatic Asylum Committee have reported to the sessions their decision to erect an asylum for 300 patients, with power of extension, on land purchased of the Earl of Warwick, on a plan to be selected from others already obtained for consideration. At same sessions the County Prisons' Committee reported that Captain Chesterton, aided by Mr. D. R. Hill, architect, had surveyed the present buildings at Coventry and Warwick, and recommended, as the committee itself did, the erection of one new county prison near Warwick, on Mr. Hill's plan, for 350 prisoners, with power of extension. The report was ordered to be printed.——The Gloucester Lunatic Asylum is to be enlarged at the cost of 3,000*l.*——The arrangements for the disposal of the front portion of the Star Hotel, at Southampton, for the business of the Southampton County Court, have been completed, and Mr. Hack, the architect, is engaged in the design for the requisite alterations.

DOULTON'S EGG-SHAPED TUBES.—We mentioned Messrs. Doulton's reply to a letter which appeared in our columns on this subject, some time ago, but as they consider their denial was not put so prominently as the statement, we give place to the following:—

"SIR: In reference to the letter of Mr. Francis in a late number, we beg to observe that the registration obtained by us in October last was for egg-shaped sewers in *glazed stoneware;* that such sewers have not yet been made by any other parties than ourselves; and that if Mr. Francis, or any one else, infringes our right, we are quite prepared to defend it.—We are, Sir, &c.,

HENRY DOULTON AND CO.

Lambeth Pottery, December, 1847."



PALM-HOUSE, KEW.—SECTION AND DETAILS.

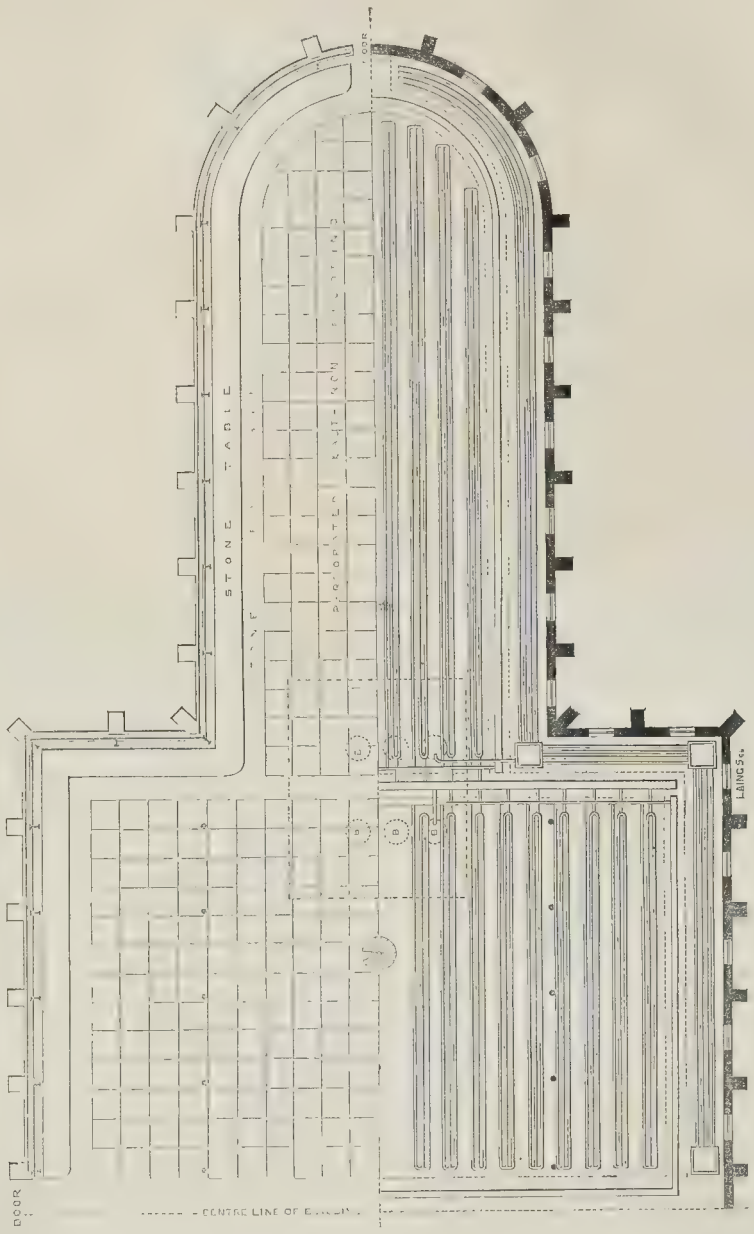
THE NEW PALM HOUSE, KEW GARDENS.

"So sits, enthroned in vegetable pride,
Imperial Kew, by Thames's glittering side:
Obedient sails from realms unfurrow'd bring
For her the unnamed progeny of spring."

The new palm "stove" in Kew-gardens is so remarkable a work, that we feel satisfied our readers, all over the kingdom, will be obliged to us for placing before them full and complete illustrations of it, which we do to-day at considerable cost. It was commenced in the year 1845, by the direction of the Commissioners of her Majesty's Woods and Forests, from the design, and under the superintendence, of Mr. Decimus Burton, architect, and is a worthy example of that gentleman's skill. Before proceeding to describe it, a few words relative to the gardens, now devoted to the public, will not be out of place.

The eldest son of George II., father to George III., first connected Kew House with the royal family of England by becoming its tenant, and forming the pleasure-grounds. The improvements were continued by his widow, and Sir William Chambers was employed as architect, and afterwards published a work descriptive of the gardens and buildings. The orangery stove, temples, &c., put up by Chambers, still remain, and may be usefully studied. George III. bought Kew House,

PLAN OF PALM-HOUSE, KEW.



and made great improvements in the grounds. During the two following reigns little was done: the gardens seemed of little use, and the public called for inquiry. A committee was accordingly appointed to examine into their condition, and in 1840, a report by Dr. Lindley was the result.

In 1841, the present director, Sir William Hooker, entered upon his duties, and from that time to this, enlargements, alterations, and improvements have been going on, with the view of rendering the gardens useful to the public. One of his first steps was to open the Botanic Gardens and plant-houses to all decently attired persons, from one to six o'clock; and numbers, it is hardly necessary to say, avail themselves of the privilege, which it glads us to hear is very rarely, if ever, abused. Last year there were 70,000 visitors, all conducting themselves well, besides 22,000 who went over the pleasure grounds, which are open two days a week, from Midsummer to Michaelmas. Sir William has published a useful little guide for strangers, which, by the way, we should like to see sold at sixpence instead of a shilling, so that it might get into the hands of all who go there.*

In the beginning of the year 1846, we gave a view of the new piers and wrought-iron

* There is one suggestion in this "Guide" which may be usefully reprinted. The Museum will shortly constitute a highly important feature in the gardens. "Among the persons who may come to survey it, as well as the living plants, there will always be travellers or merchants who hold intercourse with various parts of the globe, and who would gladly contribute to this great national collection. Brief instructions, printed expressly for distribution, may be had of the director, or of the curator, Mr. John Smith."

NEW PALM-HOUSE, KEW.



gates then recently completed, under the direction of Mr. Burton, and we alluded to the new palm stove which we now illustrate.

The main ribs of this structure were originally intended to have been formed of cast-iron, but the great improvements subsequently made in the manufacture of wrought-iron (deckbeam) in large scantlings, led to the adoption of the latter material. The main ribs are formed of 9-inch deckbeam-iron of the section shewn in figure 2, obtained in lengths of about 12 feet: these are welded together to the length required, about 42 feet, and bent upon a template to the necessary curve. The ribs are 12 feet 6 inches apart, and foot into cast-iron sockets let into granite blocks upon a concrete foundation, as shewn in the accompanying engraving, which gives the transverse section taken through the centre of the building.

The total length of the house is 362 feet 6 inches in the clear; the centre portion being 137 feet 6 inches long, and 100 feet wide, by 63 feet high in the clear, exclusive of the lantern (6 feet): the wings are each 112 feet 6 inches long and 50 feet wide, and 27 feet high from floor to bottom of lantern. The upper ribs foot into strong cast-iron columns, which receive the upper part of the ribs of the lower roof, and the bearers for a gallery which is continued round the centre of the house. The column heads are connected by a continuous curb of similar scantling to the ribs (see figs. 1 and 2). The whole of the ribs are braced together, and strutted by wrought-iron tie-rods passing through cast-iron tubes, which act as purlins.* The columns are hollow, and conduct the rain-water from the cornice gutter of the upper roof into rain-water tanks, which are formed round the whole interior of the building beneath the stone tables (see T, fig. 4); the water from the lower roof is received into the torus gutter forming the upper part of the pedestal or plinth of the building, and passes from thence into the same tanks.

An iron spiral staircase leads to the gallery, where pipes will be laid, by which the tops of the trees may be watered, the supply being obtained from a reservoir in an ornamental tower at a short distance from the house, which also conceals the chimney-shaft.

Ventilation is amply provided for by rolling sashes on the roofs at S (see transverse section), vertical sashes V hung on centres at the level of the gallery, and in the lanterns. Fresh air may also be admitted through the panels in the stone pedestal of the building (see fig. 4); by simple machinery these ventilators, as well as the windows, will be opened and shut simultaneously.

The whole of the roofs are glazed with sheet glass 21 oz. to the foot, slightly tinged with green, the tint being given by oxide of copper. This has been done to counteract the injurious effects on the vegetation arising from the use of white sheet glass, an arrangement proposed by Mr. Hunt, of the Museum of Economic Geology, and practically carried out in this building for the first time.*

The floor of the house between the surrounding stone paths, is formed of perforated castings, about 4 feet square, supported on wrought-iron bearers and cast-iron uprights (see sections).

The house will be warmed by hot water; the apparatus is calculated to maintain an internal temperature of 80° when the external air is at 20° (Fahrenheit). To effect this, twelve boilers (Messrs. Burbidge and Healy's patent), and 28,000 superficial feet of heating surface in pipes, box tanks or troughs (see PPB, fig. 4) will be laid under the whole of the perforated iron flooring and stone footpaths, and stone table round the house.

Vapour is emitted when required by valves in the tanks, fig. 4.

The boilers, BB in plan, are in two vaults under the house, indicated by the strong dotted line.

The accompanying plan shews one-half the building only: the arrangements throughout the other half are similar.

The vaults communicate with the chimney-tower and coal-yard by a subterranean passage 550 feet in length, containing the smoke flues, and a railway, with iron waggons, to convey fuel and take back the ashes.

Distinct sets of heating pipes are supplied by each boiler, so that according to the number of boilers in use, a higher or lower temperature may be obtained in any particular portion of the house, which may thus be variously climatized at pleasure.

The building and heating apparatus have been constructed by Mr. Richard Turner, of Dublin, and the stonework and foundation by Messrs. Grissell and Peto.*

The total cost of the structure will be about 30,000*l.*, exclusive of the shaft, tunnel, &c.

Shore up Cuttings.—Last week a workman, named James Hall, was killed by the earth falling in upon him in Bishopsgate-street, during the construction of a sewer. The builder had ordered the men to shore up the ground, but they in their wisdom thought it was solid enough.

* These purlins, or connecting bars between the ribs, are novel: they are formed of a small (1¼th inch) round bar, welded in long lengths, and passing through the ribs, they form a continuous tension-rod all round the house at each purlin (which are 9 or 10 feet apart), with means of straining them as tight as possible. This tension-bar is covered or inclosed in a tubular bar of wrought iron, exactly fitted between the ribs, acting as distance-pieces in opposition to the strain of the tension-bars. This knits the entire structure together.

* A paper on this matter was read by Mr. Hunt before the British Association last year, and is mentioned in The Builder, vol. v., p. 331. Mr. Hunt will further elucidate his views at the Society of Arts on the 16th of next month.

* Great praise is due to Mr. Turner, for the manner in which the work is done. A correspondent on his part remarks—"As nearly all the work of this building has been executed by Irishmen, who are grateful for the employment it has afforded them, I hope you will consider it a proof that the mechanics of that country are disposed to earn their bread in honesty and peace, and are capable of executing works of that kind to the satisfaction of the professional gentlemen of this country."

IMPROVEMENT OF GAOLS.

SPRINGFIELD GAOL—KNUTSFORD HOUSE OF CORRECTION.

THE *Chelmsford Chronicle* lately gave an account of the remodelling of the county jail on the plan of the Pentonville prison and Middlesex house of detention, at a cost of about 36,000*l.*, the original building being one completed in 1828 at a cost of about 57,300*l.*

The main alteration is in the central hall and grand corridor.

The central hall affords the means of inspecting the corridors, having in sight the door of most of the cells. Stretching out from this are two lengthy corridors, one trending somewhat to the right hand and the other to the left, and on either side of these are three tiers of cells, the two upper rows opening upon light iron galleries attached to the walls, and communicating with each other by means of iron staircases, so that though secure the whole has a light appearance. The hall is lighted by a large window in the centre, and the corridors from the roofs. Around the hall are galleries, reached by a circular stair, and on a level with those along the corridors communicating with the different rows of cells, and opening a ready way to the chapel. Each prisoner is to be provided with a gas-light and the means of employment as a shoemaker, tailor, &c., with a ready means of communicating at all times with the officers.

The rations, from the kitchen below, are raised by machinery through the kitchen ceiling and floor of the central hall, stopping at each gallery, where the trays will be run along on a sort of wagon and served up, in an incredibly short space of time, all hot and in prime condition, to the envy it is to be feared of surrounding shoemakers and tailors, who, it is to be hoped may not be thus induced to long to be on the wrong side of the prison walls.

There are 119 cells in one wing and 120 in the other, with 42 for females.

The chapel has been rebuilt and remodelled, a new house for the governor erected near the gateway, and the debtors' small department also remodelled. The exercising yards are on the radiating system, with the usual provision for influencing the conduct of the prisoners by occasional and unseen supervision. There is an improved laundry with drying rooms, and scientific appliances for the economizing of manual labour; and the movements of the kitchen department are conducted by steam.

The ventilation and heating of the whole have been specially provided for. The apparatus for heating consists of a boiler or case in the centre of the basement story of each wing, with pipes for the circulation of hot water. The fresh air introduced through a large flue open to the external atmosphere, after passing over the surface of the boiler, turns right and left along a main flue which runs horizontally under the floor of the corridor, and from thence passes upwards through small flues in the corridor wall, which terminate respectively in a grating placed close under the arched ceiling of each cell.

To extract the foul air, a grating is placed close to the floor of each on the side next the outer wall, and diagonally opposite the point where the fresh air is introduced. This grating covers a flue in the outer wall opening at the upper extremity into a horizontal foul air flue in the roof, communicating with a vertical shaft rising 20 or 25 feet above the ridge. In some of the cells, a regulator enables the prisoner to admit warm air from the main flue, or cool air from the corridor, at pleasure.

In a subsequent number the *Chronicle* gave a sketch of the chapel, which, as already said, has also been remodelled on the radiating system, with the pulpit in the centre; and an engraving of the interior of a cell, which displays the precise arrangement at Pentonville already shewn by an engraving in THE BUILDER.

Knutsford House of Correction, near Manchester, has been enlarged and altered, under the direction of Messrs. Dickson and Brakspear, architects. It previously consisted of a small chapel and governor's house, forming a central building, and five blocks of buildings radiating from it, but detached from it, and wholly separate from each other.

On the site of what was an open yard, between the chapel and the wings, an inspection corridor has been formed, which is pentagonal in form, being in fact five sides of an octagon, the chapel occupying the open space near the ends of the pentagon. The corridor is 12 feet wide, except in the centre, where it is of much greater width; and 12 feet in height. It has communication doors with all the wings and exercising yards, which now radiate from it, and thus gives more comfort to the officers. According to the *Manchester Guardian*, this corridor possesses remarkable acoustic properties. "We cannot make these fully apparent without diagrams; but let the reader cut off any three sides of an octagon, and he will have the form of the corridor; then let him suppose a building or wing upwards of 100 feet long, diverging at right angles from one end of this corridor, and he will have some idea of the remarkable transmission of sound when we state that in the night a person speaking in a low voice at the farthest end of this wing, could be distinctly heard at the opposite extremity of the corridor, and even the slightest scratching or any other noise was transmitted round five angles, a distance of from 200 to 300 feet, and heard most distinctly at that distance. Doubtless, the arched ceiling of the wing, and the form of the corridor, are both extremely favourable to the transmission of sounds; but we need not dwell on the obvious advantage of this quality in a prison, where it is of the utmost importance that every aid should be given, in construction, to the strictest and most careful surveillance of the prisoners, night and day. An officer on duty in the night, in this corridor, can thus at once hear the single stroke on a small bell in the wing of the prison, which any prisoner taken ill, or desirous to communicate with the officer, can produce at will, while locked up in his cell." The principal alteration effected, however, is in one of the radiating wings. These are 100 feet in length, and have three distinct stories, with central corridors and ranges of cells on each side. But in the one referred to, these floors and walls have been swept away, leaving the cells alone, to which access is given by narrow side galleries, as at Pentonville. The cells are also fitted up in the same manner.

The ventilation of the cell is effected by admitting fresh air from the corridor (which may be regarded as a large air chamber) by means of a grating over the door, at a height of 10 feet from the floor; the vitiated air being carried off by a grating a few inches above the floor, into a flue or trough; and all these flues pass into one great chimney shaft in the centre of the building. A furnace is provided, which it may be necessary to use occasionally in order to commence the draught.

MANUFACTURE OF ARTIFICIAL STONE.

INSTITUTION OF CIVIL ENGINEERS.

THE first meeting of the session was held on Tuesday evening last, when a paper was read, descriptive of Mr. Frederick Ransome's process for making artificial stone. The *modus operandi* appeared to be very simple:—broken pieces of silica (common flint) being subjected for a time to the action of caustic alkali, boiling under pressure in a close vessel, formed a transparent silicated solution, which was evaporated to a specific gravity of 1,600 (distilled water being 1,000), and was then intimately mixed with given proportions of well-washed sand, broken granite, or other materials, of different degrees of hardness. The paste thus constituted, after being pressed into moulds from which the most delicate impressions were readily received, was subjected to a red heat, in a stove or kiln, by which operation the free or uncombined silica of the raw materials united with the excess of alkali existing in the solution, thus forming a semi-vitreous compound, and rendering the artificial stone perfectly insoluble. This production is said to be adaptable to a comprehensive range of objects, for decorative art and for architectural purposes: busts, vases, flooring-tiles, steps, balustrades, mouldings, capitals, shafts and bases of columns, &c. &c. Even grinding-stones and whetstones for scythes have been made. It was stated to be already extensively manufactured at Ipswich, and was thought to admit of extensive application where elaborately carved stone would be too expensive.

PROGRESS OF GAS MOVEMENT.

THE City Sewers Commissioners have had a long discussion on the means of accomplishing an immediate reduction in the price of gas for lighting the streets, &c., and have resolved on the adoption of efficient measures forthwith. ——The Imperial Gas Company have announced their intention to reduce the price of their gas from 7*s.* 6*d.* to 6*s.* per 1,000 feet; the fifteen-hole Argand burner to be 2*l.* 11*s.* 6*d.* per annum for light from sunset to 9 P.M., and others in proportion. Consumers would no doubt feel inclined to give the Imperial all due credit for such an act of partial justice to themselves, were it not obvious that one main object of the reduction is to paralize the new Western in its incipient state. The announcement appears to have been first made on the very morning of the day on which the Marylebone parish vestry were to decide on the terms on which the Western were to be allowed to pervade that parish with their pipes. There also appears to be a warm struggle of interests and motives in the Marylebone vestry itself, and in its Gas Committee which had thrice reported on the terms proposed, and now their report has been a third time sent back to them! During the long and somewhat personal discussion on it, Mr. George Daniell said, that "if the vestry were really desirous of putting down the gas monopoly, they would vote for the resolution in the report, forfeiting the pipes of the Western Company, in case of amalgamation with any other company. If they did not do so, the mere penalty of 15,000*l.* would be laughed at, and, as in the case of the water companies, the vestry set at defiance." The retrogradation of the report was voted, admittedly, or at least obviously, in order to bias the thrice-determined committee in favour of monopoly, on the very ground, adduced, that "the application of the Western Company, *considering the present position of the vestry with the Imperial* was inopportune." So that the object of the Imperial, in *their* very *opportune* reduction, is but too manifest.——The Chartered Gas Company, and some on the Surrey side, are also about to reduce the price to 6*s.*——A lecture on the gas movement, and against the alleged gas tax, was lately delivered at Manchester by a Mr. T. Remirol. The *Manchester Examiner* and other papers support us in our already-expressed opinions on the latter subject. The formation of an Anti-Gas-Tax League has been proposed at Manchester,—rather prematurely we hope. —— Under the head of "Evils of Monopoly," the *Bradford Observer* states that an ingenious mechanic, Mr. Marmaduke Lupton, at Harrogate, "*makes his own gas at a cost of* 1*s. per* 1,000 *feet*," while "the Harrogate Gas Company very modestly demand 8*s.* 4*d.*!" "Consequently," as the *Observer* rightly adds, "they find but few customers at that exorbitant charge," the Improvement Commissioners even refusing to have the streets lighted on unreasonable terms. Surely they need not be long at the mercy of such a company. ——Good gas shall be within the reach of all before long: THE BUILDER has said it, and will see it done.

THE NIGHTMAN-FALLACY, OR FALLACIA CLOACINÆ.

JUMPING TO CONCLUSIONS.

SIR,—Mr. I'Anson has, I hope, done good service in attracting attention to the fact that the nightmen of London were exempt from the attacks of the cholera in 1832: I may add, that a similar fact was observed in Paris; the Prefect of Police reported to the Chambers that not one of the nightmen of Paris, who were employed in removing the contents of the cesspools to Montfauçon, was attacked with cholera.

Those who consider that such facts prove that the effluvium from nightsoil is harmless may be perfectly honest,—they are merely bad logicians: they jump too hastily to their conclusions. Without speaking too positively, I believe that it will be found that the disturbance of nightsoil occasions the disengagement of a quantity of ammonia; so that, as ammonia is an antidote against depressing infection, the nightmen are enveloped in a protective gas. To argue, as some do, and as others would seem to wish that their hearers or readers should do—that because nightmen are

free from cholera therefore foul drains are harmless, is, when examined, so transparently absurd, that Mr. I'Anson may well be thanked for stirring the nonsense, instead of leaving it in the cesspools of some skulls to work its mischief unobserved.

Mail-coach guards are a bright-complexioned, cheery-looking set of men: *argal*, no one can be hurt by being exposed, during any night in the winter, to frost, snow, hail, or rain!

Brighton bathing-machine men stand for hours in the day either in the water or in wet clothes: *argal*, it is absurd for the nursery-maids and children to keep dry on the chain pier!

The five-and-twenty members of the Pig and Whistle Club sit every night in the back parlour, smoking their pipes very comfortably: *argal*, tobacco-smoke and spittoons would not make ladies sick in a drawing-room in Belgravia!

Ballast-heavers on the Thames keep up their strength for some years on four gallons of bad porter and a quart of gin a day: *argal*, that is the proper tipple for the young ladies at the boarding-schools at Brompton!

Some asthmatic persons breathe most comfortably in a smoky room: *argal*, Dr. Reid ought to make all the flues of the parliamentary chimneys discharge their smoke into the Houses of Lords and Commons!

Here are a few samples of the Nightman-Fallacy, or the Fallacia Cloacinæ (not) of Aldrich or Whately.

What do the maintainers of that fallacy say to M. Poitevin's manure manufactory near the London Hospital?

"Dead dog smells like musk," but only "when at a distance."—I am, Sir, &c.

January 8. N. R.

TOWER BUILDINGS, LIVERPOOL, AND THE "COMPANION TO THE ALMANAC."

Sir,—Permit me, through the medium of your valuable columns, to offer a word of explanation in reference to a critique which appears in the "Companion to the Almanac for 1848." The author of the article on "Public Improvements" has honoured with his notice two works of mine in Liverpool during the past year, the Crescent Schools and the Tower Buildings. Of the general tone of the criticisms I have no cause of complaint; but in reference to the latter erection there are a few observations which, without explanation, would exhibit both myself and the building in question in rather an *eccentric* point of view. The writer proceeds as follows:—"One compartment of the main elevation is attached to the tower, in a more singular than accountable manner, as it makes a break and juts out forward, so as not only to abridge, but also destroy the regularity of composition that might else have been maintained, because, what is exclusive of the tower would then have shewn seven windows on a floor, while the entrance-door beneath the centre window would have been in accordance with the rules of architectural composition; whereas, now there is no central feature at all, the entrance—and it is markedly distinguished from the other openings on the ground-floor—coming beneath the second window from the part which is made to project forward, so that it has only one window on that side of it, and four on the other, whereas it ought to have been in the centre, and to have had three on each side of it," &c. I am here represented as having, without any assignable cause, distorted the façade of the building, by placing the entrance out of the centre, and making a projection or break in the compartment attached to the tower. "in a manner more singular than accountable." Now, I am no more in love with distortion or eccentricity than my friendly critic can be, and would very much have preferred the suppression of both these objectionable features. The explanation of them, however, is exceedingly simple. Tower Buildings are erected on an ancient site irregular in plan, one part of the irregularity consisting of the projecting break alluded to. I was required to cover the whole area as it previously existed, the proprietor not being willing to lose any of the space, which is extremely valuable. The projection, therefore, however singular it may appear, is no longer unaccountable. The situation of the entrance-door is dictated by the necessities of the locality, and could not, with due regard to the uses of the building, have been placed elsewhere. Whether, labouring under these necessities, the features alluded to could have been better treated than they are, is matter of fair criticism; but let me not be held up as so enamoured of the *bizarre* and *outré*, as wilfully and designedly to disregard all attention to symmetry. One glance at the ground plan, or five minutes' inspection of the "*locus in quo*," would have satisfactorily shewn what I have stated above.

It is cause for regret that the author of the architectural criticisms in the "Companion to the Almanac" has not, in all cases, the opportunity of actual inspection of the works commented on; since, able as he is, misapprehensions and erroneous impressions are otherwise almost certain in many cases to occur.—I am, Sir, &c., J. A. Picton.

Liverpool, Jan. 3, 1848.

PUBLIC COMPETITIONS.

Sir,—Much as has been said both in your own journal and elsewhere on the subject of competition, it is one that cannot be brought forward too frequently, or insisted upon too strenuously. Reforms of corrupt systems are not to be carried by a *coup-de-main*, but must be brought about by a perseveringly maintained attack and exposure of abuses, without which a mere occasional outcry is mere child's play. Notwithstanding the malpractices complained of by individuals, from time to time, either the majority of the profession must find their account in the present system of competition, or else those who keep aloof from competition are quite indifferent to the various hardships and injustice to which, as now managed, it exposes those who enter into it. Some, indeed, decry competition altogether, and seem disposed to do away with it entirely; which would be very much to be regretted, because,—to quote what has just been said by a contemporary of yours, in speaking of the Army and Navy Club-house competition,—"it prevents the monopoly of employment by a favoured few, neutralizes the prestige of names, and opens the door to talent, which might ever else remain in obscurity. The excellence of the principle is quite distinct from the abuses which are suffered to interfere with it in practice."

There is every reason to believe that, had it not been for a public competition, the Houses of Parliament would not have proved so worthy a structure by many degrees as it now is, or eventually will be; it being more likely than not that the work would have been confided to some one else than Mr. Barry. Had there been, in like manner, a competition for the British Museum and the alterations at Buckingham Palace, the probability is that we should in both instances have had something far more satisfactory than what we have now got.

At no very great distance of time, perhaps, a noble opportunity for the exercise of their talents will be afforded to the profession, since it may be presumed that the anticipated new National Gallery will be made the subject of a public competition. Should such prove the case, it is to be hoped that it will be better managed than any thing of the kind has hitherto been. The most ample time should, in the first place, be allowed for the preparation of designs; whereas in general no time at all is afforded for properly studying the subject proposed, sometimes barely enough for getting up a set of drawings, so that the very first idea which presents itself must be abided by, and the finished drawings amount to no more than a finished sketch. In the next place, there ought to be a public exhibition beforehand of all the designs, and not such a brief one as to be little better than a nominal exhibition, but kept open for several months, so as to allow time for repeated and leisurely examination. This would be one very great step towards an improved system of competition, and would of itself go far towards remedying much that is now justly complained of. Leaving to The Builder to enlarge upon the subject,

I am, Sir, &c., Philo-Agonos.

HISTORY AND ARRANGEMENT OF LIGHTHOUSES.

At the Society of Arts, on the 15th ult., a paper by Mr. A. G. Findlay was read, "On the various descriptions of lighthouses, beacons, and light vessels, and the methods and materials used in their construction from the period of their introduction to the present time; also on the systems of illuminations used in lighthouses, and the improvements which have recently taken place."

Mr. Findlay commenced his paper by alluding to the vast importance to a maritime nation like England of having a durable and efficient mode of constructing and illuminating lighthouses, light vessels, &c., and proceeded to point out the general uses of lighthouses. The oldest structure upon record is the celebrated Pharos, of Alexandria; this served as a guide to ancient mariners during a period of nearly 1,600 years. Pliny says, "it was square, of white stone, and consisting of many stories, and diminished upwards, till it attained the height of 547 feet." The most ancient structure known to exist in this country is the Roman Pharos, at Dover Castle, and this would still answer its intended purpose, after a lapse of eighteen centuries. The celebrated Cordovan Tower, in the Bay of Biscay, is another instance of stability, having been built in 1611. The Eddystone Lighthouse has attracted more of the attention of the public than perhaps any other; the first of the edifices was of wood, and built by Mr. Winstanley, in the years 1696-8, but owing to the sea washing over the lantern, it was soon raised to 120 feet in height. In November, 1703, the whole structure was washed away; in 1706 sanction was obtained for its being rebuilt, which was accordingly done by Rudyerd; and in 1755 it was destroyed by fire. The present tower, one of the artificial wonders of England, built by Smeaton, is 100 feet high, and has given good proof of its capability of resisting the force of the waves.

The Bell Rock Lighthouse is a similar structure to the Eddystone; it was built by Stevenson, and cost 60,000*l*. The most recent erection of this description is on the Skerryvore Rock, and cost 90,700*l*. in its erection.

The author next alluded to the difficulty of constructing permanent lighthouses in exposed situations, and the advantages of them over floating lights, as well as the much smaller annual expenditure required, in order to maintain an efficient light. The first floating light was the well-known Nore-light vessel, moored in 1734. In order to ensure stability in a lighthouse, he stated that it is necessary that the structure should be capable of affording resistance to a pressure of not less than 6,000 lbs. to each square foot of surface exposed to the action of waves: this assertion was founded on experiments by Mr. Alan Stevenson, who ascertained and registered the force of the waves at the Skerryvore Rock on the 25th March, 1845, during a westerly gale, when it was found to be 6,083 lbs. per square foot; this, the greatest force hitherto registered, was cited, with many others. He next proceeded to point out the inapplicability of iron to the construction of lighthouses, where the metal would be immersed in the sea-water, which has the effect of reducing it to a body similar in its chemical properties to black-lead, and instanced the effects produced on a cannon ball taken from the *Mary Rose*, after having been sunk off Spithead for a period of 150 years; the iron shot, upon being exposed to the air, gradually became red hot, and then fell into a red powder resembling burnt clay. The author then described the methods which have been suggested for overcoming the difficulty of exposing large surfaces to the action of the force of the waves, and also of obtaining a firmer foundation on a sand, and especially Mr. Alexander Mitchell's screw-pile lighthouse, erected on the Maplin Sand, and Dr. Potts' method of driving piles by atmospheric pressure, as applied at the South Callipier Beacon on the Goodwin Sands, in 1847, and of other beacons on various shoals at the mouth of the Thames, as on the Blyth Sand and on the shingles in the Prince's Channel. Another plan for the erection of lighthouses has been carried into effect at the point of Ayr, by Mr. Walker: it consists of constructing hollow cylinders, which are filled with concrete and

then sunk, and from them the piles rise. Captain Sir S. Brown has also proposed a plan for the erection of lighthouses in deep water upon bronze standards, and a modification of his plan was adopted by Captain Bullock. He further alluded to Mr. Bush's light of all nations; Mr. Gordon's iron lighthouses at Jamaica and the Bermudas, in which the cases are filled with a solid mass of concrete; and to the fact that Mr. Rennie had proposed iron for this purpose, as early as the year 1805, for the Bell Rock.

Having thus shown the different methods employed in the construction and erection of lighthouses, he proceeded to remark on the various plans of illumination which have been employed; of these the earliest was the coal fire and the cordonan billets of oak. In 1752, the South Foreland Lighthouse, previously with an open coal fire, was covered with a lantern with large sash windows, and the coal fire was kept bright by means of large bellows: the lantern was afterwards removed; and subsequently, at the commencement of the present century, 15 large lenses with separate lamps were placed in it. In 1790, the only exception to the coal fire was the Eddystone Lighthouse, which had a chandelier with 24 wax candles; and the Liverpool lighthouses, with oil lamps and rude parobolic reflectors. An interesting historical fact was then mentioned, viz., that parobolic reflectors were used at the Liverpool lighthouses (built in 1763), as Mr. W. Hutchinson, in his "Practical Seamanship," published that year, describes the apparatus then in use; the larger reflectors of wood, lined with small pieces of looking-glass, the small of polished tin; this was the more curious, as it had been claimed by the French for M. Teulere in 1783, and first used in Scotland in 1786. The parabolic reflectors, of which some specimens were shewn to the meeting, are now constructed upon the formula of the celebrated Captain Huddart. Having explained the catophic, or reflecting principle of illumination, which received so great an improvement in the invention of the Argand lamp in 1780 or 85, several other lights were exhibited and described, viz., the Drummond light, the voltaic light, and the causes of their inapplicability. The present mode of illumination is from lamps constructed on a modification of the Argand principle; a first order pneumatic lamp, with four concentric wicks, shewing a most powerful light, was exhibited. The dioptric principle in which the rays of light emanate from a central lamp, and are controlled and directed by a series of lenses placed before and around it, next occupied attention. The author claimed the priority of its suggestion for an optician in London, as mentioned by Smeaton, who proposed, in 1759, to grind the panes of the Eddystone lighthouse into a sphere of 15 feet diameter. The present form of lens, generally known as Fresnil's, was first suggested by the celebrated Buffon, in his experiments on burning apparatus, to which it is probable the catoptric system owes its origin.

RAILWAY JOTTINGS.

THE length of new railway opened during 1847 is 750 miles; 516 in England, 127 in Scotland, and 108 in Ireland. About 150 miles are also now nearly ready for traffic. The companies on these have called up about 22,330,000*l.* during 1847.——The traffic on railways in the United Kingdom, during the year 1847, amounts to about 8,950,000*l.*—being an increase over that of the preceding year of 1,285,000*l.*, or nearly 17 per cent. The aggregate length of line over which the traffic was conveyed in the first month of 1847, was about 2,710 miles; and, in the last, about 3,420 miles. Taking the average length of railway for the year at 3,100 miles, it would give 2,887*l.* as the average traffic per mile per annum.——The amount called up, during the present month, amounts to 4,677,075*l.*, the proportion on foreign lines being 211.590*l.*—being 1,500,000*l.* below that of January last, and less than might, from recent signs, have been anticipated: it is still, however, 1,360,500*l.* above the monthly average of 1847.——A late number of the *Gazette* contains notices of the dissolution of some twenty railway companies.——The principle to be adopted in assessing railways for the poor-rate, in the several parishes or unions through which they pass, was to have been decided in the case of "the Eastern Counties Railway *v.* the South Weald Poor-rate;" but the case, which affects fifty to sixty parishes in one county alone, has been postponed till next session. The Eastern Company declare, that in several cases they are called upon to pay poor-rate at the rate of 600*l.* to 700*l.* a mile. They have issued about thirty notices of appeal under present circumstances.—— By the simple process of a shew of tickets on the eve of transit, the North Western, at the Euston station, and from six trains merely, ferreted out about sixty pounds' worth of living profit, in the place of so much dead loss, as they reasonably conceive it would have been without such a check. The only wonder is that so obvious a way to clear such a *profit* is only now for the first time thought of: 60*l.*, if we recollect right, is the profit which the same company now reap by newsvending for a whole year.——The North-Western are pushing on the principal works on their main line between Skipton and Clapham without any call before March next. They propose to complete and open successive portions of the line, as far as Ingleton, by the summer of next year, and to Kirkby Lonsdale by the following autumn. The works already under contract will be completed, it is estimated, at an average of 16,000*l.* per mile. The average number of shares held by each shareholder does not exceed thirty.

METROPOLITAN COMMISSION OF SEWERS.

A MEETING of the Metropolitan Commission of Sewers was held on Thursday, at No. 8 committee-room, House of Commons. The Right Hon. Lord Morpeth in the chair. A large body of commissioners were present. We have a full report of the proceedings in type, but from pressure on our space we must defer it till next week. The following is, however, an abstract of the principal subjects brought under consideration.

A letter was handed in from the architect to the Westminster Improvement Commissioners, in reference to the proposed systems of drainage of the new Victoria-street, in which it appeared a difference existed in the plans of the two surveyors, Messrs. Austin and Phillips, who were ordered specially to report thereon.

A supplementary report was presented from the surveyors, Messrs. Roe and Phillips, on the flushing and cleansing of sewers, cesspools, &c., which stated that since their former report 22,400 feet of sewers, in which deposit varied from 6 inches to 3 feet 6 inches, had been thoroughly cleansed, and 3,386 double loads of soil had been washed away at an expense of 500*l.*, which process under the old system would have cost 1,500*l.*; and that in one instance a large cesspool, containing equal to twenty-four loads, had been relieved entirely in 3¾ hours. It also pointed out that further experiments were being made for sanitary purposes. Adopted.

A report was also presented from Sir H. de la Beche and Mr. Chadwick, on the proposed ordnance survey of the metropolis, and Lord Morpeth intimated that the Government were quite ready to afford all the assistance in their power towards the preparation of a proper plan, by furnishing the amount necessary for the purpose, and to obtain the repayment of the sum by a vote in Parliament, the commission *finding lodging* for the surveyors.

Correspondence.

BAD BRICKWORK THE RESULT OF EMPLOYING ORNAMENTAL CEMENTS.

SIR,—The late accident at the Euston-square Station induces me to trouble you with a few remarks on what has always appeared to me the injudicious employment of cements for ornamental purposes in architecture. It is not my intention to allude at all to the cause of the failure in question, but merely to point it out as an instance where, if genuine building materials had been employed, this lamentable sacrifice of live and property would not have occurred.

I maintain, that to the use of cement as a decorative feature must be attributed the defective and unworkmanlike brickwork of the present age, and that it is entirely in the power of architects to check this growing evil.

I look upon every cement-fronted building as a trick and a cheat most unworthy the practice of an architect. It is, in fact, a downright forgery and a lie!

Let every member of our noble profession resolve (as I am happy to say several have already done), on no pretext whatever to degrade themselves by the use of cements or patent stuccoes, and it may be relied upon that not only will our buildings be more soundly constructed, but our architecture will also be improved; for being no longer able to captivate the public gaze with cheap and meretricious ornaments stuck on to a bad design in plaster, deeper consideration and study will be devoted to the much more important feature—a well-proportioned design, which will always please, whereas nothing can compensate for the want of it. RAPHAEL BRANDON.

11, Beaufort-buildings, Strand,
10th Jan., 1848.

*** We have no reason to believe that the brickwork was badly done in the case alluded to. That the practice has tended to lessen the skill of our operatives we have already shewn.

PREVENTION OF ROT.

SIR,—Will you, through the medium of your useful journal, ask your scientific readers to inform me the best method to remedy a house that has the dry-rot? It is built on a wet, marshy piece of land, and the walls appear to suck the moisture up into them, or rather, the damp rises, so that no paper can be kept on, not even with battening and canvassing. The above was built in the year 1838, and has been once refloored, and now wants the same again, with the addition of new floor joists, which are now laid upon brick piers; and the stud partitions in the lower part are rotten 3 feet up. By doing so, you will confer a great benefit on me, as well as others in the same locality, and greatly oblige, Sir, yours, &c., T. G.

MECHANICS' HOUSES ON EASTERN COUNTIES RAILWAY.

SIR,—In one of your BUILDERS for May or June, I saw a remark that the Eastern Counties Railway Company had erected at the Barking-road station some model-houses for mechanics, consisting of parlour, kitchen, washhouse, and three chambers, with a garden to each. Will some of your numerous readers give, through your valuable publication, the dimensions of the different rooms, and probable cost, for the information of

A STAFFORDSHIRE POTTER AND CONSTANT READER.

Miscellanea.

AN AWFUL FACT.—A correspondent of the *Times* states that in the burial-ground of St. Pancras old Church on Sunday, Dec. 12, "between 30 and 40 bodies (full 40, including stillborns, which are not registered) were piled in one common grave, amidst the murmurs of the relatives and friends of the deceased. One funeral service was said over the lot, and one replacing of earth covered the whole. The covering of earth in this ground is frequently very shallow, often only two or three feet deep; and I have heard of a mourner having recently, in his indignation, pulled out his rule and proved to the bystanders that from the surface of the top coffin to the level of the ground was *less than one foot*." To boast of attention to the public health while such wholesale arrangements for the dissemination of disease and death are permitted is farcical. The state of this ground was long ago noticed in our columns.

BLIND BUILDERS.—Mr. Editor: You will oblige me by inserting the following tenders for the carpenters', joiners', and ironmongers' work required for the erection of eight fourth-rate houses, advertised in your number of the 18th of December last. AN EYE-WITNESS.

Higgs	£967 0
Bramston	960 0
Matthews	856 0
Cubitt	820 0
Richards	800 0
King	740 0
Graham	732 0
Wamleighton	717 10
Symonds	711 17
Raycroft	620 0
Ashton	550 0
Search	471 0
Charles Graham	452 5 (!)

COMPETITION.—Plans, &c., are wanted for the erection of a workhouse for the Fulham Poor-law Union, capable of accommodating 450 inmates; the architect whose plan shall be approved of to be employed on the usual per centage, or to receive 50 guineas,—second and third in merit 30 and 20 guineas respectively, when plan selected.

BUCKINGHAM PALACE.—Mr. Blore, it seems, is now accused of having pirated the design of the new façade to Buckingham Palace. According to Mr. Sharp, an architect at York—who has addressed a letter on the subject to the *Civil Engineer and Architect's Journal*—it is merely "a reduced copy" of the Palace at Caserta, erected about the middle of the last century by Vanvitelli. "The faults or merits, be they which they may," he says, "are not Mr. Blore's, but Vanvitelli's." The *Athenæum* remarks on this,—"Considering the heavy faults that have been charged against Mr. Blore's alteration, it is probable that Mr. Blore may not be unwilling to avail himself of a charge of plagiarism which he would otherwise have indignantly repelled,—all the more because Caserta occupies a foremost rank among the architectural achievements of the last century. That edifice, however, owes its celebrity rather to its vastness as a mass than to either nobleness or elegance of style or greatness of manner. Mr. Blore's building, on the contrary, is altogether deficient in the imposing quality of vastness—consequently in that which constitutes the chief "merit" of Vanvitelli's pile and renders it an impressive object." A correspondent writes to us as follows:—Mr. Editor: I recollect an observation by a late deceased architect, "that it was utterly impossible for an architect to make a satisfactory design unless he tried the general effect in a perspective sketch previous to carrying it into execution." Without wishing to prejudge Buckingham Palace, I would ask this plain question—Did the architect take this into consideration? For if he had, would he have committed such incongruities as present themselves, when there was so favourable an opportunity of giving character and outline to the palace and wings, by raising them above the other masses, and by introducing a good style of window, instead of those *slits* throughout. It is much to be regretted that by those who had the controlling of the design this was lost sight of. I make these observations more as a hint to young architects than from a disposition to censure.—A SUBSCRIBER.

COMMUNICATION BETWEEN GUARDS AND PASSENGERS.—Sir: There is one objection common to all the proposed means of communication between railway passengers and the guards, and which makes the Companies hesitate to adopt some plan otherwise excellent. The difficulty is this, that none of them provide any *sure check on the temptation to give false alarm*. One man among many could, of course, be pointed out by those in the same carriage; but—especially in first-class carriages—a passenger is often alone in a division, and then the more disposed to nervousness, or, perhaps, to mischief. Allow me to suggest that the objection may probably be removed by an adaptation of the very simple and effective contrivance, in use at the Pentonville Prison, for enabling a prisoner on the separate system to give notice, in case of sickness, to the officer in the long corridor. By turning a handle inside the cell, a rod through the wall throws open, at right angles, a metal label, on which is the number of the cell, and, at the same time, rings a bell common to all; so that the officer, at any distance, can see quickly where he is wanted. In its application to railway trains, for the purpose of striking a bell on the engine or near the guard, there should be attached permanently, to the upper edge of one side of each carriage, a slight iron rod (like a luggage rail), capable of being moved freely in the suspending eyes by a handle within the carriage. At each end of the rod a short chain should hang; and when the carriages are connected as usual by the coupling chains, these small chains should (and could in a moment) be linked also. Labels should open, as at the prison, and be kept open by springs, to inform the guard the point of danger, and for the sure detection of a false alarmist, by night or day.

Lambeth. JOHN J. COLE.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.—The report of the committee, read at the second anniversary meeting of the Society, held last week, gave a satisfactory account of the Society's progress. This was exhibited in the steady increase of members (now more than 350), more frequent communications, and in the readiness with which possessors of objects of antiquarian interest had lent them for exhibition. These results were, the committee considered, partly attributable to the impulse given by the late visit of the Archæological Institute to Norwich, many of the leading members of which had joined this society, and promoted its objects. The committee stated that they had elected the following antiquaries honorary members of the society:—The Marquis of Northampton, Lord Mahon, Lord Albert Conyngham, Lord Braybrooke, Sir Francis Palgrave, Professor Willis, Mr. Albert Way, Mr. Henry Hallam, Mr. J. Britton, Mr. Pugin, Mr. Edward Hawkins, and also the Mayors of Norwich, Yarmouth, and Lynn. Mr. Harrod read a paper "On some ancient shields in the ceiling of the south aisle of St. Nicholas Church, at Yarmouth," by Mr. T. W. King, Rouge Dragon, in the College of Arms, to whom the shields had been confided to be re-emblazoned. The Rev. R. Hart read a paper "On Thomas Walsingham's account of Litester's Rebellion, and how it was quelled by the warlike Bishop of Norwich;" and the Rev. James Bulwer made some illustratory remarks on several drawings of mural paintings in Crostwick Church, which were exhibited on the walls of the room. One of them represented the Seven Cardinal Sins, another St. Michael and Dragon; others, the Betrayal of Christ in the Garden, the Crucifixion, &c. There were more paintings on the walls of the church, the subjects of which were not distinguishable. They have been lately discovered by clearing away the plaster which covered them.

BIRMINGHAM SCHOOL OF DESIGN.—An address issued by the Committee of the Society of Arts and Government School of Design in Birmingham, shews that the school has now been in active operation upwards of four years. There are at present on the books 355 male and 135 female pupils, in all 490. The attendance is regular, and the conduct and improvement of the pupils gratifying. A grant of 350*l.* has during the last year been applied, with the sanction of the Board of Trade, in aid of the expenses of the school; but the subscriptions from the town and neighbourhood have not exceeded 260*l.* for the same period. The utility of such an institution is obvious. It is calculated to refine the taste of the inhabitants of the town by diffusing a knowledge of art; to improve the trade and manufactures by developing and cultivating talent for design; to raise the tone of morals by affording an opportunity of passing the evenings in the pursuit of a useful and elegant branch of study in the school, and by supplying the means of intellectual improvement in the lending library. Besides the pupils admitted gratuitously on the recommendation of a subscriber (each nominating one for every 1*l.* 1s. subscribed), the low price of admission (10s. annually to each female, and 12s. to each male student) renders its advantages accessible to a large portion of the less wealthy classes.

THE ANCIENT MONUMENT IN TRAFALGAR-SQUARE.—Some of our contemporaries have been foolish enough to believe that the sculptured tablets for the base of the Nelson monument had been sent to Woolwich to be cast, and that there really was a chance of seeing this unlucky monument of many things, finished before they die. In truth, however, we believe there is nothing yet ready for the caster, nor likely to be for some time to come. What in the world our able friend Mr. Grissell has been amusing himself with on the steps for these many months past, it would puzzle us to tell. We shall suggest to his late partner, the excellent member for Norwich, to move for a return of the "days that have passed" since the men began to work there, distinguishing those when one mason was employed from those when there was none. A fondness for *hoarding* seems not restricted to the precious metals.

UTRECHT CHURCH. — This curious old structure has been burnt down, through defects in the stoves it is thought.

PROGRESS IN CHESTER. — Our correspondent at Chester writes as follows:—We are proceeding with the sewerage of the place as fast as the funds placed at our disposal will allow, and I think it can be shewn cheaper than in any other place. We are now engaged in cleansing our courts, alleys, &c., and in removal of all nuisance likely to prove injurious to health. An improved system of cleansing the streets has also been suggested, and we are carrying out an improved mode of paving, both of which, if generally adopted, will also be conducive to health. A cemetery company has also been formed, under influential auspices, so that, in all probability, intra-mural interments will be abolished; but I object to the system of establishing joint-stock companies of this character, as these institutions ought to be "*pro bono publico*" exclusively. This system, to be carried out perfectly, will entail the necessity of closing up, with a seal, all the old graveyards, which will, of course, require a much larger capital than 5,000*l.*, the sum named to accomplish that object. We are trapping all our street gratings, and our sewers we are ventilating by passing the rain water-spouts into them, which, if not the most effective way, is the cheapest. It is useless to trap sewers unless you afford the means for the escape of the noxious gases generated in them. We want a better and cheaper supply of both water and gas.

SOMETHING IN FAVOUR OF THE LIGHT AND HEALTH TAX.—Sir James Wylie mentions the recurrence of certain virulent diseases in a spacious barrack at St. Petersburgh, where the victims of epidemic were three to one on the dark side of the edifice when compared with those who perished on the light side. Upon the same principle, it has been declared by Dr. Edwards, that deformed children are frequently the consequence of their parents having resided in obscure cellars. Dupuytren, indeed, is said to have demonstrated on more than one occasion the extraordinary connection existing been disease and darkness.—At a meeting of the inhabitants of St. Pancras, held on Tuesday evening last, to agree upon a petition for the repeal of the tax, one of the speakers illustrated the inequality of this tax by showing that while two houses in Soho-square, that paid 346*l.* rent, paid 14*l.* a year window tax, two houses in St. Anne's-court, near the square, that paid 66*l.* rent, paid 18*l.* 1s. 2d. a year window tax.

INTERIOR OF LINGFIELD CHURCH.—A great commotion may be raised by a very trifling occurrence when the elements of disorder exist. We incidentally wrote but two lines, saying the interior of Lingfield Church, Surrey, was "not very satisfactorily restored" (nothing very violent in this), and lo! eight communications were the result. One from the architect who had been engaged in restoring the outside of the church, disclaiming any connection with the inside; another from the respected incumbent, stating that the parishioners were very well satisfied with it, we inserted. The architect's disclaimer, and the inference that the restoration was made without professional assistance, speak volumes. We have since received the following complaint, of another sort, from Mr. W. G. Rogers, the well-known carver. He says:—"Sir: In the early part of last year (1847) I was waited on by the Rev. R. F. Fuller, rector of St. Peter's, Lingfield, Surrey, respecting the carved decorations for the church, such as reredos, altar-rail, pulpit, and reading-desk. I made three journeys to the church, took the several measurements, and, assisted by the clergyman and churchwardens, suggested several plans to appropriate some of the old screen-work, made a set of sketches, and one large full-sized drawing of one of the headings of the reredos with the chairs. On the 23rd of June I received a letter from the rector, desiring me to be in the way to receive the churchwardens, who would call on me about the carving,—but they have not yet called on me. I wrote, and received no answer: about a month after I wrote again, and then received an answer that the church was finished by some drill-carving machine. Will you do me the favour to notice this in your future paper and say if it is right that my time should be thus invaded by churchwardens hunting up for *cheap* church-carving decorations?"

Projected Works, &c.—Tenders have been called for by advertisement for the work to be done in the erection of the Corn Exchange at Peterborough; the erection of the new church in Great Nelson-street, North, at Liverpool; and for extensive alterations and additions to the Devonshire County Prisons.

Builders and Water Companies.—A correspondent, who signs himself "Fair Play," writes as follows:—Sir: Knowing your willingness to expose the evils to which builders and others are exposed, I beg, through the medium of your valuable journal, to call the attention of the Commissioners of Sewers for the Metropolitan Districts to a serious source of annoyance, by which a great deal of mischief is sometimes occasioned to contractors for building sewers. The evil to which I wish to allude relates to the vast quantities of water allowed to run down the streets where sewers are being constructed, which frequently defy the endeavours of the workmen, and break into the excavations, loosening the earth behind their shores, which drop down in consequence, leaving the undermined ground to the mercy of water, and often causing a great deal of mischief. The turncock of the district, knowing the predicament in which the contractor is placed, commonly *turns on* three hours instead of two; this is to induce the contractor to "come out," i. e., pay him a weekly stipend to "turn on easy." Once or twice, while the work is going on, the turncock will pretend to forget himself and "turn on" with full force, to shew what he could do in case of any stoppage in,—his *wages*. Now, Sir, as the contractors are amenable to the water companies for any damage done to their pipes, the water companies ought to be held responsible for any damage done to the contractor's work through their *waste water*. I trust this matter will receive some attention from the higher quarters.

The National Clock.—When completed, the Westminster Palace clock will be the most powerful one in the empire. According to the specification given in certain Parliamentary papers which have been published, it is to "strike the hours on a bell of from eight to ten tons, and, if practicable, chime the quarters upon eight bells, and show the time upon four dials about 30 feet in diameter." With the exception of a skeleton dial at Malines, the above dimensions, as remarked by a writer in *Chambers's Journal*, surpass those of any other clock-face in Europe. The dial of St. Paul's is as yet the largest in this country with a minute-hand; it is 18 feet in diameter. The new one is to be an eight-day clock, and as perfect as possible. Its formation is to be under the direction and approval of Mr. Airy, the astronomer-royal. Among the conditions drawn up by him are these:—The frame to be of cast-iron; wheels of hard bell-metal, with steel spindles, working in bell-metal bearings, and to be separately shipped and unshipped. Accuracy of movement to be insured by dead-beat escapement, compensating pendulum, and going fusee. The first blow of the hammer, when striking the hour, to be within a second of true time. Galvanic communication will probably be established with Greenwich Observatory. The four sets of hands, with the motion wheels, it has been calculated, will weigh twelve hundredweight; the head of the hammer two hundred pounds; the weights from one hundred and fifty to three hundred pounds; and the pendulum bob, three hundredweight. One of the candidates proposes to jewel the escapement pallet with sapphires. The motion of the minute-hand is not to be constant; it will move once every twenty seconds, when it will go over a space of nearly four inches. The papers alluded to contain the names of three candidates for the honour of making the national clock—Mr. Vulliamy, Mr. Dent, and Mr. Whitehurst of Derby. Two estimates have been sent in, one for 1,600*l.*—the other, 3,373*l.* "As it is intended," says the astronomer-royal, "that this clock should be one of which the nation may be proud, I would propose that the access to it should be a good one, and even slightly ornamented, and that facility should be given to the inspection of the clock by mechanics and by foreigners."

First Compensation Case, Battersea.—Mr. Chabot's case is, we understand, to be taken to the Court of Queen's Bench.

Singular Monument.—The *Daily News* gives the following account, from Rome, of a curious monument lately produced there.—"The lovers of eccentricity are glad to know that Dyce Sombre is to be among us to-morrow; and the sculptor Tadolini, who has been 20,000 dollars out of pocket in erecting a monster mausoleum to his grandmother, the begum of Sumroo,—hopes he may get repaid. This mausoleum is, by Dyce Sombre's directions, adorned with over twenty marble statues of various personages:—the begum herself smoking her hookah in grand state on the top of the cenotaph, and Dyce (aforesaid) in full uniform standing sword in hand before her. There are angels performing various operations,—also a platoon of sepoys in black marble, and a few elephants:—being the drollest monumental conglomeration in Europe." We observe since, that the Court of Chancery have granted a sum of money to pay the sculptor, and bring the monument to England.

Archæology.—The last number of the *Literary Gazette* is rich in notices of antiquarian works,—including Mr. Bateman's "Vestiges of the Antiquities of Derbyshire," Mr. Beale Poste's "History of the College of All Saints, Maidstone,"* Parts IX. and X. of Mr. Roach Smith's interesting "Collectanea Antiqua," and an article on French archæology.——The British Archæological Association will meet this evening (Friday).——The Archæological Institute has interfered to prevent, if possible, the proposed destruction of the stone rood-screen at Christ Church, in Hampshire, concerning which a letter appeared in our columns some time since. According to the *Athenæum* the following are amongst the arguments for its preservation which have been transmitted to the Earl of Malmesbury:—1. Because the amount of space in the nave and transepts allotted to the congregation is more than sufficient at present, and the removal of the rood-screen, and the conversion of the nave and choir into one large auditorium, would be practically inconvenient, inasmuch as the clergyman, who is now imperfectly heard, would be wholly inaudible to many of the congregation; and, 2, Because the church shews the most perfect arrangement of a conventual building extant, being complete in its nave, aisles, transepts, chancel, ladye chapel, sacristy, chantry chapels, and reredos, which remain undisturbed in their ancient proportions; further, that the stone rood-screen exhibits, even in its shattered state, the remains of certainly the most beautiful rood-screen of the time of Edward III. in this country, its double tier of niches being chaste in design and of bold and masterly execution.

The Greek Scene at the St. James's Theatre.—At the beginning of 1846 we gave an engraving of the scene which was painted for the representation of that noble tragedy, "Antigone," at Covent Garden Theatre, and described, at some length, the ancient Greek stage † from which it was taken. Following a good example, the enterprising Mr. Mitchell, in producing the same tragedy by the French company, at the St. James's Theatre, has prepared a similar scene, not quite so elaborate as that we have alluded to, but preserving the main features.

Mr. Ward's Mezzotinto Engravings.—We have had occasion before this to mention some very effective heads by Mr. G. R. Ward. He has now completed an engraving of the Right Hon. Sidney Herbert, M.P., after F. Grant, A.R.A., which merits commendation; and he has in hand portraits of the Earl of Harewood on horseback, with hounds; Mr. Hudson, M.P.; Mr. Dover, M.P.; Mr. Brooke, Rajah of Sarrawak, and Sir Tatton Sykes on horseback, all after the same artist.

Baths and Washhouses.—The Town Council of Liverpool resolved, on the 11th instant, to raise 25,000*l.* for carrying Sir Henry Dukinfield's Act into execution. The corporation of Liverpool have already two establishments of public baths and washhouses in active operation.——The London establishment are seeking assistance, and ought to have it. In furtherance of the model baths, &c., in Goulston-square, the committee have incurred great liabilities. We would direct attention to their advertisement.

Escape of St. Saviour's, Southwark.—On Tuesday last St. Saviour's Church narrowly escaped being burnt down by fire, which originated amongst the coffins in the vaults. It is supposed that a spark fell on some sawdust during a funeral. How much longer will the suicidal practice of burying in churches be continued?

* "When the noble proprietor (the Earl of Romsey) determined recently to alter the destination of these buildings, and for that purpose cleared away the numerous additions and encumbrances that had been rendered necessary by their application to farming purposes, it was found that a very large portion of the original edifice remained almost uninjured, and might, without much difficulty, be restored, so as to form a very interesting example of the domestic architecture of the middle ages. Mr. Beale Poste, who, residing on the spot, watched carefully the process of the alterations, has, in the volume before us, given a careful description of these interesting remains, accompanied with a history of the college, and some valuable notices of the collegiate church, which now forms the parish church of the town of Maidstone. The present remains of the college consist of a range of rooms with cloisters and tower, supposed to have been the kitchens and lodgings of the priests, and believed to be the most ancient part of the remaining buildings; what is supposed to have been the master's house, a tower near the master's house, a large gate-way tower, two barns, and a second or back gate-way tower, the latter partly in ruins. The only portions which seem to have been destroyed are, a building to the left of the principal gate-way in the meadow, part of the range of rooms and cloisters above mentioned, and, as it is supposed, some cloisters attached to the master's house. Since these buildings were cleared in 1845, Mr. Poste informs us that the remaining cloisters and one of the barns have been removed, and some other alterations in the buildings have been altered, in accordance with the change in their destination."—*Literary Gazette.*

† Vol. IV. p. 18.

TO CORRESPONDENTS.

"*An Architect.*"—We will inquire into the matter complained of.

"*A. C.*"—We will refer to the syllabus next week.

"*L.*"—We cannot give a safe opinion on such information.

"*H. P.*"—Write to Mr. Minton's manufactory. We think it may be done.

"*J. T. A.*"—We hope to use the drawing.

"*D. G. L.*"—We propose looking in at the "Scotch Church."

"*Architects' Plans.*"—A correspondent asks,—"An architect is employed to draw plans and superintend the erection or restoration of a public edifice—do such plans (after completion of work) become the property of the employers of such architect, or can they be retained by him as his personal property?"—It is customary for the architect to retain them.

Received.—"J. Y.," "J. L.," "W. C.," "J. C.," "W. N. G.," "R. K." (thanks), "J. P. W.," "A Subscriber" (We hope to keep his good opinion). "Subscriber" (Tredgold's Carpentry) "H. M. C." (thanks). "An Old Subscriber" (We have not time to give the information required). "B. W.," "H. S. H.," "J. D." (Trap). "An Architect" (Canterbury), "F. M." (Edinburgh), shall hear from us. "Designs for Schools, by H. E. Kendall, jun., Architect, F.S.A." Williams and Co., 141, Strand.

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of The Builder in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

ADVERTISEMENTS.

TO BUILDERS, PAINTERS, AND OTHERS

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The Managing Committee have great pleasure in announcing that this Charity is progressing in a satisfactory manner, the support they have already received is far beyond their expectations; still it requires the united aid of the various branches of the Building Trade to carry out this laudable and philanthropic undertaking, so as to enable the Committee to commence granting relief at an early period, which appeal they trust will be responded to with energy and zeal.

Subscriptions will be thankfully received by the Treasurer, the Bankers, and the Collectors.

The Rules and Regulations will be sent on application, and a List of the Patrons of the Institution will shortly be printed.

Offices: Pond House, Broad-street, Golden square, where all communications are requested to be sent.—Attendance, Mondays and Thursdays, from 10 to 4 o'clock.

The Builder.

No. CCLIX.

SATURDAY, JANUARY 22, 1848.

MUCH has been said by us about architectural competitions. Collected, it would form a small volume of somewhat extraordinary character,—not very creditable to human nature, and, if it could be forced into the understanding of the public, could scarcely fail to effect important change, without the aid of further evidence of its necessity. This, however, is not to be hoped for; and we must go on month after month and year after year, repeating the same things in various shapes, and heaping evidence on evidence, in the hope of ultimately leading to a recognition of the evils which result from the present mode of *mis*-conducting competitions, and so of gradually inducing the adoption of a better system.

The abandonment of the practice altogether must not be thought of. The abuse of a good principle must not be allowed to lead to the abandonment of the principle, but the reformation of the abuse. We strenuously maintain, as we have done on previous occasions, that works for which the nation are to pay should be made the means of developing the rising talent of the nation: exciting the ardour of the young, inducing study, and cheering unaided genius by the exhibition of a path by which he may, assisted by himself alone, attain distinction and reward. But let it not be simply a snare and a deceit: let the race *be* to the swift, and the victory to the strong.

For the new Record-office, thus, the architects of the United Kingdom should unquestionably be appealed to, as they should also be for the proposed National Gallery when determined on, and such arrangements be made as would ensure the most careful examination and comparison of the designs, and a right and impartial judgment. Plenty of time should be given for the preparation of the designs, and an exhibition of them made to the public, for not too short a period, as properly insisted on by a correspondent last week, *previous* to the selection being made. Pretended concealment of names we would abandon. The only effect of it is to give the unscrupulous manœuverer an advantage over the honourable and high-minded.* Moreover, it is but right that those who have already fought the fight, and taken worthily a place in public esteem, should have the advantage which attaches to it. These points being attended to, and the court of examiners properly formed (knowledge no less than integrity being insisted on), a satisfactory result might be looked for with certainty.

We remarked many months ago, in a foot note to a communication, that if the history of competitions were written, it would display such an amount of rascality as would scarcely be believed. The remark was echoed from half-a-dozen quarters; its truth no one could deny: an enormous amount of rascality would indeed be exhibited. What injustice will not men, even honourable men, perpetrate, when in committee; admitting no personal responsibility even to themselves! "Corporations have no bowels," says the old saw; and certainly a committee has no conscience. But at the same time this history would shew even a greater amount of ignorance,—ignorance of art, ignorance of the cost of its acquirement, ignorance of the actual position, responsibilities, and duties of architects. It is this which has led to more injustice and evil than want of integrity has. An architect's time is nothing; a design a pretty drawing, such as people make for their own amusement, of course; nothing else. On more than one occasion we have seen, say, five guineas paid ungrudgingly to a lithographer, for transferring a design to the stone, by the same person who considered a charge of exactly the same amount by the architect, for producing the design so transferred, an extortion for which he was "quite unprepared." In fact, we do not hesitate to say, strange as it may seem to the few, that a majority of employers would view the thing in the same light; a tolerably forcible illustration of the existing want of proper appreciation of the architect's duties to which we have already referred.

Disregard by committees of conditions imposed by themselves is of constant occurrence, without thought of the injustice to individuals which results. We will give one instance of it by a committee of, as we believe, very honourable men, who, strange to say, still consider, as a committee, that they have acted correctly.

Designs for a church were needed in the suburbs of London, and A. was invited to send plans in competition with B. C. and D. (the names being fully stated), with the understanding that the authors of the two designs best liked should each receive a premium, or one be employed and the other receive a premium. A. assented, simply stipulating that *all the designs should be sent in on the same day*, which was at once acceded to as a matter of course. His drawings being ready, he was told to retain them till a day should be named. Ultimately the day *was* named, and A. was directed to forward the plans. The committee met, and found there were no designs from C. and D. What was then their right course? Unquestionably, to award the premiums to the plans which were sent in (if not disposed to carry out either of them),—the authors of which had accepted the committee's invitation and complied with their conditions. The committee, however, thought differently. They determined on again sending to C. and D., and further, without any intimation to A. and B., to invite two other architects, E. and F., to submit plans. Many weeks passed, and A. had no tidings of his plans: when suddenly he received them back with thanks, and afterwards heard accidentally that the first premium had been awarded to D., who had not commenced his plans till *some time after the day named for receiving them*; and the second to E., *with whom he had not been asked to compete*, and whose name, indeed, had not been mentioned to him throughout the business!

The irregularity and injustice of such a proceeding must be obvious to all. Apart from the breach of a positive arrangement on the part of the committee, see what may occur under such circumstances to the injury of those who follow the instructions. Let us suppose that any one of the architects who prepared their plans after the first had been sent in, obtained the *slightest* idea of what was already before the committee, how injuriously would that operate on those who had kept their faith. Admit it was but the merest glance by the merest accident (and if it did occur in the case to which we are referring, we are quite ready to believe that it *was* the merest glance); still every practised architect will know the advantage of even the smallest appreciable glimpse in a competition. This, however, is not the point. We wish, in stating this case, to make no personal reflections: we mention it simply as an instance of the constantly occurring injustice to architects done by a number of gentlemen banded as a committee (any one of whom singly would shrink from an improper act), through want of full appreciation of the engagements virtually, if not always ostensibly, made with architects, and want of proper consideration for an architect's labours.

Foremost amongst the stipulations abandoned by committees, has been the proposed cost of buildings. Designs, evidently requiring a much larger sum for their execution than that specified in the instructions, have been selected in preference to those of competitors who, being conscientious, had restricted display by the means placed at their disposal. The result of this has been, to lead many competing architects systematically to practise deceit,—the conviction being arrived at, that success was out of the question if the truth were told. This part of the subject involves several important questions, and would lead us to a relation of proceedings in connection with a competition for a charitable building, decided some time ago, for which we have not room in our present number. We must, therefore, postpone the consideration of it.

* We have received some very indignant letters on this subject in connection with the Lincolnshire Lunatic Asylum Competition, at present undecided, inclosing copies of a letter written to some of the magistrates by the father of one of a firm of architects who had submitted designs, pointing out the motto of his son's drawings,—*Mente et Manu*. We give them the advantage of it.

GOTHIC ARCHITECTURE ANALYZED.*

WHEN Brunelleschi, in remains of the grandeur of ancient Rome, collected materials for the exercise of his genius, he and others were doing at that day what has been extensively undertaken, and more successfully accomplished, in this. In both ages we are presented with a similar spectacle, that of men who could devote untiring labour to that best aid to the production of beautiful works of art, the accumulating those materials "from which invention must originate." But to form a complete parallel between the state of architecture then, and the position of the art now, along with the results of each epoch, much is wanting; and in the opinions frequently expressed upon the present condition of architectural taste, there is, as we have heretofore argued, much that is both true and false. It is not true that this is the only period in the history of architecture, in which the style of a previous age has been made to contribute largely to the external character of buildings; and far from feeling unqualified regret at every circumstance in the actual condition of the art, there is much that will distinctively mark the present century, and claim the gratitude of posterity. The first results of the labours of Brunelleschi and his contemporaries were buildings, which possibly displayed more inventive genius than those which *have* grown out of the materials amassed from the works of *our* ancestors; but they had nevertheless so great a resemblance to their prototypes, that it is not always easy to distinguish the churches of the early "revival" from the basilicas of the later days of the empire. But in the extent to which this collecting of materials has been carried of late years, and more especially in the manner in which the results have been arranged and preserved, the present age has paramount merits, and the future of the art will, we doubt not, after a short interval, admit of all that may now be wanting to draw the

* "An Analysis of Gothic Architecture, illustrated by a Series of upwards of Seven Hundred Examples of Doorways, Windows, &c. &c., and accompanied with Remarks on the several details of an Ecclesiastical Edifice. By Raphael and J. Arthur Brandon, Architects." In Two Volumes.

parallel with the reign of taste, which was induced by Brunelleschi and his contemporaries to redeem the credit of present time, if not to place the era prominently as one of the most important in the history of architecture. To effect this, materials are, it is true, by no means the only *desiderata*, but they are at least the *food* on which art lives, by examining and comparing which, that form can be selected or designed which is really the best for its situation in the artist's judgment, then brought to bear with a full knowledge of the resources open to him.

In complaining, as we did recently, of the deficiency of books of reference of a certain kind, in practical architecture, we ought, perhaps, to have admitted the fact of a rather different state of things in the art. We have, however, desired to see every department of the art and science of architecture, and every species of information required professionally— collected, analyzed, and indexed; and we have thought that, far from injury being done by works on this principle—by inducing superficial knowledge, or entire reliance upon these ends—the result would rather be a much more accurate knowledge of the resources of both art and science, and a clearness of judgment in the selection of them, impossible, whilst memory is burthened with matter which could be equally well preserved in print, and whilst the mind is, by consequence, incapable of that tone of thought which is productive of beautiful works of art. We should like to see volumes formed upon the principle of Durand's, and the other "parallels" of architecture, more frequently in the hands of architects.

Still, in Gothic architecture, much has already been done in this spirit; and the authors of the work now before us have contributed, in no inconsiderable degree, to the knowledge of the subject. They have endeavoured to give us precisely that means of comparison and selection which we have adverted to; and it is a great merit in their elaborate work, that it goes very far to justify its title. We are content to leave entirely out of the question our own feeling, that "An Analysis of Gothic Architecture" would include many details, which may possibly be well known by illustrations, and would require a great number — from the cathedrals, for instance — which have here been purposely excluded,— and are content to notice, that out of the seven hundred and odd examples which the volumes contain, nearly the whole are not to be found elsewhere,—that they are generally given with great clearness, and have been measured, drawn, and zincographed by the authors themselves.* They say, "The examples given in this work have been entirely derived from English churches. Continental Gothic, beautiful as it is in itself, and influenced by the same spirit with our own, cannot be consistently associated with English details: each possesses peculiarly distinctive features, which it is impossible to blend together without serious injury to both. It has also been a principal object of the authors to collect their examples from parish churches only; and to this determination they have adhered, with very few exceptions. Cathedrals, and the larger abbey and conventual churches, have been already amply illustrated, perhaps even to the detriment of the art which it has been the object of such illustrations to advance; for, from the want of proper information upon the subject of architectural details, considered with reference to edifices of various designs and magnitudes, we see, in many churches of comparatively recent erection, numerous features belonging essentially to our cathedrals, and contributing, in the very highest degree, to their appropriate decoration; but which, from the necessarily diminished proportions and general incongruity of effect, appear absolutely ridiculous when introduced into the architectural composition of the smaller edifice." The work, though designed, therefore, for a special purpose, is still not surpassed by any recent attempt, for the ability with which it has been compiled, or its practical value to architecture.

The illustrative portion of the work is divided into two sections, the first being devoted to an exposition of masonry in its various details, and the second to woodwork and metalwork. The joints of the stones are marked, and the methods of striking the different segments clearly indicated. The work has also an appendix, consisting chiefly of illustrations of windows arranged chronologically. The letterpress is interspersed with woodcuts; and a good index to the illustrations and churches referred to has not been forgotten.

In the introduction it has been explained, that although there is ample reason to know that Gothic architecture was eminently progressive, —"that when engaged in *repairing*, or making *additions* to their churches, the style then prevailing was invariably and boldly adopted;"— yet in certain cases the Gothic architects, "when they had to *complete* a design left from the first imperfect, appear to have been induced in some instances to mould their work in such a manner as to maintain *in the general outline* some degree of uniformity throughout the whole." Amongst the examples of this feeling are the nave and aisles of Westminster Abbey, the eastern portion of which is known to have been built between the years 1269 and 1307, and the western portion of which was continued at intervals, between the years 1340 and 1483. So well has the early English character been preserved throughout, that it requires a close inspection, and that by an experienced eye, before it is possible to detect and authenticate the presence of perpendicular work." The windows in the aisles, erected by Henry V., of early Decorated character, might be classified as "Decorated," "did not the customary octagonal and moulded cap of the Perpendicular period occupy the place of the corresponding circular and foliated members, which, had the windows really been erected some hundred years earlier, would assuredly have surmounted the bowtels placed in their jambs." For in *mouldings*, the Gothic architects seem to have "rejected the slightest symptom of compromise." They "pursued with scrupulous strictness the moulding system of their own times;" thus, whilst bands in corresponding positions on the piers were inserted by the architects of the Perpendicular period, they departed not only from the outline, but the size of the original, and whilst they encircled the nave pier with shafts, the number, instead of four, became eight, and they were united to, instead of detached from, the pier. In the arcading beneath the windows appears a similar system.

The characteristics and peculiarities of window tracery are treated of at some length, and that complete acquaintance with the subject which is requisite, ere the dates of many examples can be determined, is shown by reference to "windows, undoubtedly constructed during this transition (to Decorated) period," which are some of the "manifold *experiments* which were tried and rejected before the perfect decorated window was produced. Thus, at Rickenhall Church, Suffolk, the east window of the south aisle, which is decidedly of the same date with the other windows (*temp.* Edward I.) exhibits almost every peculiarity of perpendicular tracery." "At Evington Church, Leicestershire, in the north aisle, are two windows still more curious; of these, the western window might be regarded as a fine specimen of flowing tracery, were it not for its soffit cusping, the invariable test of early work; the ornaments, also, with which it is richly studded, are a mixture of the decorated ball flower, with the dog tooth, and marks of the Early English period. The composition of the east window is even more remarkable, and indeed contradictory; it consists in its general design of a series of equilateral-headed arches springing from small shafts with delicately carved foliated caps of pure decorated character, and the upper part of the tracery is divided by super-mullions and transoms into two octo-foliated squares, and a row of trefoliated batement lights. Thus, in these two windows, evidently both of the same date, are displayed peculiarities characteristic of the three great periods of Gothic architecture, the early English soffit cusp, the decorated foliated cap, and the perpendicular super-mullion and tracery-transom. Such phenomena afford ample scope for conjecture. Shall we say that William of Wykeham first introduced perpendicular tracery, when we find every one of its essentials in a window of the time of Edward I? Shall we not rather conclude, that in their endeavours to arrive at perfection in tracery, the early builders, in the course of their experiments, actually invented perpendicular tracery, proceeded to a partial development of its peculiarities, and finally rejected it as unworthy?"

Besides "windows," other heads treated of in the work, are "clear-story windows," "belfry windows," "turret lights," and "spire lights," and under that of "construction of tracery in windows," the theory of its constant formation upon arrangements of equilateral triangles is ably argued. "Its *equilateral triangularity* may be pronounced an essential characteristic of Gothic architecture. In the outline of the canopied windows, doorways, and niches of a decorated Gothic structure, and in the prominent position assigned to its buttresses and pinnacles, we may recognize this characteristic no less than in the form of its traceries and diapers, its pavements and carved monuments." Reference is also made, incidentally, to the third volume of THE BUILDER, in which we gave some illustrations of the Lodge in Rushton Park, Northants, which exemplifies the use of the equilateral triangle applied to plan, gables, and the most minute details, "in a manner too remarkable to be here altogether unnoticed." Under the head of "mouldings," the method of their application to the different planes on doorways, and generally, their great importance in the Gothic style compared with the styles of classic architecture, are pointed out. In treating of the mouldings of capitals, it is shewn that the capital consists of three distinct parts, viz., "the head-mold, the bell, and the neck-mold. The head-mold consisted of few members." The bell, when not foliated, generally consisted of a group of mouldings in the upper part, which were united to the neck-mold by a beautifully undercut and gracefully curved outline, or occasionally the bell was double, consisting of two different groups." The heaviness observable in some modern capitals is principally owing to the neglect of the arrangement of those features, the mouldings of the bell being sometimes brought to the same projections as those of the head-mold, whereas "a close examination of ancient examples will establish, as a general rule, that the head-mold was the most projecting member." "We might regard a Gothic capital as consisting of three circular pieces of stone: the lower one a thin slab, out of which the neck-mold would be produced; the second, a thick block, projecting considerably over the first, would form the bell; and lastly, another slab at top, somewhat thicker than the first, and projecting the most of the three, out of which would be cut the head-mold."

The remainder of the letter-press in the first section is devoted to doorways, piers, and archways, panelling, buttresses, parapets, crosses, fonts, &c., and has some very picturesque illustrations. In the second section, devoted to wood-work and metal-work, the remarkable timber-roofs of this country are described and classified, and amongst the illustrations to this part of the work are some remarkably fine examples. We have, however, said enough to shew the value of the Messrs. Brandon's work, one produced with an amount of labour seldom given even to subjects of this engrossing nature, and we can only regret that the recent decease of one of its authors, before adverted to, will check, as it must, the completion of the design,—to illustrate the architecture of the middle ages, of which the numerous illustrations in the work before us may be regarded only as the commencement.

* We include this amongst the merits of the work, less because the amount of labour increases the credit due to the authors, than because a character of authenticity is given to works so prepared, not to be ascribed, where the insensible transmutations in the several stages of reducing, tracing, and transfering, which are sure to occur when different hands are employed, entail errors not always discovered at the proper moment, and which every person experienced in the production of illustrated works will at once comprehend.

FALL OF A BUILDING IN BORDEAUX.—The French papers mention that on the 8th inst. a large building in construction in the Rue Lagrange, at Bordeaux, about 50 yards in length, which had been raised to the height of 45 feet, suddenly fell, and buried a number of workmen under its ruins. Several men were killed. The accident is said to have been caused by the insufficient solidity of the foundation, the ground on which it was laid being for the greater part of the year covered with water.

REPLY TO THE CHARGES AGAINST ARCHITECTS IN THE LATE WESTMINSTER COMMISSION OF SEWERS.

Sir,—Your article upon this subject, in the number of the 8th inst., is written in so generous a spirit, that I avail myself of the appeal you make, and trouble you with a few observations as to certain parts of the evidence which you quote, and which was the first occasion of my being aware of it.

It was my intention, when I had perused the report on the late Commissions of Sewers (published without the appendix of evidence), and the commissions had been superseded, to have taken no further part in the question. I did, indeed, feel surprised at such a document proceeding from public men, who, having been commissioned by the Queen to inquire into what would appear to have been a mere question of science and economy, as to the very interesting subject of sanitary improvement, seemed only anxious to establish a foregone conclusion, and mixed up with their report much virulent personal matter. With that intent we find accumulated a mass of *ex parte* evidence, the object of which appears to be to charge with ignorance, dishonesty, extravagance, and perjury several bodies of public men. This inquisition is pursued in secret (like the Star Chamber practice of old); those against whom imputations were brought were not allowed to be present, nor, indeed, to receive the slightest intimation of the nature of the accusation; they knew not who were their accusers — what the evidence adduced — and were not afforded the opportunity of justification, refutation, or cross-examination. Under such circumstances of unfair, unconstitutional, and any thing but English procedure, is a report issued of a condemnatory character, written with a pen of gall.

But, Sir, your extracts from the evidence, which otherwise I do not know, and the handsome opportunity for an answer which you afford and invite, induce me most unwillingly to reply to accusations which I had hoped would have carried their own refutation. For instance, the paragraph relating to the construction of the 700 feet of sewer is so gross an instance of perverse insinuation, that I am sure a mere narrative of the facts will prove the worthlessness of such evidence.

I was on my way to attend the Court of Sewers one day, when I met Mr. Freake, the well-known and respectable builder, of Brompton and Eaton-square (called in the report a speculative builder!) He was with his solicitor, descending the stairs, when I said,—"On what business are you here?" He replied,—"We have been praying the court to bring us up an outlet for the vast quantity of sewers which I am about to build on the Smith's Charity Estate, but the court has refused, *as the officers report that there is no sewer in that part of the Fulham-road.*" "Then the court has decided wrongly," I observed, "for there is a sewer there;" and I took him and his solicitor into the ante-room, and, to their surprise, showed them *the line of sewer engraved on the published map of the court.* I advised Mr. Freake to withdraw the second petition, which had been founded on the ignorant and erroneous report of the officers, which had misled the court, to renew his first petition, and so to get a rehearing. The matter was taken into consideration at a subsequent court day. I proved that, so far from there being no sewer in that part, as stated by the officers, there was a sewer engraved upon the plan. The officers then explained that they meant there was only a *road-drain*, and not a sewer. Upon which I submitted, that the court could not, in reference to any means of drainage under their control, recognise a difference, or two classes, as to road-drains and sewers. I shewed that the court had had these sewers made over to them in the most formal manner, some fifteen or twenty years previously, by the Commissioners of Roads; and had undertaken to repair, cleanse, and keep them in order, and had done so ever since. That previously to 1800, the sewers received no other drainage than the water from the roads and lands, and that the admission of soil was not therefore necessary to constitute a public sewer. I observed that the proprietor of one house had been admitted by the court to drain conditionally into this very sewer; and that, according to a most just principle, when parties were disposed to construct public sewers on their property, of the capacity, materials, and depths required by the court, then the commission ought to provide an outlet and discharge. I submitted that the interpretation of the then existing law, of the inability of the court to construct sewers upon new lines, was already injuriously restrictive to the public; that the court had sought as much as possible to act in mitigation of this limitation; and, therefore, instead of rejecting this sewer, so solemnly adopted by themselves, they ought to avail themselves of this fair opportunity of carrying out that principle, and so take up and rebuild this old inadequate sewer or drain, or whatever it might be called, and thus provide an outlet for the petitioner's sewers, and otherwise afford relief to all this neighbourhood. Mr. Luke Flood, the magistrate, in a powerful speech, fully confirmed this view of the case, as did almost the whole court. The old sewer was ordered to be taken up and rebuilt, which received the confirmation of subsequent courts, and the surveyor of the commissioners so fully recognised the advantage of the opportunity for the district, that he extended the proposed line to a further distance, in order to relieve part of another main one. The sewer was built; the court have recovered a considerable portion of the cost from owners of premises on the line, and will in time be repaid the whole of the expense, or very nearly so, as they can *now* compel the owners to drain into it.

The insinuation then is this, that I could so far forget my solemn oath as a commissioner of sewers and my duty to the public, as to induce the court to do an irregular act, at the public cost, in favour of an individual, because he had occasionally to pay me fees as district-surveyor, But I trust that I have proved that I disabused the court from the wrong information given by their officers: that I acted upon a great public principle, and only took a proper course, as a commissioner, to procure to Mr. Freake that which he had a right to expect, and which he had originally applied for,—an outlet for his sewage.

You, Sir, must, I am sure, understand the relative positions of a builder and the district-surveyor. It is, in fact, an antagonistic one. The former is obliged by law to pay fees for service, not rendered to him, but to the public, for constant interference with his building operations, and, as you yourself are aware, occasionally for carrying out regulations sometimes of a vexatious nature. In fact, in all my proceedings with Mr. Freake, he knows full well that I have most strictly and sternly carried out the duties of my office.

The ungenerous colour attempted to be given to this matter, because I happened to be the district-surveyor, I indignantly repudiate. Were a like occasion to happen again, I hope that I have moral courage enough to despise personal consequences, and to stand forth to vindicate a public principle of action, and save an individual from a wrong about to be inflicted upon him through the ignorance and misrepresentation of the officers of the court.

It appears that Mr. John Phillips, the surveyor of the late commissioners for Westminster, and now a joint surveyor of the new commissioners, makes charges against commissioners because they did not concur in all his suggestions, and insinuates imputations because they *presumed to differ from him on some questions of science.* But although I supported some of Mr. Phillips' propositions, I certainly combated others, which, so far from being scientific, appeared to me quite the contrary, particularly as regards the junctions of two lateral sewers with another at right-angles.

I opposed his proposition as to having a timber platform, on which to rest the solid construction of the intended new sewer at Westminster. But I perceive, that the new commissioners are also differing from Mr. Phillips on the subject of this very sewer, and have referred it for revision to Mr. Austin, their consulting engineer. Mr. Phillips imputes personal and corrupt motives to the commissioners; particularly, I understand, to the professional members of the late court. Let us suppose that Mr. Phillips' father and brother had been employed as bricklayers, by the contractors, *upon sewers which he has had to superintend as surveyor* of the commissioners,—that improper work had been done by one of them, discovered by the clerk of the works, taken up, and never reported to the court, as done in other cases? What is the construction that might not, perhaps unjustly, be put upon these circumstances?

As to Mr. Hertslet, I will not bandy imputations, nor pass any opinion as to the motives which could thus have induced him to make such charges against the professional members of the court. But I do claim this from your readers and the public in general, on behalf of the whole body of the commissioners, as well as for myself in particular, that no reliance be placed upon statements and opinions procured by such secret and *ex parte* means. No principles however pure, no conduct however honourable, can be proof against such stabbing in the back. These gross accusations would have been at once refuted, if the commissioner had been allowed the fair chance, the Englishman's right, of cross-examining the packed evidence, and bringing the whole facts of every act and matter connected with these proceedings fairly stated before a *public*, not a *secret* tribunal. They would then have submitted, in conscious integrity and with cheerfulness, to the judgment of their sovereign and the public, whether they had executed the trust reposed in them with uprightness, fidelity, and skill, as far as the laws of the land allowed.—I am, Sir, &c.

Thos. L. Donaldson.

DOINGS IN BRISTOL.

In order to advance the restoration of the beautiful church of St. Mary Redcliffe, Bristol, some of the more earnest minds in that city have associated themselves under the title of the "Canynge Society," and held their first meeting on the 3rd instant. An annual dinner, whereat the amount subscribed during the year is to be declared, and a portion of the building selected for restoration, forms part of the plan. A subscription of not less than 21s. annually, constitutes a member. Mr. J. K. Haberfield, whose name has been long associated with good works in Bristol, is the first president; and the mayor, the vicar of the parish, the chamberlain, and various members of the corporation are on the committee. The idea is due to Mr. Thomas Proctor, who has devoted himself for some years past to obtain the restoration of the church in question, which, as the address of the Canynge Society truly sets forth, "is one of the most beautiful examples remaining of medieval art, and a storehouse of associations, both literary and historical." The new society can scarcely fail to advance this object materially, but it seems to us quite extraordinary that such a step should be necessary in a city like Bristol, full of wealthy men.

The Exchange, one of the best works of John Wood of Bath, is to be restored. We mentioned some time ago that parties contemplated a renewal of the paint with which the stone walls of the quadrangle are covered. Some members of the town council, opposed to such a proceeding, called in Mr. Godwin, the architect, for an opinion, who advised that the walls should be fresh faced with the tool, and in making his report, alluded to the beauty of the building, and its miserable state of decay. This appears to have had some effect, for tenders have just now been sent in for restoring, stone by stone, a considerable portion of the building, under the town-surveyor. The Exchange affords a sad instance of the insubstantial nature of Bath stone. Although but one hundred years old (it was commenced in 1740, and opened September 21st, 1743), it is going literally all to pieces. It is to be hoped that some other stone will be used in the restoration.

The new Guildhall had a narrow escape from fire a fortnight ago, through the inflammation of some coke deposited in a cellar adjoining it. Once before it was seriously threatened. Last week, too, the Council-house and Stock Exchange were placed in great peril, by a fire which broke out in premises which divide the two buildings. The Council-house was at one time on fire.

The question of sanitary reform continues to

be agitated here, and petitions will be forwarded to Parliament, praying for a sanitary bill, when the government measure is introduced next month.

THE CURVE OF GOTHIC ARCHITECTURE.

SIR,—It is gratifying to witness the success that so frequently attends the efforts of our contemporary artists to imitate the structures of mediæval antiquity. I would fain hope that the spirit of the ancient masters is often discernible in their modern pupils. That spirit, which seems not only to assert its presence beneath the fretted canopy of the elaborated cathedral, but to invest with mysterious influence even a fragmental arch in the solitude of ruin.

We have studied much this glorious style, and yet, how vague have been our notions concerning the curve of the pointed arch! that prominent and essential feature. While all acknowledge its simplicity and grace, and perceive the impress of regular and uniform law in its construction — admire the fine flow of its almost parabolic lines, projected from the firmness of its base, to the airy aspiration of its summit—yet, how often is this uniformity violated, and this gracefulness degenerated, sometimes into the tameness of a circular arc, and sometimes into the deformity of a deflection, produced (to use your own forcible expression) by "rule of thumb!"

The arch under consideration is composed of two curve lines, meeting at the apex, and having their tangents at the base perpendicular to the horizon; which curves, for an obvious reason, I would call *monastic;* and I hope to shew that they have their ordinates and abscissæ related to their co-radii by a law as uniform as that which governs the parabola or ellipsis, or any other curve of equation.

It has been usual, when the height of the arch exceeds half its breadth, to consider the curve as struck with a single radius. But, let any one examine our best churches, and he will perceive that the curve has more point at the apex and greater perpendicularity at the base than the single arc of a circle could produce.

In the hope of correctness, but with deference to greater names, I propose the following theorems, in the character rather of a mathematician than of an architect.

1. The monastic curve is always struck with the radii of two unequal circles. Let the minor radius equal r, and the major equal $r + s$.

2. The minor radius projects the lower portion of the curve, and is always a mean proportional between the height, or rectangular ordinate y, and the chord joining the apex and base. The value of this chord, taking the half-width or abscissa to equal x, is, by the well-known property of the right-angled triangle, $\sqrt{x^2 + y^2}$. Hence $r = \frac{y^2}{\sqrt{x^2 + y^2}}$.

3. The complement s, or difference between the two radii, has with the abscissa the same ratio that the chord has with the ordinate: that is, $s : x :: \sqrt{x^2 + y^2} : y$. Whence, $s = \frac{x}{y}\sqrt{x^2 + y^2}$.

4. The product of the minor radius and the complement is always equal to the product of the abscissa and ordinate; that is, $rs = xy$.

These equations may be geometrically projected with the circle and parabola; the monastic curve having a convexity between these two sections of the cone.

Moreover, those of your readers who prosecute the higher calculus, will here find ample scope for investigation. I would remind such that y is the limit of r to which it approaches as x vanishes: and also that when y vanishes, s becomes infinite. Likewise, that the ratio of $(r : s)$ is always that of $(y^3 : x^3 + xy^2)$; and other fluxional analogies will repay the student.

But it may be objected, all this would imply greater analytical proficiency than it is reasonable to suppose the monks ever possessed. I reply, that, whatever the attainments of the ecclesiastics may have been—and they monopolised nearly all the intellect of the day—they might be well versed in the practical application of the following simple diagram, without knowing all the consequences that might thence be deduced by subsequent mathematicians.

I omit, at this time, the demonstration of the foregoing theorems for two reasons: first, because an analyst will find them almost self-evident; and secondly, because every practical man will at once apprehend the annexed construction, with which, I doubt not, the monks were perfectly familiar.



N.B. The centre of the lower arc is at D, and of the upper, at F. AD = r, is on AB, produced if necessary.

Let AB be the half-width, and BC the height of the arch. Produce CB and join CA, to which last line draw the perpendiculars EB and AH.

Then will EC be the minor radius

$$\left(= r = \frac{BC^2}{AC} = \frac{y^2}{\sqrt{x^2 + y^2}}\right);$$

and AH will be the complement

$$\left(= s = \frac{AB \times AC}{BC} = \frac{x}{y}\sqrt{x^2 + y^2}\right)$$

calling AB = x, and BC = y.

We may take x of any value in respect of y; so that the commonly called Lancet, Equilateral, and Tudor forms, are only accidents of one curve of equation, whose elements are expressed thus:—

$$\frac{x}{y}\sqrt{x^2 + y^2} = \frac{xy}{r} = s.$$

Allow me to add, that, other than this, I am not aware that any formula has been promulgated for describing a Tudor arch with a given base and height.—I am, Sir, &c.,

THOMAS LAKER.

Wavertree, near Liverpool.

THE CAB-STAND NUISANCE.

SIR,—At this juncture, when the attention of the Legislature is happily directed to the sanitary condition of towns, is it not strange that the old and abominable system of making open stables of the streets (for such they are, in every sense of the word rendered, by the cab and coach stands) should remain intact? Had the ingenuity of man been employed for the invention of a nuisance, it could scarcely have devised one more effective than that in question.

The thoroughfare is often most inconveniently obstructed; the eye is saluted by heaps of filth and litter; by the poor horses exposed, like their bronze effigies,—happier in being devoid of the breath of life, — day and night in helpless misery to the merciless elements; by the drivers drenching and dripping, half frozen in one month, half baked by concentrated heat in another, sleeping or moping on their driving boxes, or huddled together at the gin-palace door, or collected in groups on the foot-pavement, their profane and coarse ribald gossip too often shocking the ear of the passer-by; neither is the olfactory sense without its participation in the annoyances which this detestable system engenders. It is indeed marvellous that the English, who profess so great an aversion to the effluvia of continental towns, should tolerate any thing so sickening and disgusting. The emanations from the saturated wood, or the puddles of corruption in the hollows (in too many instances large and deep) in the stone-paved streets, are unwholesome to a great degree—an untiring chemist is constantly at work to contaminate the air. Much of the soakage does not even find its way into the drains, but is dissipated only by evaporation, and even that portion which does reach this outlet is often replete with the elements of disease. Now I would suggest, Mr. Editor, that the cab-stands, like the mews, be situated out of the streets; that they be covered sheds so as to admit of the vehicles standing in readiness for immediate use. These buildings might be so constructed as to ensure thorough drainage, complete preservation of the product, and perfect ventilation, as well as to afford every comfort to man and horse, and save much disease and suffering to both. To render them easy of being found, the same plan might be adopted as the admirable one now in operation for securing this advantage to the post-offices. The vehicles might be arranged numerically, and all squabbling for precedence, now so annoying, be avoided. The entrance of each stand might be sufficiently conspicuous, and bell-handles, labelled "coach," "cab," &c. Thus, a person requiring either of these vehicles, would look for the lamp-post indicating the situation of the stand, he would signify his want by pulling the bell, and would find himself accommodated as rapidly and far more pleasantly than at present. To ladies, this system would be a great boon; it is now no uncommon spectacle to see a female applicant for a cab or coach infested, and even insulted, by the several candidates—all alike anxious to secure the *fare*. I cannot conceive that the convenience and comfort of the public would suffer any diminution by such an arrangement, nor do I think the value of the ground necessary for the erection of the stands would form an insurmountable obstacle; its adoption would undoubtedly remove many serious annoyances and evils, promote public health, and annihilate a fertile source of sickness and suffering to the poor drivers and horses; many hours of rest and comfort might be obtained by both, and, as regards the former, many months of confinement within the walls of our hospitals might be avoided, and, I am confident, many a premature death escaped. The life of the poor men is at best sufficiently miserable; at least, let it be divested of its worst horrors (is this term too strong?), the needless, protracted, wearisome exposure, night and day, to all the changes of this trying climate, in that state of post-like inaction which stagnates every energy of mind and body and chills the very blood, for the relief of which the hard-earned coin goes to the gilded palace of iniquity, instilling disease into the vitals of its victim, his home too often remaining a scene of abject poverty and distress.

I am, Sir, &c., F. H. WALLER.

THE IRON TRADE.

THE sudden suspension of the railway works, in progress and projected, and the general panic in commercial affairs, have led to what is now regarded as an 'extraordinary crisis' in the fluctuating health and fortunes of the iron trade; and at the recent quarterly meetings of the masters, although it is admitted—even by those who had previously insinuated to the contrary—that "the settlement of accounts has been generally punctual," scarcely a single new order, even for a ton of iron, has been received; and even if there had been, the almost universal determination of the workmen to resist what they conceive to be an undue or excessive reduction of wages, and the consequent blowing out, and total standstill, of almost "all the furnaces and works of every proprietor in South Staffordshire," Shropshire, and elsewhere, now in progress, would have made the "manufacturers gladly avail themselves of these difficulties to evade orders, which, if taken, it seemed by no means certain how far they could be executed in any given time, or without serious loss." In short, the usual spirit and energy displayed by the 'great masters,' in their measures for the upholding of the stamina of their body corporate, were evidently at a low ebb, since it is declared by one of their chief organs of the press that they did nothing but "feel each other's pulse." The *tonic* felt to be wanted in such a state of prostration, however, was by no means one of *iron*, however excellent; though "neither a pre-

vious glut of that material, nor any sudden nor total cessation of consumption," were so much to blame for the low state of the pulse, as "the unsettled state of public feeling, and the prostration of energy consequent upon the late violent convulsions." In all probability a little *aurum potabile* would not be objectionable in such a case. As it is, the depression is indeed a serious one, and has been much aggravated by the perhaps unreasonable resistance of the workmen,—although in justice to them it must be stated that their objection is one mainly to the amount of the reduction, which they declare that the masters, taking advantage of the necessity for some reduction, propose to make more serious and oppressive, as well as permanent, than really called for even under present circumstances.

The prices of the previous quarterly meetings are admitted to have been merely nominal; and the only resolutions now come to by the masters were the admission of a probably equally nominal reduction of 2*l.* per ton on manufactured iron, and a determination to persist in the reduction of wages to the extent of 15 to 20 per cent.

FREEMASONS OF THE CHURCH.

Jan. 11.—Mr. French in the chair. Communications were read from Messrs. C. R. Smith and Price, on the Roman Amphitheatre at Dorchester, saying that these Roman remains were saved by the Archæological *Association*, and not the Archæological *Institute*, as inadvertently stated by Mr. J. W. Archer, in the society's proceedings.

The chairman exhibited a drawing of the north window intended for the schools at Turvey, Bedfordshire, now being erected from his designs, accompanied by some specimens, full size, of the glazing, which is for a large four-light and transomed window, and having texts of scripture written in old English characters, with borders of blue and ruby glass. The object was to shew that, at a small expense, interest may be imparted along with instruction, the texts, from the New Testament and the Proverbs, being appropriate to children. The school-room is 67 feet long and 27 feet wide, independent of class-rooms, and the whole is built of stone. The design is Elizabethan.

A paper, by Mr. Robert Hendrie, jun., on "The Practice of the Artists of the Middle Ages, as illustrated by Theophilus," was then read. It commenced with remarks on the universal connection between religion and art, and proceeded to give an enumeration of those sciences, which, if not the result of Christianity, were practised in the middle ages under its auspices. Some curious facts were produced relative to the history of alchemy; and a portion of the paper treated of the use made, by mediæval artists and authors, of the great names of classical antiquity. We shall print the essay in full.

The next paper was announced for Feb. 8th, by Sir Walter James, Bart., "On the Nature of Beauty, and Province of Taste, in the Fine Arts."

SUSPENSION RAILWAY FOR STREETS.

The insufficiency of the thoroughfares of New York, for the increasing traffic, is leading our trans-atlantic brethren to consider the possibility of introducing railways through them.* A plan for such a purpose, by Mr. Dewitt, of Albany, is thus described in the (New York) *Literary World*:

"On a foundation, at the edge of the side-walk, and at 25 feet from each other, are placed large iron columns, about 16 inches in diameter, and 16 feet high from the pavement. These columns are designed to be fluted, with decorated capitals, and to serve, wherever needed, as gas-lamp columns in place of present gas posts. On the top of these columns, and extending between them, is placed a light iron arch, three feet in depth, of well-tried strength; and on the top of this lies the iron rail, a single one: 'This,' said a gentleman who shewed us the model, 'is the whole of the permanent structure, and will present a continuous and unbroken façade, from Bowling-green to Union-square, on both sides of the street, of ornamental architectural style, light and airy in its appearance, whose lowest line of obstruction at cross-streets will be 16½ feet high, the whole structure being less than 20 feet in height.' On this upper rail, 20 feet from the ground, the running gear of the cars traverses, and consists of a simple frame carrying between it two wheels (tandem) with the necessary fitting of springs, &c.; from this frame depend proper framings, to which are strongly secured the car-bodies which hang down along side of the columns, on their street side, so that the bottom of the cars overshadows the curb-stone and kennel, at a sufficient height to allow coaches to stand with ease underneath them. These two-wheeled cars, themselves, form the longitudinal section of an omnibus; for the passengers are to sit only on their inner side next to the column." The perpendicularity and steadiness of the car are preserved by apparatus. The floor of the car being 8 or 9 feet from the pavement, access to it is arranged by light iron stair-stations, which the proprietor proposes should be placed at such important points as the convenience of the public may require.

The motive power which it is proposed to adopt is not described, but is to do its work without the annoyance of fire, smoke, sparks, or steam.

NEW MACHINERY FOR BRICKMAKING.

A Mr. Legros has taken out a patent for machines for moulding bricks, tiles, and other articles, by means of which it is asserted superior produce is obtained at less cost than by the present modes. In one of his inventions (there are two) Mr. Legros has adapted the principle of motion on a small railway to the performance of the several steps of the manufacture. For this purpose the rails are laid down so as to traverse on the same level all the buildings in which the various parts of the machinery are erected. The *Morning Advertiser* gives the following description of the machinery:—

"A train of at least eight waggons moves along the line, which is provided either with turn-tables or curves, in order that the train or trains may be maintained in continual circulation through the apparatus, without change of direction. The waggons are divided by fixed vertical diaphragms into so many fixed rectangular compartments, in which the plastic materials are to be moulded. It is in the construction and appendages of these compartments, that the ingenuity and advantage of the machine principally consists. They are provided with floors or bottoms, capable of being raised to the level of the top of the waggons, or of being depressed beneath it to a depth equal to one dimension of the article to be produced. The requisite vertical motion of the floors is provided for by attaching upright rods to them, which, traversing through eyes, render the moulding-box, in point of fact, a rectangular piston-chamber. The rods descend to within a short distance of the level of the waggon-wheels, and terminate in a cross piece, to which small wheels, or trucks, are attached, capable of revolution in the direction of the trains' motion. These interior wheels move constantly in contact with another set of rails, standing higher than the waggon rails, but, unlike the latter, they do not continue in every place at the same level. At two or three points of the line, they are alternately depressed and raised by an altitude equal to the greatest depth of the moulding box, the change taking place by means of a short but abrupt gradient. The floors of the boxes being brought to the level of the tops of the waggons, it is obvious, that on the trains arriving at the descending gradient, the piston wheels will descend also, and thus form the moulding boxes at the tops of the waggons. So long as the interior wheels revolve in contact with the lower level of the second set of rails, the moulding boxes will continue open, but when the train reaches the ascending gradient, the re-action of the small wheels against it will force up the pistons, and with them the floors of the moulding boxes. This being the manner in which the boxes are alternately made and destroyed, the rest of the process will be easily comprehended. The train of waggons moving over the higher level of the second rails, in passing over the descending gradient, the moulding boxes form themselves at the top, and are ready to receive their contents. They then pass under a sand-box, which strews the boxes finely with sand, to prevent the adhesion of the clay to their surfaces. A little farther on they are filled with clay, from a hopper placed close to the place where the clay is dug from, and the superfluous clay is cut off at one and the same motion. From the hopper the train passes through the pressing machinery, the pistons being still at the lower end, and here the bricks are closely pressed in their cases. Beyond this spot the train passes over the ascending gradient, which forces the bricks out of their boxes, and above the level of the tops of the waggons, whence they are carried to the drying place and walled. If this description has been understood, it will be seen that the process suffers no interruption at any stage; the trains being kept in constant performance of the circuit, and the three operations of filling the moulds, pressing, and discharging them, being gone through in rapid and unbroken succession, by the mere motion of the trains along the rails which traverse the machinery. The clay is not prepared in any way, but is dug and transferred at once to the hopper, and thence to the boxes. In this way it is ascertained that one machine will turn out 66 bricks in a minute, or about 40,000 in a day. This machine will effect an economy of 4*s.* on a thousand."

STONE SCREEN IN THE HALL AT MONTACUTE, SOMERSETSHIRE.

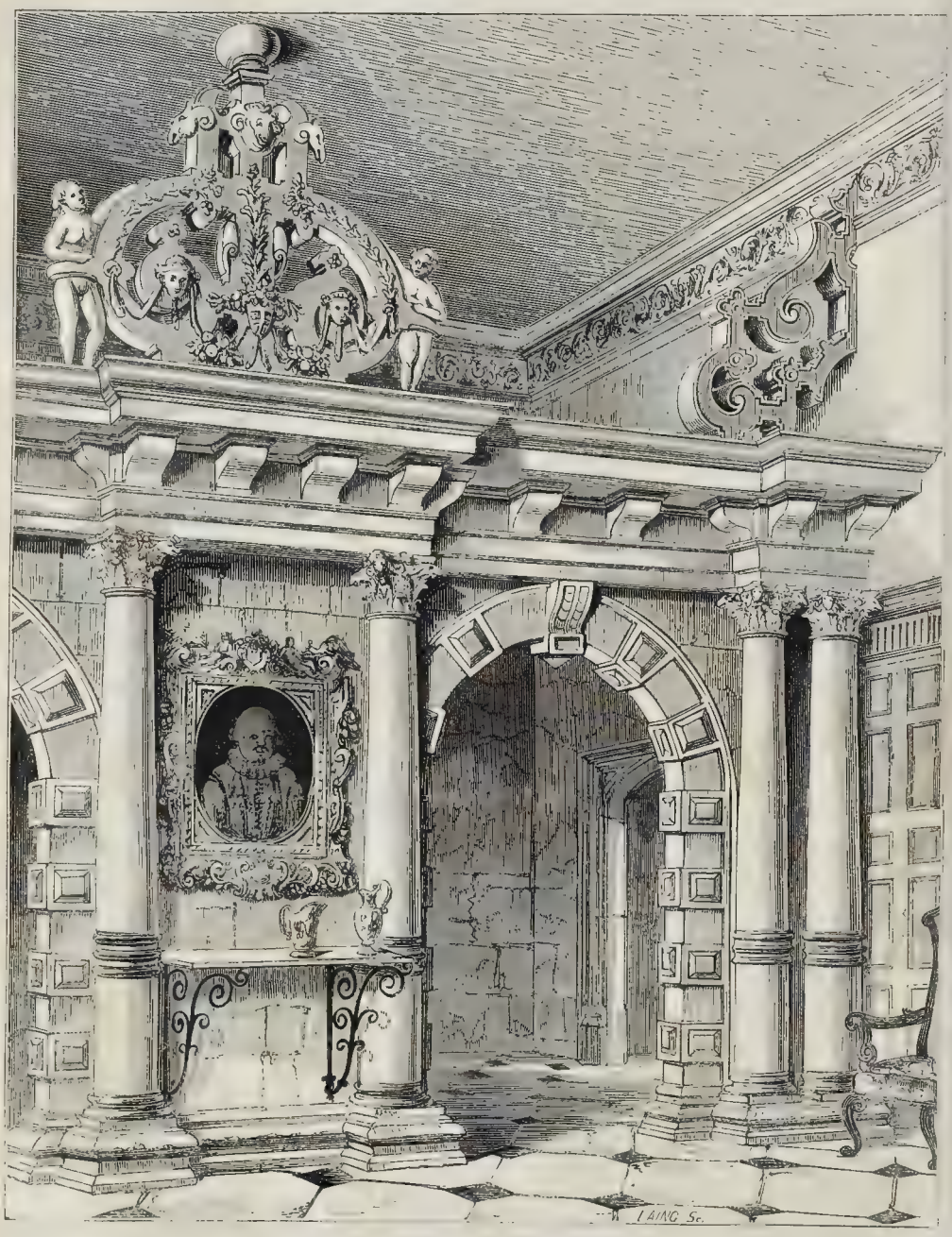
The plate represents a portion of the picturesque stone screen in the hall at Montacute House. It is a regular architectural composition, having two arched openings and columns. At the other end of the hall (which is very large), opposite the screen, is a bas-relief, of coarse execution and design, representing the country custom of *skimmiting* or *stang-riding*.*

The building is very large, the front being 170 feet in length by 70 feet in height. It has a square court-yard, with two picturesque square pavilions, or lodges, at the angles facing the buildings. The sides are formed by an open balustrade, having a small circular temple in the centre of each; these latter are 25 feet in height from the level of the court. Within the building there are several fine panelled rooms; but the ceilings throughout and the stone staircases are quite plain. There is a large gallery, "remarkable only for its extent," being 179 feet long. An addition was made to the north front of the building about the time of Charles II., on the occasion of pulling down a beautiful Gothic residence belonging to the family. The front of this building was brought to Montacute, and placed so that a passage was obtained between the two wings; the centre, containing the great hall, being originally only one room in depth, the house must have been very inconvenient before this addition. It would appear from the introduction of some very elegant screens or door-cases in the principal living rooms, that

* An American correspondent says, "Do the people of New York, or the dwellers upon Broadway themselves, know or imagine the amount of travel carried on by those heavy carriages? I suspect not. On the 20th day of October, I had a count made of all the omnibuses and their passengers, that passed the corner of Chambers-street, for ten hours—say from 7 A.M. to 5 P.M. During that time 1,420 omnibuses, conveying 10,928 persons, passed, being an average of one in 25½ seconds, if regularly distanced from each other. I compute that by estimating for the five hours not counted, and for the changes of passengers during the route of each coach, a very moderate increase, no less than 18,000 persons must have ridden in the omnibuses traversing Broadway in whole or part above the Astor House." We are told that the average number of omnibuses passing the Adelphi Theatre in the Strand during the day is 2,250.

* The *Times*, Aug. 12, 1843, speaking of the state of South Wales during the turnpike riots, gives the following account of *stang-riding*:—"They formerly had a kind of social law for the correction of moral offences, called the 'ceffit prew.' All the neighbours would assemble at night, and carry a wooden horse before the door of the offender, making hideous noises. If this did not effect a remedy, the offending party was again visited, and forcibly mounted upon the horse, and carried about amidst jeers and derision. The same custom existed in Glamorganshire, under the name of 'Scotch cattle,' and some remnants may still be found in the northern parts of England of a similar custom, there called "rough music and *stang-riding*." On these social visits for correcting moral delinquencies, it was customary, while the 'ceffit prew' was going on, to fire guns and blow horns, and make all manner of noises. Sometimes, when a party was forcibly mounted upon a wooden horse, violent resistance was met with, and often bloodshed ensued,—and this led to several severe sentences by Mr. Baron Gurney, which, in some degree, checked the practice. But it is thought by many who know Welch habits and character, that the 'ceffit prew' is an old custom revived, the wrong to be remedied being changed to turnpike-gates, for there are the same secret meetings at night, and the same firing of guns and noises while they are engaged in knocking down the gates."

VIEW IN GREAT HALL, MONTACUTE.



the cold draughts of air, caused by the long passages, the great extent of the rooms, and the lofty windows, must have been felt even in the time of Elizabeth; these screens, which project considerably into the rooms, could only have been introduced for warmth and comfort,—as they are curiously painted and adorned with pinacles and scroll-work. Their effect is very quaint and pleasing: representations of them, with their colours, have been published.

The building was commenced in 1580, and finished in 1601, for Sir Edward Phelips, Knight, the Queen's Serjeant: he was the third son of Sir Thomas Phelips, the descendant of a very ancient family who had migrated into this county from Wales, and who for many years resided at Barrington, near Montacute.*

Montacute House has been possessed and inhabited by Sir Edward's posterity ever since. A few inscriptions on the building illustrative of ancient hospitality are deserving of notice.

* See view of, in a previous volume of THE BUILDER.

MASONIC WINDOW FROM LINCLUDEN ABBEY, DUMFRIES.



On the entrance-door of the building is written in old English character—

Through this wide opening gate
Some come too early, some return too late.

On the north front—

And yours, my friend.

The lodge-doors had formerly, it is said, similar inscriptions—but they no longer exist. In the memory of a gentleman residing near the spot, they were—

Remember the hours.

and

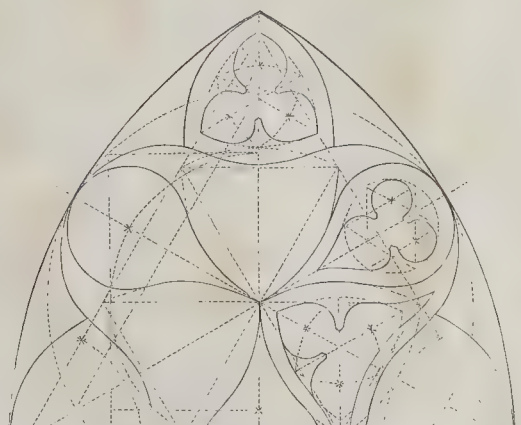
Welcome the coming,
Speed the parting guest.

MASONIC WINDOW FROM LINCLUDEN ABBEY, DUMFRIES.

In the ruined Abbey of Lincluden, near Dumfries, Scotland, there is a window which exhibits the same peculiarity of design characterising the one in Linlithgow Church, engraved in the number for July 31, of The Builder.*

The accompanying drawing is a restoration of this window. At present only those parts of the tracery which are connected with the arch remain, and these are delineated from measurements taken last autumn, and the other parts elucidated from them with the aid of geometry: it has been the centre window of the south aisle; in the others the tracery starts at the springing line, in the usual way. The mullions are 5½ inches, and the tracery 5 inches in thickness; the fillet 1½ inch broad in both.

* See p. 363, vol. v.



KEY TO CONSTRUCTION OF WINDOW.

The *key* appended to the drawing exhibits very distinctly the geometrical construction of the design. I have not the corbels to the label mouldings of the outside, and have therefore to leave their places blank; they are, to some windows, escutcheons, to others animals. Except in the chancel, there are no labels inside.

The chancel, south transept, and two of the

three bays of the south aisle, are all that remain of the abbey, besides parts of the domestic buildings, namely, two towers, 60 and 70 feet high respectively, and some plain vaults. Of the church, the tower at the intersection, and south transept, were first erected; then the south aisle, and probably the nave and north aisle, now entirely destroyed, and lastly the chancel; and although all of the decorated period, the progression of style is very observable.

The Abbey was originally a convent of Benedictine nuns, founded in the twelfth century; but towards the close of the fourteenth, Archibald the Grim, Earl of Douglas, established in their place a provost and twelve beadsmen. This nobleman died in 1400, and the erection of the present building may be ascribed to the period of the change of occupation.

In the chancel are a piscina, three sedilia, Easter sepulchre, and sacristy door, all of beautiful design and execution, but mutilated; in the transept, a small plain piscina, and a bracket by the side of a window on the east wall, probably for a crucifix. The Easter sepulchre is also the tomb of the Lady Margaret, Countess of Douglas, a daughter of Robert III. W. R. CORSON.

*** An examination of the manner in which this window is geometrically constructed (by means of the key given by our correspondent), will be found interesting and useful.

NOTES IN THE PROVINCES.

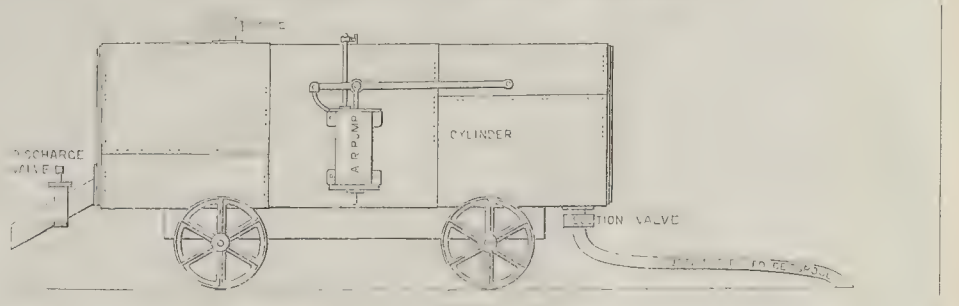
A SELF-TAUGHT and amateur sculptor at Romsey, Mr. Francis Taylor, surgeon, has prepared, and by permission erected, in the Abbey church there, a memorial in form of a tomb, of Caen stone, which is said to be attracting some attention. The interest of it seems to be centered in the form of a dying child, on its little pallet,—a portrait it is said,—with the stalk of a moss rose snapped in its fingers, and the simple motto, "Is it well with the child?—It is well." —— The rudiment of a fund for the establishment of a "model-parish" has been collected at Birmingham, to the extent of 1,700*l*. A total abstinence from the use of intoxicating liquors, [and an effectual prevention to the substitution of laudanum or other narcotics?] is to be an essential principle in carrying out the scheme. As the funds augment, it is proposed to proceed to the erection of a church, a parsonage, a college, and schools, all on a site selected near some railway station, or in some new district, where a fresh population is springing up, or where a church and schools at least are required; the district to be secured to trustees, of whom the Rev. Dr. Marsh, of Leamington, is one, for carrying out the objects of the institution.—— The "ironmen of Birmingham," as they were wont to be called, have signalised themselves, says the *Iris*, by an act of noble liberality perhaps without parallel. At a meeting of the board of Queen's Hospital, the committee of the "Artizans' Penny Subscription Movement," originated entirely by working men, have presented the magnificent sum of 924*l*. 18s. 9d. as a new-year's offering towards the funds of the hospital! At the same board the medical and surgical officers paid over the sum of 342*l*. fees from pupils.——Two untenanted houses in New Bird-street, Liverpool, have just committed suicide on the eve of execution, having fallen of their own accord, about two days previous to the time appointed by the surveyor for their demolition, thus saving trouble and expense, besides avoiding, with something like dignity, the ignominious doom designed for them. It is remarkable how seldom fatal accidents happen on such occasions.——The Liverpool council, in recently discussing the propriety of increasing their surveyor's salary from 700*l*. to 1,000*l*. a year, —respecting which it does not clearly appear from the report to what conclusion they arrived, if any,—elected Mr. Weightman to that office. ——A correspondent of the *Albion*, writing on Saturday week, states that the Art-Union subscription list, to be closed on the following Monday, only exhibited an amount of 200 tickets sold, and earnestly trusted that he might not find it "stated in the papers that Liverpool could only raise 200*l*. for a local Art-Union."——The church at Saxby, Trentside, nearly the whole of which was lately pulled down, is now in course of rapid re-edification. —— The Earl of Zetland is shortly to lay the foundation-stone of the Sunderland Docks.——A sanitary association has been set on foot at North Shields, which according to the *Gateshead Observer*, has great need of sanitary reform, although very favourably situated for a system of efficient drainage.——Jedburgh Abbey is undergoing the process of restoration, at the cost of the Lothian family, and not of the Commissioners of Woods and Forests, as has been erroneously stated in some of the newspapers.——The town council of Hawick, instead of forming a *race course*, have agreed to expend their surplus funds in improving the town lands, and in supplying the inhabitants of the town with water at threepence per pound on the rent.—— The National Bank buildings in Queen-street, Glasgow, are advancing towards completion. The elevation is of two orders of architecture, divided by a massive cornice extending round the whole of the building, and protected from the street by a balustrade. The lower division is of the Roman Ionic order, the upper of the Corinthian, and pilasters of a suitable character are inserted in the spaces between the windows. The main entrance is supported on either side by two light pillars; the semi-circular space above the doorway is sculptured in relief; and the building is surmounted by a large piece of sculpture. The ceiling of the large central apartment, to be used as the telling-room, is decorated, and the curve of the cupola is being filled with stained glass. The architects are Messrs. Gibson and M'Dougal; sculptor, Mr. Thomas; inspector, Mr. Newlands.

RAILWAY JOTTINGS.

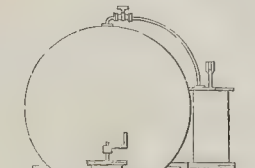
A PRACTICAL question of some importance to contractors was recently brought before a provincial bench of magistrates. Mr. Thomas Nicholson, contractor for the Standedge tunnel on the Huddersfield and Manchester line, was summoned by a miner for arrears of wages, on the ground that he had got only a general notice of reduction in the amount of his wages, according to the usual practice, without intimation of the precise amount of the reduction to be made. In support of his claim, Mr. Roberts, of Manchester, known as the miners' Attorney-General, argued that the law as to use and wont, or custom in general, supported only such customs as did not involve an uncertainty, whereas a mere general notice of intention to reduce the amount of wages did involve an uncertainty, and ought not to be held good in law, otherwise an employer might reduce wages for a number of weeks, as in the present instance, to any amount, without such intimation as would afford the workman an opportunity of resisting an unreasonable reduction. The question, however, may be said to have only been thus far started, as the demand, in the present instance, included the arrears of several pay-days; and it was decided that the acceptance of the reduced wages, and the continuance of the workman in his employment notwithstanding, afforded a complete homologation of the amount of the reduction itself. But since the above was written, another decision has come under our notice, in a case recorded in the *North British Mail*, in which Messrs. Stephenson and Co., as contractors on the Caledonian Railway, were called upon for payment of arrears alleged to be due to a number of the labourers in their employment, under circumstances somewhat similar to those above referred to, and probably involving "a review of the whole payments of the 20,000 labourers employed" on the line in question, from the commencement to the termination of the works. The sheriff, nevertheless, decided in favour of the plaintiffs, remarking that he thought the acceptance of the sum paid to the men did not foreclose them from endeavouring to obtain the full amount which they considered due; especially as it appeared that they had immediately afterwards challenged the sums which they had received.——In another case recently argued the magistrates were inclined to decide against a contractor for wages already paid in 'tommy' tickets, on the ground that truckery was not 'the current coin of the realm.' On a point of law however as to the stone excavated being applied or not applied to beneficial purposes, the plaintiff was nonsuited.——A model and description of a malleable iron chair was lately submitted to the Scottish Society of Arts by Mr. Robb, of Haddington, the advantages of which he stated to be, greater strength, and thus additional security in passing sharp curves, better fitting with the rails from being cut true to pattern, and superior fitting of keys with less rigidity. Mr. Robb thinks they could be made cheaper than cast-iron chairs, and stronger, though one-half lighter, saving a cost of carriage of 50 per cent.——A bridge on the branch line from Rawtenstal to Bacup having been damaged lately by floods, gave way and fell while four men were engaged below in repairing it, burying them in the ruins, killing two of them and severely injuring the others. ——The really most urgent necessity for some such liberty of range of movement for the guards along a train in transit as we have suggested, not only for immediate and personal communication with the passengers, but with the engine-driver and stoker, was lately displayed in circumstances wherein no mere apparatus of communication between guard and driver, however excellent and effectual, would have been of any ayail: we allude to those circumstances under which a train was lately found to be flying along on a wrong line of rail at a fearful rate of speed, while the engine-driver and the stoker both lay in a state of drunken insensibility on the engine! Had the guard not been possessed of sufficient courage and steadiness of head to scramble along the tops of the carriages, or had his brains been dashed out on the keystone of some bridge, as has often happened, it is fearful to contemplate the results not only to the train itself, but to another on the eve of meeting it midway in its reckless flight, and all for want of a slight alteration of the foot-boards along one side of the train, which would thus be subservient to so many purposes, and obviate at once all need for other or less practical or more expensive modes of conveying intelligence either between guards and drivers, or between passengers and guards. ——The citizens of Edinburgh were lately congratulating themselves on the removal of the Theatre Royal, with its dead wall facing the north bridge, and the erection in its place of one of the official palaces of the 'Railway Princes,' but their satisfaction has been materially diminished by the announcement that one dead wall is merely to be substituted in the place of another, only still closer to the bridge, which, moreover, it is proposed to disfigure by an unsymmetrical superfœtation, 'likened to a hurdle, or to one pannier on a donkey's back,' along one side of it, for the increased accommodation necessary from the establishment of a station at its northern extremity. "It is not likely," as the *Register* remarks, "that the citizens will consent to such ugliness in the centre of Edinburgh. A refined community must be jealous of the beauties committed to their keeping, and suffer them to be deformed on no commercial account whatever. Architectural elegance as much subserves utility—is as utilizable—as convenience or material gain. The Council will be bound to resist the project to the uttermost—the *sine quâ non* of any compromise being the widening of the bridge gracefully on both sides, and the erection of buildings corresponding with those on the opposite side. Should the Company consider this hard upon them, probably the city will not grudge contributing to the surplus expense." ——In 1839 the price of locomotives in France was 300 francs the 2 cwt.; the price in 1847 is 225 francs. In 1839 the French workshops produced only twenty to twenty-five locomotives per annum; in 1847 the railways can obtain 300 to 400 locomotives from the workshops of Paris, Rouen, Creuzot, Mulhausen, and Arras.

MODEL OF THE TABERNACLE.—A singularly elaborate model of the Tabernacle, and another of the Encampment of the Israelites, made by the Rev. R. W. Hartshorn, are now being exhibited at the Gallery of the New Water Colour Society, in Pall Mall. It includes the whole of the sacred paraphernalia, and is an extraordinary example of patient skill and biblical research.

CYLINDER AND PUMP TO EMPTY CESSPOOLS.



SIDE ELEVATION.



END ELEVATION.

METROPOLITAN COMMISSION OF SEWERS.

We last week alluded briefly to a general meeting of the Commission of Sewers on the 13th,* and now give the proceedings more in detail, in consideration of their importance.

Amongst the accounts of the late Poplar Commission, a bill of "18*l.*, for tavern expenses," being objected to, was withdrawn, the old commissioners desiring that withdrawing it might not be implied to admit that they had done any thing but what their predecessors had been entitled to do for seventy years.

Mr. Hertslet reported that upwards of 3,000 notices had been served upon parties in Westminster, calling upon them to drain their houses into the public sewers.

On a petition being presented from the Westminster Improvement Commissioners, in reference to the proposed new Victoria-street, Mr. Chadwick thought, as a difference of opinion existed between the surveyors on this subject, the matter should be referred. Mr Austin's mode of drainage was, that, as the greater part of the district was below high-water mark, the sewage should be pumped out by machinery. Mr. Phillips' plan was by lowering the outfalls, and thereby forming an estuary in the Thames. He moved that the subject be referred to Mr. Austin to report thereon, and, when made, the court could then take the principle into consideration. The motion was agreed to; but, at a later period of the proceedings, Mr. Phillips was also ordered to report.

A letter was read from Dr. Guy, calling for the interposition of the powers of the court in Prince's-street, Holborn, where several cases of typhus fever had occurred from the want of drainage. The matter was referred to the surveyor, Lord Morpeth hoping that cases of typhus fever would receive the earliest consideration.

The clerk said, in reference to a question put by Lord Morpeth at a former court, as to what became of the sewage in Paris, that Mr. Bardwell had called upon him, and had made the following communication in writing:—

"These contents are carried to Montfaucon, and there deposited upon an inclined plane, down which the more liquid part runs, and is received progressively into different reservoirs, in which it deposits every particle of solid matter, for the water in the last reservoir appears perfectly limpid, and is then allowed to escape. On examining Montfaucun two years ago, I was surprised to find the people employed there were far from appearing sickly, and the children dwelling in the houses around looking ruddy and healthful; it is said, however, that the effluvia from Montfaucon is very injurious to the patients in St. Louis's Hospital, and the Government had determined to abolish the lay-stalls at Montfaucon, and to form a railroad for the purpose of conveying the filth usually deposited there to some distant forest."

In obedience to the following resolution—"That the clerk do write to the Commissioners of Police, requesting the superintendents of the various divisions to report for the information of the Metropolitan Commissioners of Sewers what localities are in the greatest want of drains, and where the inhabitants are most suffering from the accumulation of offensive matter"—agreed to at a former court, a most voluminous report was presented, including returns from every division, and setting forth the want of drainage.

Mr. Chadwick thought that similar reports should be made on the paving and surface draining, as he had no doubt it was equally defective with the underground drainage.—Mr. Byng said the report was good as far as it went, but it did not go half the extent that he could have wished. He wished the whole amount of ill laid bare, that the public might know the state of that Augean stable they had undertaken to cleanse.

Mr. Leslie said, that having to make inquiries into the state of Kensington some time since, he ascertained that in Jenning's-buildings, consisting of twenty-six houses, no less than 1,360 persons slept there in one night. There was but one closet for the whole of these persons, and yet this place was not more than 50 feet from the main road of Kensington, and within a few yards of the palace.

The clerk then read the surveyor's report on cleansing and flushing of cesspools and sewers, some points in which we gave last week. We take the following further extracts:—

"We have continued the emptying of cesspools in courts and alleys, accompanied by the use of the disinfecting fluids, by the pump, with flexible drain or hose attached, and each case of removal of the diluted soil by the pump to the nearest sewer has been followed with the success we anticipated, both as regards economy and freedom from noxious effluvia."

"We have spent one day in trying the degrees of efficiency of the disinfecting fluids of Sir William Burnett, Mr. Ellerman, and Mr. Ledoyen.

"The agents of these parties have not as yet furnished us with the prices at which they will supply the fluids in large quantities; and, as we purpose shortly to try other means, we are not prepared to fix an average price at which cesspools may be emptied. We may, however, state that for small cesspools the cost will not exceed one-sixth of the ordinary charge; and for large ones the cost will be proportionably less, including the additional means of comfort and of freedom from annoyance.

"The contents of one large cesspool, equal to 24 loads of soil, were pumped out in 3½ hours, at a cost of 24*s.* Under the old system three nights would have been occupied in emptying the cesspool, and it would have cost at least 24*l.*"

"We are proceeding with experiments to ascertain the velocities of water and of air through glazed stoneware, glass, and other pipes, so that we may be enabled to compare the data so obtained with our practical experience of the velocities of running water in the sewers."

On the motion of Lord Ashley, the report was ordered to be printed and circulated.

An application was received from the vestry of St. Andrew's, Holborn, for the loan of the new pump used in emptying cesspools.—Mr. Roe said the parish might obtain one for themselves, with hose and apparatus complete, for 15*l.*, and he would give them every facility for obtaining it. An answer to this effect was ordered to be sent to the vestry-clerk of Holborn, and all the other vestry-clerks within their jurisdiction.*

Mr. Chadwick said rules had been drawn up for the guidance of voluntary associations in the country, as the power of this court was confined to the metropolis; and Lord Ashley and himself had determined upon giving up their salaries for the purpose of trying experiments in the cleansing of courts and alleys.

Mr. Hutton.—And no doubt in this you will be joined by the whole of the commissioners.

Mr. Chadwick remarked upon the alarm that appeared to have been excited in the minds of parties at the removal of the refuse of the sewers into the river Thames. There could be no doubt that this practice was in itself objectionable, but he hoped by their arrangements it might be hereafter altogether prevented. At the same time he considered it as a choice of evils, quite inconsiderable with the evil of retaining the accumulations in cesspools in houses, or by the removal to lay-stalls, where the most noxious exhalations were emitted therefrom. He found that the proportion of cesspool matter was as only 1 to 10,000 parts of the quantity of water, and with the whole of the street matter added, it would then be as 1 in 5,000. The quantity of cesspool matter had been greatly exaggerated, for it was ascertained that according to Liebig's data, the whole produce of two millions of people might be discharged through a 7½ inch tube in twelve hours. It had also been observed that a considerable proportion of the pollution of the Thames arose from the discharge into it of mineral matter, gas, &c., and from the great increase of sediment by the passage of steam-boats up and down the river.

The clerk then presented a report from Sir H. de la Beche and Mr. Chadwick, on the proposed Ordnance survey of the metropolis, from which we make some extracts:—

"We have the satisfaction to report, that in answer to the questions transmitted to the office of Ordnance respecting a block plan of London, for drainage and other purposes, required by this commission, Colonel Hall, superintendent of the ordnance survey, has forwarded to the inspector-general of fortifications the accompanying letter and memoranda, from which it would appear that a block plan of the metropolis, and of the suburban districts included within a radius of eight miles from St. Paul's (the same area for which the estimate for a detailed map was given by Major-General Colby), may be executed, with a proper system of levels, for 24,215*l.*, and that the cost of engraving the block plan, upon a scale of five feet to the mile, and upon 901 plates of double elephant size, would be (including 3,601*l.* for the copper) 12,614*l.*, making together, 36,829*l.*

Although the superintendent of the Ordnance survey expresses regret that a new map of London should be executed only as a block plan, including a proper system of levels, without the great detail inserted in the plans executed by the Ordnance survey for towns in the north of England,—a regret no doubt founded upon a desire not to produce a map of London inferior in detail to the plans of such towns,—we would observe, that in the questions proposed to the Ordnance we have looked strictly to the pressing requirements of the Metropolitan Commissions of Sewers, and consequently, that we did not advert to details which were not immediately connected with them.

It appeared to us very important that the commissioners should, with as little delay as possible, be placed in a situation to comprehend the kind and amount of drainage at present existing in the districts confided to their care; so that, these being ascertained, effective measures might, without loss of time, be taken to remedy the evils which have arisen from divided and independent jurisdictions over the general area; regarding this area, therefore, as a whole, bringing its drainage into general system, and securing greater efficiency at reduced cost.

To obtain the needful evidence, an effective plan, with a proper system of levels (recorded in convenient situations by a sufficient number of permanent bench-marks), is, in our opinion, essential.

We consider the block plan proposed to be sufficient for the purpose contemplated, presenting also the advantages of greatly reduced cost and more speedy execution.

At the same time, it lays the foundation for any amount of detail for topographical, administrative, or sanitary purposes, which either the Government or public bodies interested may hereafter think advisable. Transfers, or copies of parts of such a plan, could at any time be obtained by public bodies for their own cases.

With copies of such parts as a foundation, administrative authorities, water and gas companies, and others interested, could insert any thing they may consider expedient—thus employing a correct work as a base, and avoiding the cost of constructing a new plan or map from its commencement."

* In several of the morning journals the proceedings of the above court were announced as of "*the first meeting*" of the commission, although, as the readers of THE BUILDER know, no less than three courts had been previously held, at which important business was transacted, and correctly recorded in our pages.

* Annexed we give an engraving of a cylinder and pump contrived for removing soil from cesspools innocuously.

"Considering the great advantage that would result from securing the work on copper, and the ready means of multiplying correct copies of it when so secured, we would recommend that the plan of London and its suburbs should be engraved on copper; and we believe, should these recommendations be deemed worthy of adoption, and the plan be completed, that the inhabitants of London and its suburbs will be possessed of a document of great practical value to them for many purposes, and more especially important for their sanitary condition."

Lord Morpeth said that this was the proper time to mention that her Majesty's Government, having considered the representations of the Sanitary Commissioners as to the urgency of the demands for proceeding with an approved and authorised survey of the metropolis, and the loss of time that must occur in obtaining an Act of Parliament for the distribution of the necessary charges for a survey, containing all the particulars that might be eventually required in a complete survey, had considered that the triangulation and levelling, and the preparation of a block plan—the essential and most urgent portions of the survey—should be commenced, and as early as possible completed, under the direction of the Board of Ordnance, and that the expense of those portions of the work should be defrayed from the annual votes of Parliament, the execution of the survey in other parts of the kingdom being, in consequence, spread over a large portion of time.

Mr. Leslie felt much gratified at the announcement made by the noble lord. Pecuniary considerations were nothing compared with the delay that must arise in getting an Act of Parliament. He moved that the report and communication should be received and adopted.—Mr. R. L. Jones seconded the motion, which was unanimously carried.

Mr. Chadwick made a few remarks on the subject of the want of system in laying down drains—not being at proper levels—and said, however perfect the materials, without proper levels the best motives would be frustrated. From the want of system in the Holborn and Finsbury division, 260,000*l.* would be required to remedy the evil, which would make that amount almost thrown away. He was happy to say they had the assistance and co-operation of Sir H. de la Beche in forming the survey, who, being thoroughly conversant with the subjects of geological strata, the nature of springs, &c., a great deal of new matter would be, for the first time, introduced into a survey of this description, and, when completed, would be of infinite value, and worthy of this great metropolis.

In reference to the Greenwich Commission of Sewers, the clerk, in answer to Mr. R. L. Jones, said there was not a single sewer in Greenwich, although a body had existed denominated the Greenwich Commissioners of Sewers.

Mr. Byng wished to ask of Mr. Austin the amount of works proposed but not executed, in Surrey, by the late commission; or which, if executed, would be useless, or stand in the way of future improvement? — Mr. Austin said that at first 100,000*l.* were proposed to be raised for works, the greater part of which would stand in the way of improvement.—Mr. Byng: Was that amount all that was required to complete their works?—Mr. Austin replied that it was at first proposed to make 16 miles of main sewers, but eventually it was intended to make 100 miles in an area of 4 miles. By a general adoption of the converging principle of drainage, he thought a saving of between 300,000*l.* and 400,000*l.* might be made.—Mr. Byng: What sum would complete the drainage of the district on this principle?—Mr. Austin: 200,000*l.* would be sufficient to complete the same area of 4 miles.—A report was then ordered on the state of the works in hand.

A letter was received from Mr. Gwilt, one of the surveyors of the late Surrey and Kent commission, complaining that, after forty years of service, he was compelled to act under men junior to him in experience, and vindicating the system adopted in that division. A letter was ordered to be written to him, stating that if he felt that he could not consistently carry out the plans of the new commission, they should not decline receiving his resignation.

THE CITY SEWERS.—At a late meeting of the City Commissioners of Sewers, a report was read from a select committee who had been engaged in looking into the question of flushing sewers, and they recommended it should be adopted by way of trial in the eastern portion of the city. They also recommended the introduction of the engine that has been recently made with a view to empty cesspools in places not readily otherwise accessible: and this was also adopted. It was likewise recommended to build sewers in small courts and alleys, and to introduce the use of earthenware sewers, with a tank of water at the head of them, in these places. The court determined on proceeding at once with these works as an experiment.

THE FAILURE AT THE EUSTON-SQUARE STATION.

OUR remarks last week on the manner in which the inquiry, touching the cause of the much-to-be-regretted failure at the Euston-square station, had been conducted, will not be without avail.* The death of another of the workmen who were injured by the fall, led to a second inquest, which was opened on Thursday morning last, by Mr. Wakley, the coroner for Middlesex, at the University College Hospital.

Before entering on the inquiry, the Coroner remarked on the importance of arriving at a full and satisfactory knowledge of the cause of such accidents when they occurred, and inquired if there were any architects in the room ready to give the jury the benefit of their opinion in the present case.

Mr. Hardwick said, that the Company, and he personally, were most anxious that the cause of the accident should have the fullest investigation possible; he had, therefore, invited the attendance of Mr. E. Blore, Mr. Shaw, and Mr. Tite, who were then in the room, and would answer any questions that might be put to them.

The Coroner said he was very glad to hear it, as it was most desirable the truth should be arrived at. If neither the cause of the accident could be explained, nor means to prevent a recurrence of it devised, he should almost conclude that architecture was not a science. Some little conference with the jury was necessary, and he would therefore request the public to withdraw.

On being again admitted, the Coroner said that the jury felt with him the extreme importance of the inquiry, and were unanimously of opinion that a letter should be addressed to the Government, requesting that an architect might be sent from the office of Woods and Forests to examine into the cause of the failure, and give evidence to the jury. After taking evidence as to the death of the man, the inquest would be adjourned till Monday week, to be resumed on the spot, at the station, so that if science should be at a loss for the cause, the strong common sense of the jury might lend its aid. He hoped then to have also the assistance of Messrs. Blore, Shaw, and Tite, than whom no men could stand higher.

Mr. W. Cubitt, who was present, offered every assistance in promotion of the inquiry.

EFFLUVIA TRAPS.

SIR,—I observed in a late number of your journal a stirring diagram of a self-acting effluvia trap, registered by Messrs. Bunnet and Corpe, pouring down a splendid shower of mud and water. Permit me to state that I have had a trap, precisely on the same principle, in use in my district of sewers for Surrey and Kent, for upwards of sixteen years. Their agent lately called on me to request I would introduce their invention, but when I shewed him my model, he said that, with the exception of a slight, and that, in my opinion, an objectionable alteration, in the shape of the basin, it was precisely similar; he then took up his traps and walked. Another inventor of effluvia traps, a Mr. Walker, called on me. Immediately he inspected my model, he said, "Had I seen this before, it would have saved me 300*l.* in prosecuting my invention."—I am, &c., JOHN NEWMAN.

Tooley-street, January 17, 1848.

*** Mr. Davis, of Frome, has sent a drawing of a trap registered by him in July last. It is similar to the trap referred to by Mr. Newman, with the addition of a second basin below the first.

WROUGHT-IRON CONSTRUCTIONS.—The same manufacturer who executed the Palm-house at Kew, illustrated last week, is now preparing a roof for the Liverpool terminus of the North-Western Railway, constructed of the same kind of iron (the application of which to that purpose he has patented), to cover a span of 153 feet, without any intermediate support whatever.

* We have to acknowledge the receipt of a number of letters on the subject from men of various degrees, but do not consider it desirable to publish any of them at this moment.

ENGINEERS AND ARCHITECTS.

VERY considerable dissatisfaction has been expressed by some of our correspondents on the ground that, while the architects who were engaged as surveying officers in inquiries last year, under the "Preliminary Act," had in no case been paid more than five guineas a day, the civil engineers, who were employed on the same errand, claimed and received double that amount. It seems scarcely likely that the Government drew such a distinction: the difference must have originated in the *modesty* of the architects themselves, who have not been on quite so many Government inquiries as the engineers, and were, probably, and very properly, anxious not to overstep the mark.

Correspondence.

PREVENTION OF ROT.

MR. EDITOR,—In answer to your correspondent, "T. G.," as to the best method "to remedy a house that has the dry rot," I would suggest the following as perhaps some of the most simple, but effective modes of remedying, and perhaps overcoming the evil:—In the first place, as far as is practicable, well drain the whole of the land in the vicinity of the house, also insert drains under and through the house, conveying the water away into a main drain or tank, and build dry areas round the house, to prevent the wet and damp soaking through the walls. Dig out and remove the present earth under the several floors of the house down to the foundations, and fill the space in with dry lime, rubbish, and smiths' ashes, and which might be made into a concrete. Well wash the internal walls and timbers, where practicable, with hot lime water and copperas. Rake out the mortar joints of the brick or stone walls throughout the thickness of the walls, at the height of 2 ft. 6 in. or 3 ft. from the ground, and insert sheet lead or plates of zinc, pointing the same carefully with cement; also under the dwarf walls, to receive the sleepers and joists, and under the partitions. Insert air gratings under the several floors, and one of Dr. Arnott's ventilators in the chimney flues of each room, near the ceiling, to carry off the bad and damp air. These appear to be some of the most effectual modes of overcoming the evils complained of, at the same time taking care to admit air to the roof timbers.—I am, Mr. Editor, &c.,

A SUBSCRIBER.

*** A free circulation of air is the main thing to be attained. We advise "T. G." to call in some respectable architect, so that the cure may be made effectual.

Miscellanea.

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of a hotel and promenade room at Redcar; a church and parsonage-house at Penge, Kent; an additional court-house and offices, at Swansea; certain alterations, and the erection of certain works at the Hackney Union workhouse, Lower Homerton; the works to be executed in the construction of a floating dock at St. Nazaire, Préfet of the Loire Inferieur (masonry and carpenter's work now estimated at 148,053*l.* odds, workshops and machinery, 7,755*l.* odds, levelments, 62,247*l.* odds): also for the construction of a tunnel at Macclesfield for the London and North Western Railway Company; the erection of workshops in connection with locomotive engine-house at Wellington station, Leeds, for the Leeds and Bradford Railway Company; the work to be done in the erection of a villa and offices at Worcester; the execution of works required in construction of a reservoir for training schools at Swinton; and for a supply of 1,000 tons of unbroken Guernsey granite for Limehouse and St. Pancras.

THE CHIMNEY SHAFT IN KEW GARDENS.—The chimney shaft for the Palm stove at Kew, illustrated last week, is masked by a campanile 17 feet square, constructed of white Southampton bricks with red brick cornice, and surmounted by an octagon turret: the whole height from the ground to the top of the roof of the turret is 90 feet 6 inches.

The Struggles of the Poor.—Relative to some communications touching competing newsvenders and other minor traders, we feel impelled to say that we do think it an unfortunate circumstance that many of those elevated more or less above the sphere of all that interests and affects the lowest orders of society, are so prone to comprehend within one indiscriminate sweep of condemnation all that humble organism of petty trading and competitive struggle for a livelihood, which defective sight alone, or want of, as it were, more close and microscopic observation, causes to appear, upon the whole, a mere immoral mass of rank corruption, while in fact it is but a diminutive epitome, in good and evil, of the very same mixed motives, impulses, and interests, anxieties, and struggles, which pervade the higher classes of trade-competition; with, it may be, as much knavery, but we will venture to say, with not a whit less honesty or morality of principles, or industry, and with in general a patient self-denial, and a praiseworthy economy, exceptions notwithstanding, which it would be well for *their* eternal welfare that those in much less imminent peril of starvation would endeavour to imitate. True, the steady effort of self-denial which will induce many a poor newsvender to deprive himself of a glass of a fatal stimulant, or even his hungry family or himself of a morsel of food, in order to reserve his little capital of shillings for a new outlay in the daily speculations of his humble trade, may be said to be the acquisition of a mere mechanical habit of mental steadiness, in the daily exercise of which he may be thought to have no more moral merit than the mason or the slater in that physical steadiness of head which he imperceptibly acquires in the perilous exercise of his industrious calling; but it is just such a steadiness and self-denial as must tend, and powerfully tend, not only to sustain him on the brink of moral peril and temptation, but to aid the pious and the good in the promotion of those very eternal interests which our correspondents seem to think that merely pushing them out of a *dangerous* position—out of sight, in short—even though it be, to all probability, over the brink of the precipice, and into the abyss of reckless misery and starvation itself, is the best way to promote.

Lectures at the Society of British Artists.—Professor Ansted will commence a course of lectures on the 31st instant, at the gallery in Suffolk-street, "on the physical features and structure of the earth, in reference to the picturesque representation of nature." The lectures will include the following heads:—*The Atmosphere:* nature and composition of air; its relation to the eye and to vision; its relation to the picturesque. The ordinary condition of air with regard to aqueous vapour. Production of various aeriel effects. Clouds; their form and colour. Various effects of refraction, modifying apparent distance and form. Tints of colours of the morning and evening light; sunsets; meteoric phenomena; moonlight effects. *Water:* the distribution of it; moving water and still water; the sea. Waves; their influence on the picturesque: fresh water, brooks, rivers, &c.; glaciers and icebergs. *Land:* form and structure of land. Surface covering. Influence of the parent rock on the physical configuration of a district. Origin of the picturesque in the idea of form of land. Variety of character of rocks of different ages. Relation of structure to the prevailing characteristics of scenery. Mountain and other scenery. General character of the less bold features of scenery in England. The influence of the laws of distribution of vegetables and animals on the picturesque. Dependence of this distribution on climate and strutural peculiarities. Necessity of *truth* in all delineations of nature. Mechanical and ideal truth considered and distinguished.——The society have expressed a willingness to afford every artist an opportunity of attending these lectures, by giving a *free admission* to all who may require it.

Sibley's Earthwork Tables.—Messrs. Sibley and Rutherford have published a page of additional explanations to be appended to their "Earthwork Tables," of which we made favourable mention some time ago. These relate more particularly to the mode of applying the tables to "side-lying ground" by proportion, and will be found useful.

Competition.—Plans, specifications, and estimates, are wanted for the enlargement and alteration of the Bedfordshire prisons. Premium, 150*l.* for approved plans: provided estimate guaranteed.

The Screen at Christchurch.—The Earl of Malmesbury has refused to receive the communication from the Archæological Institute in favour of preserving the rood-screen at Christchurch, alluded to last week. His lordship says, in reply:—"I beg you will assure the gentlemen who composed that Committee, that it is through no want of respect towards them that I must decline submitting their representations to the Christchurch committee, but because I do not find any one of their names upon the list of ratepayers or subscribers who are personally concerned and interested in the matter. If our committee were to entertain the numerous and conflicting advices which they receive from indifferent persons they would be led into endless and fruitless discussions. The Archæological Society may rest assured that the strict forms required by the law will be observed before any alterations be commenced." The *Hampshire Advertiser* remarks:—"This is infinitely more like the reply of a mere vestryman or churchwarden, than the letter of an English nobleman. Lord Malmesbury will find the names of the gentlemen who composed the committee, in other books than the list of the ratepayers of Christchurch. The doctrine that a person is not entitled to be heard on the subject of a matter of architectural taste, unless he is a ratepayer of the parish, is, at least, a curious one. Westminster Abbey belongs to the world, and not exclusively to the dean and chapter of Westminster. The allusion to the due adherence to the law—this inherent right just to do as he likes—is a poor rejoinder to a plea put forward in the behalf of taste. But these are not the only objectionable points in his lordship's reply. Where is the propriety or right of his lordship's determination not to submit the resolutions of the Institute to his fellow-committeemen? Surely he is bound to submit them as chairman. The wonder is, what architect will undertake to superintend Lord Malmesbury's alterations?"

The Banshee Steamer.—Some experiments with this new vessel, shewing her power of accomplishing nineteen miles an hour, have excited some attention. The *Banshee* is a vessel of 670 tons, and has been constructed for the Holyhead and Kingstown station by Mr. Thomson, of Rotherhithe, from the lines of Mr. Oliver William Lang, adapted to his diagonal principle. She measures 189 feet between the perpendiculars, the keel for tonnage being taken at 172 feet 9½ inches. Her extreme breadth is 27 feet 2 inches, breadth for tonnage, 26 feet 2 inches, and depth of hold, 14 feet 9 inches. The engines are by Messrs. Penn and Son, of Greenwich, and consist of two patent vibrating cylinders, each giving a power of 175 horses. The diameter of the cylinders is 4 feet 6 inches, and the length of stroke 5 feet. There are two pairs of boilers, heated by sixteen furnaces, from which the smoke is conducted by two funnels, placed in midships, about 20 feet apart.

Lectures at the Government School of Design.—Mr. Horsley will lecture on colour at Somerset House, this (Friday) evening, the 21st. Lectures by Messrs. Dyce, Redgrave, and Townsend will follow.

"Proficiency in a few Weeks."—Sir: Allow me to call your attention to an advertisement which has very frequently appeared on your cover, wherein a certain firm, in London, profess to instruct gentlemen in every thing connected with architecture, engineering, building, &c. &c. &c., in the short space of a "*few weeks*," on a "new system." The very terms of the advertisement itself would seem sufficient to deter any persons from becoming pupils, but that this is not the case, is evident from the nature of the premises occupied by the firm, which are a large house in a highly respectable street. By permitting its appearance in your pages, you are aiding the imposition. T.

*** Our opinion on this subject is well known, and we shall decline inserting the advertisement again (to which several other correspondents have referred), without the removal of the statement in question.

British Archæological Association.—A meeting was held on Friday the 14th inst.; Mr. Pettigrew in the chair; when Mr. G. R. Corner forwarded a communication on the arch of a bridge laid open at the east end of Kent-street, Southwark, at its junction with the Dover-road. It consists of a single early pointed arch of stone, with six ribs very similar to the oldest part of old London-bridge, and apparently of the same date. The bridge is about 20 feet wide, and carried the old Kent-road over one of the many streams which intersected that low ground, and which there formed part of the boundary between the parish of St. George, Southwark, and Newington. The span of the arch is about 9 feet, and the height about 6. Mr. Corner considers it a manorial bridge, built by the monks of Bermondsey Abbey, who were lords of that manor of Southwark, now called the Great Liberty Manor. It formed part of the Great Kent-road, and the general thoroughfare from London to Canterbury. A drawing of the bridge, by Mr. Arthur Newman, was exhibited. Its existence had been long known, and it is marked, we understand, on the sewers' map as Lock's Bridge. Among other communications was one by Mr. R. C. Smith, relating to excavations now being made by the St. Alban Architectural Society, on the site of the ancient city of Verulamium. They have already brought to light the foundations of some buildings, which, from their magnitude and character, were evidently of a public description; one, of which the external walls have been cleared, is apparently a theatre.

Colour in Decoration.—At the Hull Literary Society, last week, Mr. Lockwood read a paper on "the uses of colour in decorating." He alluded to the remarks of Mr. Burge, Q.C., contained in a paper which that gentleman read some time since, on the utility of archæological pursuits, in reference to the restorations in Holy Trinity Church, in which he had stated that the objects of the builders of Gothic architecture were to lead the eye by columns, and lines unbroken by colour, upwards towards heaven, and questioned the use of colours in these restorations. Mr. Lockwood stated that, as the architect employed in these restorations, he had merely followed the traces which he had found existing, although not to the extent in decoration and colour as they had previously existed. He directed attention to the use of gold and colour on the floor, walls, ceilings, and pillars, and mentioned the introduction of ornament and colour by the Saxons, for at the baptism of Edwin, King of the Saxons, in 726, the walls of the temporary building on the site of the present York Minster were decorated with hangings and paintings, brought from France, Gaul, and Italy. He then went on to shew that it was the constant practice to decorate the churches of that period with hangings of various colours, with paintings in tablets, and gave instances of presents of such works being made to different churches in England, by Alwin and others of that period. Mr. Lockwood noticed the effects of the Crusades, and the consequent employment of colour in every variety of tint for the purposes of decoration. He then traced the decline of the art to the period of Henry the Eighth, occasioned by the devastation and plundering of the churches and convents during the Reformation.

Copper Ore in Scotland.—Two lodes of coppper ore, says the *Renfrewshire Advertiser*, have been struck at Lochwinnoch, one of them 22 inches thick, and all of first-rate quality, ranging from 3 feet below the surface downwards. Active operations, by a Cornish company, are to be begun early in the spring.

To obtain the Outline of a Carving.—Sir: I have had in use for a long time, a quick and perfect means of obtaining the outline or a copy of a piece of carving, or a cast, which may be of service to some of your numerous readers. A sheet of glass, of any convenient size, is framed like a slate, and placed over the object or piece of work, and with a pen and thick Indian ink I can easily trace out every line, which may be well seen through the glass: keeping my eye directly opposite the place I am tracing so as to keep the pen right. This, when dry, can be quickly traced, and all the lines may be rubbed off the glass, which is then fit for use again.—J. Rattee.

SHAKSPEARE'S HOUSE. — The question that was raised a short time since, regarding the truth of the tradition which assigned this house as the birth-place of the poet, may be considered as set at rest by a document discovered by Mr. Halliwell, and printed in his recent life of Shakspeare.* It was previously known that John Shakspeare, the poet's father, lived in Henley-street, in 1552, and that he purchased two houses in the same street in 1575; but no one had discovered in which of these houses he resided. Now, in 1596, John Shakspeare sold a small fragment of land situated at the end of Henley-street, and the indenture conveying the purchase, distinctly states it to be bounded on the east side "by the tenement of me John Shakspeare," and as part of the property "in the tenure or occupation of me the aforesaid John Shakspeare." The house now shown as the birth-place of William Shakspeare, is unquestionably the tenement here described, and no better proof of its authenticity can be hoped for after such a lapse of time. We are not among those who love to see old associations destroyed by the antiquarian magnifying-glass, and are therefore rejoiced to find that this national memorial is placed beyond the reach of such an infliction. Mr. Halliwell's volume is exceedingly interesting, and brings some valuable additions to the store of information connected with the immortal man Shakspeare. It is nicely illustrated by Mr. Fairholt.

THE VALHALLA, BAVARIA.—The author of a recent work, "Letters from the Danube," thus complains of the arrangement of the busts in the German Temple of Fame:—"There is a want in them of all symmetry, order, arrangement, or classification according to the nature of their talent, position, or even date of existence in the world, which is peculiarly vexatious to an orderly man like myself. They stand upon their brackets, up and down, and here and there, in marvellous disorder. There is certainly much beauty, however, in many of the heads. Those of Vandyke and the Empress Maria Theresa, to say nothing of so many others, struck me particularly, as well by their beauty of execution as of feature. I was naturally surprised, on first visiting the Valhalla, at finding so many illustrious persons, not strictly of German origin, occupying shrines in a German Temple of Fame; but I was overruled in this objection by the information that the King of Bavaria had admitted all worthies of every country that could boast a Saxon origin; and I very willingly made up my mind to the deification of Vandyke, Rubens, and Van Tromp, particularly as I found the names of Hengist, Alfred, and Egbert, engraved in golden letters upon the tablets, which are let into the upper part of the walls in goodly row."

THE AMERICAN BIRMINGHAM. — Pittsburg, 300 miles west of Philadelphia, with its dependencies, Alleghany, Manchester, Birmingham, &c., contains a population of 60,000. Many of its principal manufactories, with great part of the town, were burnt down last spring; but it now or still contains 11 rolling mills, 25 foundries and mills consuming 75,000 tons of pig-iron, 7 flint-glass factories, besides 14 others on the Monougahela river, 3 steel factories, a number of steam saw-mills, rope-walks, cotton-mills, flour-mills, waggon, plough, and carriage, and oil-cloth factories; a large scale and balance manufactory, and an extensive cut-nail trade. The annual exports equal 17,000,000 dollars, and the port is daily frequented by 25 steamers.

CHURCHES BUILT IN THE REIGN OF QUEEN ANNE.—In reply to an old subscriber who asks for the names of the eleven churches built in the reign of Queen Anne, the following is a list:—St. Mary's-le-Strand and St. Martin's-in-the-Fields (Gibbs); St. Mary's, Woolnoth, and St. Anne's, Limehouse (Hawksmoor); St. George's (Hawksmoor and Gibbs); St. George's, Bloomsbury (Hawksmoor); St. George's, Hanover-square (James); St. Luke's, Old-street (James); St. John's, Westminster (Archer); St. Giles's-in-the-Fields, (Flitcroft, though attributed to Hawksmoor); and St. Botolph's, Bishopsgate (James Gold).

* The Life of William Shakspeare. By Mr. J. O. Halliwell, F.R.S., Hon. M.R.I.A., &c. John Russell Smith, Compton-street.

TENDERS.

The following are the amounts of tenders delivered on the 17th January, for the carcase of a mansion for Mr. H. T. Hope, M.P., Piccadilly.

Bennett	£10,549
Grimsdell	9,944
Locke and Neisham	9,700
R. and E. Curtis	9,484
Kelk	9,348
Laureuce and Co.	9,147
W. Cubitt and Co.	8,850

MEETINGS OF SCIENTIFIC BODIES

During the ensuing week.

MONDAY, JANUARY 24.—Institute of British Architects, 8 P.M.

THURSDAY 27.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.; Archæological Association, 8½ P.M.; Architectural Association.

SATURDAY 29.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

Yeovil Town Hall.—Sufficient has been said. Mr. Stent has expressed regret, and withdrawn his reflections on Mr. Davis.

"*W. P.*"—We have no accurate information relative to the Worcester Lunatic Asylum competition. Mr. Hamilton is said to have the first prize.

"*W. H. D.*"—The traps in question are in use.

"*M. and Son.*"—If our correspondents made a bargain, they ought to abide by it.

"*F. H. W.*"—We shall be glad to hear from him.

"*J. C.*"—Write to Weale, High Holborn.

"*Monument of Lysicrates, at Athens.*"—The total height of the monument is 33ft. 11in.

Received.—"Architect," "Sir T. B.," "M.," "J. H." (Chichester), *a description will suffice.*—"F. N.," "Stone-Sawyer," "M. P.," "C. H. W." (Birmingham), "N. R.," "Rev. J. B.," "F. M.," "A Subscriber," "A Londoner," "J. D.," "S. J.," "W. C." (not desired at this moment), "W. H." (Greenwich), "J. M.," "H. W. F.," "Dr. T." (shall be set right), "O. P. Q.," "H. W. B.," "Junius," "C. J. P.," "J. E."

TO PROVINCIAL READERS.—In reply to complaints of the irregular delivery of THE BUILDER in provincial towns, we beg leave to state that it is invariably published by seven o'clock on Friday morning; and that the irregularity complained of rests entirely with the parties through whom it is obtained.

NOTICE.

A few copies of the Volume for 1847 are in the hands of the publisher, and may be had on application, price 17s. 6d. each. Covers for THE BUILDER *may be obtained at the Office, price 2s.; or the publisher will undertake to bind the numbers at 3s. per volume.*

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No. CCLX.

SATURDAY, JANUARY 29, 1848.

SEWERS are in,—if we may apply a current phrase; and it is quite time that they were. From one end of the kingdom to the other, the question of drainage is under discussion, and the best mode of effecting it is a subject of earnest inquiry. Size and form are the great points of debate. Large sewers rather than small (so as to admit a man at all times to repair or cleanse them, and provide for any possible amount of storm-water), have still some advocates, and the circular form in preference to the egg-shape, is still stoutly contended for by a respectable but diminishing minority. Our own opinion on both these questions is well known to our readers. For some years we have contended for smaller sewers than those in use, on the ground of increased efficiency and cheapness, and for the egg-shape as the best form: we claim a considerable share of the credit, indeed, of having led to a better understanding of the subject on the part of the public, and for having assisted to bring about the (too late) adoption of improvements by the Westminster Commission. Good drainage is of the utmost consequence, if we would preserve the health, and improve the character of the people; and cheapness is of the utmost consequence if we would have good drainage. If good drainage could be had for nothing, an act of Parliament would scarcely be required to enforce it: lessening its cost is of course facilitating its adoption.

There are still many who do not fully comprehend the fatal effects produced on the animal system by the emanations from filthy depositories of decomposing matter, some few even who would advise the removal of old ladies, in a delicate state of health, to the proximity of a gully-hole as a healthful change; but the majority of the public are beginning to understand the facts of the case, and as they become acquainted with the present dreadful condition of the drains and sewers, to bestir themselves in obtaining an improvement. There is one point of inquiry which seems, however, scarcely to be taken into consideration by any, and that is the effect of bad drainage on food. "Imagine," says one of the witnesses before the Sanitary Commissioners, "a baker, with a foul cesspool in his yard in close company with a well, and a choked drain in his kitchen,—a combination by no means difficult to realize. The very heat of his oven brings a stream of poisonous atmosphere into his bakehouse, adding further contamination to every loaf that he has made with the already poisoned water from the well behind. A butcher hard by an offensive gully-hole, finding his meat decompose much quicker than the weather warrants, and already unfit for human food, disposes of it at tempting price to the poor. A brewer sinks a deep well, and drains his neighbours' wells and cesspools too,—a flavour something foreign to malt and hops may possibly result. The milkman ties up his cows in ill-drained, ill-ventilated stalls, and wonders perhaps, that they become diseased, but retails his poisoned milk, nevertheless, somewhat more dearly for the loss. I once heard a milkman, under cross-examination in court, when asked the question whether he did not sometimes add a "leetle" water to the milk he sold, boldly say, "Of course I do; the London stomach could'nt stand it pure." I have no doubt at all that he was right."

In respect of size and form, the Minutes of Evidence taken before the commissioners in question (to which we will now look without reference to those points which have excited so much ill-feeling in the minds of many individuals), contain the opinions of competent men on both sides, some of which our readers will probably be glad to see.

Confining ourselves at present to *size*;—Mr. Hertslet, clerk to the Westminster commission, when asked to give the result of his observations on this point, said:—

"I have been perfectly at a loss to conceive why such immense sewers should be built to carry off such mere threads of drainage. I have often thought, and have so stated in court, that the commissioners generally, from viewing only the main lines, have a very false impression as to the sizes required. I have seen sewers 5 feet 6 inches high by 3 feet wide, being built where, even during heavy rain, a 3 or 4-inch pipe would evidently have carried off all the water."

Mr. Phillips, who, as our readers know, is opposed to large sewers, being asked—

"Would you make the size of all your sewers large enough for a man to pass through them? replied, I should be obliged to do so under the present regulations of an intermittent supply of water; but if I had the control of a proper supply of water, as well as of the sewers, I could reduce the sizes of the sewers very considerably, because I should then be able to arrange them in combination with the water, so as to keep up a continuous current throughout them, and so keep them in proper action.

Then for the present brick sewers you would substitute tubular sewers?—For the branch sewers I would substitute small egg-shaped pipes, provided I could have a control over a supply of water."

When asked as to the possibility of reducing the size of sewers and drains to nearly one-third, by having a tubular system, he said,—

"As the velocity increases, so does the transverse section of the area occupied by the stream decrease.—[An important fact.]—This is a natural law observable in all moving streams, for we see that in a moving mass of water the discharge is the same, whatever form and size the channel may assume, the velocity being greater where the channel is narrow and deep, and less where it is wide, flat, and irregular; but the exact ratio of decrease of area, from decrease of friction and increase of flow, can only be determined by actual experiment, and by taking into account all the attendant circumstances which influence and govern the motion of the stream."

"Notwithstanding all the experiments that have been made by mathematicians and the data and formulæ which they have deduced therefrom, we have not at the present time sufficient information from which to plan and work with confidence and accuracy in regard to sewerage. The facts that have come under my observation and experience shew that theoretical writers on hydrodynamics are, in some degree, in error in supposing that the velocities and discharges of streams vary directly as the greater or less extent of the frictional surfaces in contact with them."

As to providing for an extremely violent discharge of rain, he says:—

"I am of opinion that it is unnecessary to proportion the sizes of the sewers to meet an extraordinary occurrence that may probably happen only once in so many years. My reason for not fearing any serious damage from an excess of rain at remote intervals being provided for in surface channels, excepting, perhaps, in situations peculiarly liable to inundation (for instance, at the foot of a long or steep declivity, or where the waters may, from any cause, be suddenly congregated at one focus) is, that I have observed; that in towns entirely destitute of underground drains, no such inconvenience is felt as would justify the formation of enormously large sewers, or the expenditure of large sums of money to provide against it."

The witness exhibited drawings of some of the Westminster sewers, large enough for a man to walk in, shewing that the ordinary flow of water through them scarcely covers the bottom: an immense accumulation of deposit is the natural result. Courts, for which the use of sewers 5 feet 6 inches high and 3 feet wide had been insisted on, would be better drained, witness contended, by a drain-pipe 18 inches high. As to the size of pipes for gully drains, witness says pipes of 3, 4, and 5 in. diameter, laid properly, are, generally speaking, of ample size to carry off the surface water of the streets: in some situations, however, larger pipes would be desirable.

Mr. Joseph Gwilt, as one of the surveyors of the Lambeth district of sewers, contends for large drains. He was prepared to deny that "the smaller the size of the drain, within certain limits, the better the run and the less the deposit." To the remark—

"It is estimated that a supply of water for the whole of the metropolis, supposing each house to have a supply of 125 gallons per diem, or 25 gallons per head, would be given by a circular tunnel or aqueduct of 12½ feet diameter. There are in the Kent and Surrey district 55,000 houses, and the supply there would be given by an aqueduct of proportionate size to your number of houses, that is, one-fourth. Such being estimated to be the size of conduits required to bring in water, the sectional areas of the drains and sewers, it is presumed, would not be required of vastly greater size, supposing them to have as good a fall, to carry away that same water. Can you prove any addition of rain water, or even of extraordinary storm water, requiring a system of drainage, of a sectional area more than five times that of the Thames at Waterloo Bridge at high-water, or nearly a thousand times the area of the aqueduct that would furnish the whole supply of water to the metropolis? He replied, I apprehend in providing drains for a house you are to provide against accidents. Therefore I should say it would be prudent always to have drains larger than are actually necessary to guard against stoppages. A stoppage in a small drain stops up the whole orifice; a stoppage in a large one is partial. There may be, most likely, a means of its running off in some way or other.

Do you dispute the fact that a 4-inch drain from a house keeps clearer than a 9-inch, and is clearer still than a 12-inch?—I certainly do dispute it.

The thing which you deprecate is the stoppage of a drain?—Yes."

He thought it most desirable that drains should be sufficiently large to afford the means of cleansing them.

Mr. E. I'Anson, another of the surveyors of the Lambeth district, also favours large sewers.

"Supposing an occupier is desirous of draining his house into a sewer, what sized drain do you require him to put in?—We have hitherto required 15-inch and 12-inch barrel drains; but the question is now under consideration, whether, by adopting glazed tubes, we may not reduce that to 9-inch.

Is that the size you would stop at?—I am not prepared to say that. The Commissioners have resolved to adopt glazed tubes, but we have not definitively settled the size.

Have you recently been to the Westminster sewers, and seen what they have in use?—I went there about a fortnight ago.

Were you not satisfied that smaller drains than you had been accustomed to use were desirable?—Only desirable on account of the expense.

Not on account of any thing in regard to the flow?—I think not.

You still think that a 12-inch drain would be a good size to discharge the flow from houses?—I do.

Will you state the grounds for that opinion?

—It would be more easy to state the grounds why I doubt the advantage of the 9-inch. Theoretically we know that a tube which presents the greatest area or the greatest friction to fluid passing through it, is that form of tube which is the least adapted for the conveyance of water. Take a 9-inch tube and fill it three-parts full, I apprehend there will be more friction upon the sides there than with a 12-inch tube containing the same quantity of water.

Will you describe the capacities of the ordinary inlets to this house drain; will there not be the sink in the kitchen, and occasionally the soil of the water-closet, supposing there to be a water-closet?—Yes.

Of course the flow from the water-closet is occasional?—Exactly.

For that you use a 4-inch soil-pipe?—Yes, vertical.

Why then do you use a 12-inch outlet, an outlet nine times greater than the inlet?—The outlets in some parts of it is nearly level, and it has other things to take besides the soil from the water-closet.

Take the inlet from the sink: through what sized pipes do the water sinks in use in your district drain?—About an inch and a half, or two inches at the outside.

What is the proportion of the size of the inch and a half pipe as compared with the 12-inch outlet?—A 64th part of it.

Do you think that an outlet 64 times larger than the inlet is necessary?—No."

Mr. Henry Austin, now the consulting engineer to the commission, advocates the use of small drains. When questioned as to the probable danger of their choking up, he said:—

"Under proper regulations, I am satisfied that no stoppage whatever would occur in any case. It is true that large substances of various kinds—broken china, cinders, oyster-shells, vegetable refuse, brushes, rags, and a host of other matters,—are constantly found in the sewers, being thrown, either carelessly or mischievously, down the yard drain, into the sink, or down the water-closet. It would be rather surprising if it were otherwise, for not the slightest precaution is used to guard against it. No immediate inconvenience results, and there is plenty of room and to spare, we may be sure, when we hear from the City Surveyor of Sewers, in his evidence before the Health of Towns Commission, that even coffins and tombstones, a bedstead, and the beadle of the parish, lie in them, to be detected only in general explorations. Under a proper regulated system, how easily would these abuses be prevented. Yard drains would not be left unprotected; sink gratings would be effectually secured: surrepititious openings would be impossible; and that form of water-closet basin which will admit of such an abuse, either from the carelessness of servants or the mischief of children, would be at once abolished. The common pan basin, as it is called, is subject to this inconvenience, by reason of its direct communication; but the syphon trap basin, which is more efficient with a good supply of water, and considerably cheaper, will not admit of the intrusion of such matters."

"What size of house drain do you consider would be generally sufficient?—I feel satisfied, from long consideration of the facts, and practical observation, that there are very few cases in which a 4-inch drain would not suffice; and if the practical men who contend for 9, 12, or 15-inch drains to houses, would only reason upon the subject for a moment, I am convinced that they must see the error of their practice. A 4-inch pipe with an inclination of 1 inch in 10 feet, will discharge about 14 cubic feet of water per minute; now, an extraordinary fall of rain, of 2 inches in an hour, will not produce above a fourth of this quantity on the space occupied by an average-sized house and yard. But it is argued that there must be great additional space in the drains to allow for obstructions, when, should deposit accumulate, there would still be some room left for the passage of the water; but if any deposit take place in the small drain, it is immediately choked. Compare the two cases:—A heavy substance gets into a 12-inch drain. The water from the house being diffused over so broad a bottom, has no power to move it, but a heavy shower may probably send it along some 20 or 30 feet, until it meets with an obstructing inequality. There it stops, a dam for the accumulation of all the soil, grease, and minor substances that, from day to day, are poured into the drain. This accumulation indurates and lengthens, until at last the water forms itself a small sinuous passage through the softest part. A heavy substance gets into a 4-inch drain, and a great power of water is every day concentrated upon it; but if this, by any possibility, should not be sufficient to send it forward, the first shower of rain will fill the drain, and accumulate a pressure of such a considerable column of water from the external openings of yard drain and rain-water pipe of the house or outbuildings, that no temporary obstruction can for a moment resist."

"There is another most important point with regard to small drains that is overlooked. Granting for a moment that the sectional capacity of a 4-inch drain is not equal to that of the waters that may flow into it from all the openings—sinks, area, water-closets, and rain-water pipes—of such a large house as this (Gwydyr House); there would be a pressure of a column of water in the 4-inch drain, when flowing full—as it might in heavy storms—that would, from the increased velocity, render it more than equal for the time to the 9-inch drain as at present put in. I am fully prepared, therefore, to contend that there is scarcely a private house in this metropolis for which a 4-inch drain would not be sufficient, if correctly put in, and with all the junctions thereto securely made, with proper curves. We see that nature throughout, in its rivers and streams, meets its own exigencies in similar ways, but it is only seen to be disregarded. The fact is, that as 12-inch drains get constantly choked, it is hence inferred that they are too small, rather than too large. I am asked by one who should know better, 'How *can* a 4-inch drain be sufficient when I have a 12-inch in my house, and yet I am constantly flooded even with that?'—and I can only answer, 'that it is precisely because you have a 12-inch drain which is improperly constructed and nine times too large, that you are constantly flooded.' A great horror of cesspools is constantly expressed, and yet the whole present work of house-drainage is a system of nothing else."

The witness urged the value of glazed pipes, and points out as one of their advantages the greater fall, in the case of house-drains, that can be obtained by means of their use than with a brick drain.

The same argument with respect to the erroneous size of house-drains holds good also with respect to the public sewers.

Building sewers for men to go into them to clear away deposit is the occasion of deposit. It is no more necessary for men to go into sewers than for climbing boys to go into chimneys.

Witness shewed that there are no sound and sufficient data for correctly determining the size of sewers, and urged the necessity of an extended series of observations and experiments.

When asked if he considered "the practice of constructing all the sewers of sufficient size to convey the waters of the greatest known storms to be correct?—Witness said,—decidedly not. The practice is most erroneous, and has tended to bring about the most unscientific treatment of the subject,—that of an equalized system of sewerage in the place of a graduated system. Nature points out to us, in all directions, that it is perfectly unnecessary. Every unsewered town of the kingdom is an illustration of the fact, that the provision of capacity of sewers, throughout the system, sufficient for the waters of extraordinary storms is a great error. This provision should be made only in the main natural valley and connecting lines, to which the waters immediately descend, and where the accumulation calls for an ample passage. In the higher portions of a district, even in the total absence of sewers, storm waters flow off immediately, and do no injury; while the provision of enormous size of sewer, for an event which happens only for a brief space in an interval of years, renders them unfit for their daily and constant purpose."

Mr. Roe, of the Holborn district, to whom much praise is due for many valuable improvments, gave some important evidence. He, also, advocates small drains, as we shall shew on another occasion.

Mr. E. Cresy, the author of the "Encyclopædia of Engineering," adduces a number of experiments and statements to prove (what is very important) that, when two streams of water, running with the same velocity, and having both their sectional areas equal, are united in one stream, their sectional area is not doubled. Thus, though three acres of land, for example, require one foot sectional area of sewer, double that quantity would not require two feet of sectional area. From M. Genneté's experiments on this head witness calculates that—

"12 houses would require a sewer ½ larger only than would be required for one; 24 ditto ½ ditto; 36 ditto, ¾ ditto; 48 ditto, 1, or double ditto; 60 ditto, 1 1/24; 72 ditto, 1 3/24 ditto; 84 ditto, 1 1/8 ditto; 96 ditto, 2,—or three times the original capacity.—Each of the 3-inch pipes which conduct the water from the houses has a sectional area of 7·0686 square inches, or 20 of them nearly occupy a superficial foot; notwithstanding this, they each are made to discharge themselves into a 12-inch barrel drain, the sectional area of which is 113·9976 square inches. Suppose, then, we apply our rule to the 12-inch barrel-drain, the capacity of which, no one will doubt, is sufficient to carry off the surplus waters from each house; we shall have to multiply 113·9976 by 3, which gives us the product of 341·9828 square inches, or 2·374 feet superficial. A barrel-drain having that area, then, would, according to M. Genneté's rule, be sufficient to carry away all that could pour down ninety-six 12-inch barrel-drains: although a drain 21 inches in diameter, whose sectional area is 2·4 feet, appears small for the purpose, yet it would be ample."

In addition to a number of translations and extracts bearing on the question, Mr. Cresy gives some very interesting details of the drainage of ancient buildings, such as the Colosseum, the Amphitheatre at Nismes, and the Amphitheatre at Verona, to which we may refer on another occasion. For the present we must quit the subject, leaving our readers to draw their own conclusions from what we have extracted, or, better still, from the perusal of all the evidence as published. The opinion of the surveyors of the Lambeth district is, doubtless, founded on strong conviction: the maintenance of it seems likely to cost them their appointments.

ROYAL INSTITUTE OF ARCHITECTS.

BUILDING STONES, &c.

At a meeting held on the 24th inst., Mr Charles Fowler, V.P., in the chair, Mr. W. W. Deane and Mr. H. Hodge were elected associates.

Amongst the donations were a number of works presented by M. de Caumont, the veteran archæologist of Caen,* and a portion of a mosaic pavement from Mr. Wallen, found 9 feet below the present level, in excavating for some new warehouses at the corner of Wood-street and Gresham-street, in the city.

From other remains discovered at the same time, the donor was disposed to conclude that a Roman temple formerly occupied the spot.

Professor Donaldson then read a very interesting paper on "Caen, its quarries and buildings, with a few words on Arras," which we have the pleasure to give in full. At the conclusion of the paper,

The Chairman, first complimenting Mr. Donaldson on the good use made of a short visit which he hoped would serve as an example to other members—said, with reference to the

* At the previous meeting of the Institute, M. de Caumont was elected a corresponding member. Signor Bonucci, director of the excavations at Pompeii, was also elected corresponding member.

spire of Salisbury Cathedral, to which the reader had likened that of St. Pierre in Caen, that the former was still in an excellent state of preservation. It was constructed of the Chilmark stone, which was quarried in the same way as the Caen stone, being excavated from under an overlying strong bed of stone.

Mr. C. H. Smith remarked that Caen stone and the Chilmark stone were wholly different. The latter he considered one of the most durable stones in England, equal to the Anstone stone. It was a question, at one time, whether it should be used for the new Houses of Parliament instead of Anstone, but the expense of carriage prevented it. As to Caen stone, he had very little to say: there were many qualities of it, as Mr. Donaldson had pointed out. Some of it was very durable, and some of it was by no means so.

The Dean of Westminster said he had unfortunately missed hearing the greater part of the paper, and must therefore confine his observations to what had been stated afterwards. Great thanks were due to the government who had appointed the commission to inquire as to the best building stones for the new Houses of Parliament. The result was of the greatest value, and might be safely appealed to where information was wanted. The Chilmark stone was of the same age, geologically speaking, as Portland stone; neither of them in his opinion possessed such durability as Anstone stone. Some Anstone stone was not good, as for example that used in some parts of York Cathedral, and which had been lately replaced; but the right sort was uniformly crystalline (not crystallized),—completely saccharine, like white sugar or Parian marble. To the close contact of the crystalline faces, Parian marble and Anstone stone, in rather a less degree, owed their durability, and their power of resisting frost, which, where no water is present, has, in fact, no power. He would prophecy that the stone of the Houses of Parliament would be as perfect 600 years hence as now.

The Dean then described the operation of quarrying, and said in some cases the easiest way was to dig a quarry and throw the superincumbent rubbish right and left. These old quarries had much deceived some antiquaries, and had been called "British Villages," defence against cavalry, &c.: they were in truth nothing more than the result of the operation he had described. Allusion had been made to the Beer stone. This was not allied to Caen stone: it was a silicate of lime, or chalk, in fact. The Church of St. Ouen, shewed how well chalk would last: the arrises there were as sharp as ever. As to the Caen stone in Westminster Abbey, some of it had decayed to the extent of three or four inches in depth. It was very various in quality, and it would be difficult now to get stone from the beds from which the early buildings in Caen were erected. He should consider the fine grained Caen stone now used, would have a duration of 300 years. In the Bath stone, as in all others, there was also great difference. The reverend speaker then gave an account at considerable length of the Portland formation, which presents the curious feature of an ancient forest at a short distance from the surface. Purbeck marble, which belongs to this formation, was universally employed for monuments for several centuries from the time of William Rufus. The clay in it absorbs moisture, and it decays in consequence. He would repeat, that he had great confidence, both on mechanical and chemical grounds, in Anstone stone as the best in England; and as long as he had controul at Westminster Abbey, he would allow no other to be used externally.

Mr. Godwin said, if additional evidence were needed of the different qualities to be found in Caen stone, the comparatively modern dwelling-houses in that town as compared with some of the ancient churches there, where a better stone had been used, would afford it. Many of the former were honeycombed over their whole surface, while the latter were sound, and shewed outlines as sharp as when first erected. This, with what had been said before on that evening, would suffice to show that it was necessary to do something more than direct in their specifications that "Caen stone" should be used; it should be the best description of Caen stone, and it was very desirable that the means of detecting the differences should be discovered. He hoped that, on the foundation of information which Mr. Donaldson had laid down, others would build, so that Caen stone might be used somewhat less in the dark than is now the case. Several years had passed since he was in Caen, but he would add his recommendation to what had been said before in favour of a visit by all who were studying architectural antiquities, not merely to Caen, but to all the principal places in Normandy, which would be found full of instruction and interest, as for example St. Lo, Coutances, Bayeux, Limoges, &c. The cathedral of Coutances had been considered by French antiquaries to afford proof, founded on documentary evidence, of the use of the pointed arch in France at a much earlier period than was usually ascribed to it. Mr. Gally Knight, however, and other English antiquaries, first reasoning from the building itself, and then sifting the supposed documentary evidence in favour of its early date, had conclusively destroyed this assumption, which had otherwise unsettled our architectural chronology. The interior of Bayeux Cathedral would be found very interesting. The good position of many of the churches would be observed, and the skill with which the medieval architects turned accidents to advantage. At Graville, for example, near Havre, where the church, an early structure, was built on a hill, the face of the rock, he remembered, was formed into a flight of fifty or sixty steps, and had a striking effect. In the details of the early architecture of Normandy, and of what we know as Norman architecture in England, they would find some differences; for example, he had never seen in Normandy such elaborately ornamented doorways as we find in the west front of Rochester Cathedral and elsewhere.

The Chairman then alluded feelingly to the death of a member, Mr. Charles Dyer, an architect of considerable ability, of whom mention will be found on another page, and adjourned the meeting.

ON CAEN, ITS QUARRIES AND BUILDINGS.

BEING about to employ a large quantity of Caen stone, in a work which is on the point of commencing, I was anxious to make myself fully acquainted with its properties and varieties, and the quantity of well-seasoned blocks that might be available in the market. I therefore determined to go to Caen itself, and visit the quarries. A few hours carries one over to Havre from Southampton, and a steamboat conveys passengers and goods from Havre to Caen in four hours. The last hour and a half is occupied in mounting the river Orne, which, in its course from the sea to some distance above Caen, has a flat country on the left bank of the river, but, on the right, generally a lofty bank, at times immediately overhanging the stream, at others receding from it, but again joining it. Not far from the mouth of the Orne, at a place called Ranville, quarries are worked in the face of this bank. It is a harder and coarser variety of the same stone as that near Caen, and of more open texture, with a more crystaline character, hence more adapted for hydraulic works than for buildings. I am informed by our friend, Mr. C. H. Smith, that these coarse varieties, which doubtless are very durable, resemble, in several particulars, the stone from Weldon, in Northamptonshire, of which the oldest buildings at Cambridge are constructed. The approach to Caen, as we mounted the river, was very striking when the first view is caught of the city. To the right, on a bold eminence, is a large church, dedicated to the Holy Trinity, of Norman architecture, with fine towers, and containing in its crypt the tomb of the pious and charitable Queen Matilda. To it is attached an imposing building, once the Abbaye aux Dames, and appropriated as an hospital ever since 1823. The lofty spires of S. Sauveur and S. Pierre, in the middle of the town, shoot up with graceful elegance out of the mass of houses; and the overhanging towers of S. Jean rise majestically, although considerably out of the perpendicular, while the spires and mass of the venerable S. Etienne close the further distance, the intermediate space being filled with a variety of large buildings, both public and private. There are noble quays to the right and left, where the river skirts the town; and they are now forming an ample and noble basin for the increasing commerce of this important city. On the quays, to the left, are the stone wharfs occupied by the blocks belonging to the principal stone-merchants, Messrs. Foucard, Luard, and Jobert, taken in the order of their position. On the opposite side of the river is a noble broad quay, where the vessels, in general, receive and discharge their cargoes.

The material generally known to us under the appellation of Caen stone is of the oolitic formation, presenting a close analogy in its general, and even in some of its minor divisions, with the rocks of similar kind in the south of England. The quarries whence it is derived are situated at Allemagne, a parish and village on the right bank of the river, at the distance of about a mile and a half, or two miles, above the city. The quarries heretofore worked occupy a superficial area of about 4 square miles. Some are worked by means of shafts, which afford access to the quarries under ground, branching off on all sides in long galleries, or multiplied by chambers, which are about 18 feet wide, and the ceiling-bed upheld by massive rude piers, which are left 9 feet square and 18 feet apart, the height being about 15 or 20 feet. These quarries, which are immediately on the bank of the river—here abruptly rising from the water—have an access from the side of the bank, and are approached by inclined roads, leading from the summit of the bank above and from the water's edge below. The openings to these dark and gloomy caverns have a very picturesque effect, and a continued series of them present themselves one after the other. The galleries penetrate to a considerable distance. The extraction of the stone is done by contract or task work, at so much per cube, the quarrymen removing the blocks and dressing them, and another set of men contracting for their carriage from the part where they are quarried in the quarry to the quay at Caen.

Our friend, Mr. Smith, gave us some very useful remarks on the properties of two specimens of Normandy stone a few evenings back. In addition to his experienced observations, I shall venture to offer the results of my own visits to the quarries.

Immediately under the soil there are some thin courses of hard coarse stone and rubble, but the immediate ceiling-bed is called the *banc cloutier*, and is about 2 feet 6 inches thick. It is of a hardish quality, but is not applicable for building purposes, as it contains a great quantity of pebbles, which offer great difficulties in the sawing and working. There are about six beds of good building stone, the five uppermost ones calculated for outside work, the lowermost adapted only for inside work, as it has soft portions, which do not well resist the atmosphere.* Much of this is used in the interior of the new Parliament buildings. The aggregate height of these six beds is from 22 to 25 feet. It is to be observed that all these beds are not to be found in every quarry, one or other of them disappearing and re-appearing in the same manner as in England. The names which I am about to give do not obtain in all parts of the district; and some of them have various designations given to them by the quarrymen. The uppermost bed is called the *banc pourri*, about 3 feet thick, which is a very good quality of stone; but occasionally it has in some portions the hard pebbles, previously alluded to, as prevailing to so great a degree in the *banc cloutier*, and therefore it is not so much esteemed for finer building purposes as the lower beds. The *gros banc* is the next bed, and has an average depth of 5 feet, but as it is inconvenient to work to that large size, it is generally split into two, in heights of 3 feet and 2 feet; and the smaller one is called the *banqueret* of the *gros banc*. *La pierre franche* bed comes next, about 3 feet deep, which is of a harder quality, and well adapted for cornices, sills, copings, and the like exposed positions in a building. Next to this is the *banc de quatre pieds*, a very fine bed, which has the same appellation, and depth of 4 feet, in all the quarries, as also the next bed, called *la pierre de trente pouces*, being 30 inches deep, a good hard bed of stone, and forming the lowest of those fit for

* This is also the case with all the oolitic quarries in England. The uppermost beds are hardest to work, but most durable; the lower beds are soft, and will not stand the weather as well as the upper ones.

outside purposes and exposure to the weather. The sixth and lowermost bed of the building-stone is termed the *franc banc*, and has a total depth of from 4 feet 6 inches to 5 feet, but this being, like that of the *gros banc*, an inconvenient depth, it is divided into a lower thickness of 3 feet, and an upper *banqueret* of 20 or 24 inches deep. The whole of the stone of these beds is soft and tender in the quarries, and the blocks are extracted with great ease. They are produced of regular size and squareness. When taken to the outside, and exposed to the atmosphere, they gradually part with much of their humidity, and harden; and, if exposed on the quays during winter, they are covered over to protect them from the frost. They saw freely with a common peg-toothed saw, without either sand or water, and are easily worked for building purposes; and, being of a compact fine grain, they produce very sharp arrises, and receive a very smooth surface on the face.

During the winter little work is done in the quarries in regard to extracting blocks of stone; but the men occupy themselves in sawing and squaring slabs about 12 or 15 inches square, and from an inch to an inch and a half, or more, thick, which are used for paving halls, galleries, and even some rooms inside their buildings. But the most extraordinary use to which I have seen these square slabs applied, was in the church of the Trinity of the Abbaye aux Dames. Two of the openings between the piers have been closed up, for the purpose of some repairs going on. I passed through a door in the partition or inclosure, both of which appeared to me of the same thickness. My surprise was great, and I examined the edge of opening, and found it of stone, and discovered, upon closer inspection, that the opening, about 10 feet wide by 20 feet high, was inclosed by these square thin slabs, about an inch and a half thick, placed on edge, put together with plaister, sufficiently stable to allow a door to work in its aperture. I subsequently was told, upon inquiry, that the inside partition in rooms, 10 feet high, are formed of the same material, and secured by occasional upright studs, 10 feet apart. These partitions are admirable, for they are very light, occupy little space, and form an excellent ground to receive the plastering on the surface.

The general character given of the Caen stone is, that all the beds are of the same quality, and all equally adapted for building purposes; but evidently, from the information which I collected on the spot, and subsequently in London, from Messrs. Luard, there are modifications in each bed, as may be reasonably supposed, and as experience teaches us in the quarries of other oolitic stones in Bath and Portland. Various veins traverse the beds in all directions, and have a white appearance; this white substance is equally hard with the stone itself, and if a stone be laid with its bed parallel with the direction of these veins, it is of little consequence, but they, of course, indicate a certain unsoundness or division in that part; and if the stone be laid with this vein in a vertical direction, the block will run the chance of being fractured by a weight, or, if near the surface, it probably may admit the wet. These veins are not like those in the Bath stones, which are hard, consisting of crystallized carbonate of lime, and running always in a vertical or inclined direction, and not liable to separation. In general, it is considered that the blocks of Caen stone may be placed in construction in any direction, except when the white veins are perceptible.* It is said, that the most experienced eye can hardly detect the different qualities of the stone in the block, when once they have been removed from the quarry, as the action of the quarryman's tool on the surface hardly offers any indication; and there is no appreciable difference in the appearance of the granular formation.

There are in the vicinity of Caen, even to a considerable distance, many beautiful varieties of this formation. At Falaise, about 20 miles off, higher up the Orne, is a fine compact stone, much harder than the Allemagne. Its texture is beautifully equal, and fine grained. Its price is one-third more than that of Caen stone, and, of course the labour upon it is considerably increased. It is well adapted for exposed situations, and is used, I believe, in the quays and dock basin now constructing at Caen.

I was, of course, anxious to ascertain whether the magnificent and ancient buildings in the city could be relied upon as proofs of the quality of the stone in the Allemagne quarries, of which there is a traditional report handed down from one generation to another, that they are constructed. And, certainly, the lofty pinnacles and spires, and the solid high square towers, which rise up into the clouds, defying the fury of the elements, for many ages exposed to storms, hail, rain, snow, and frost, acted upon by all the alternations of heat and cold, wet and dry, present a sharpness of arris and smoothness of surface, as seen from below, that prove a considerable degree of hardness in the stone of which they are constructed. Less reliance can be placed upon the indications on the parts within reach, for exposed as they have been to the vandal wantonness of the revolutionary phrenzy of destruction and the Calvanistic zeal of misguided religious feelings, there are many of the lower parts broken away and considerably worn. But the attenuated and refined details of some "*renaissance*" finials, pinnacles, and flying buttresses, in the lady-chapels and apsidal altar-ends of the churches of S. Pierre and S. Sauveur, and S. Sauveur-le-Marché of the beginning of the sixteenth century, more minutely enriched and elaborately carved and subdivided, than even the most refined details of the flamboyant parts near them, are as fresh and sharp as if executed within the last fifty years. Time and weather have not had, on the monuments of Caen, the same corroding hideous influence as on the edifices of Chester, Coventry, or Oxford. The graceful spire of S. Pierre, the summit of which is 250 feet above the market-place, and itself more than 100 feet high, does not appear to be thicker than 9 inches in the lower part, and is reduced, it is said, to 4 inches thick at top. The immense weight and the exposed situation do not seem to have affected it in the least degree; and it may be quoted, if not for size, at all events, for its grace, daring construction, and state of preservation, after 540 years' trial, with its sister spire of our own Salisbury, erected at the same period.

At the same time, I am not prepared to assert whether the stone employed was all taken from the Allemagne, or from some other superior quarries; but the appearance of the stone justifies the tradition of its origin, and I know not how to question it.

Having ventured to trespass so long upon your patience, in offering to you such imperfect information upon a subject of such great practical interest, from the general adoption which this building material is now again assuming, I hardly know how to claim your indulgence and attention for a few minutes longer, while we cast a hurried glance upon the admirable edifices and institutions of this deeply exciting town. I say *deeply exciting*, for when we remember that our first William and great conqueror, great, let me call him, for he conquered us, to whom we are indebted for the introduction of so many useful arts and refinements, held his ducal seat of government in this city: when we consider the people, whether in their physical development or in their customs and habits of thinking, and recognise so many points of resemblance, both in the character and appearance of the inhabitants, with the English, I must own that I could not but feel a certain sentiment of consanguinity and common origin, that gave a charm and suggestive sentiment to all that I saw;—at every turn throughout Normandy we meet with records of our Williams, our Edwards, and our Henrys. Here have our arms been triumphant—there have our architects erected glorious fanes to the High God; the names of their most impregnable fortresses are associated with our annals, and in its towns have occurred some of the most stirring events recorded in the dramas of our poet of the Avon. Again, I repeat, *deeply exciting*, in an architectural point of view: for the most experienced of us may, in Caen, study with advantage all the modifications of mediæval art, from the majestic solemnity of its Byzantine type, known to us as the Norman, through the earliest pointed examples, and investigating the latter profuse development of the Flamboyant, whose wantonness of form and details influenced even the transition details of the "*Renaissance*," and gave a profuse exuberance of fancy and power, of varied imagination and elegant refinement, that, in the first moment of surprise, a giddy confusion is produced in the mind of the beholder, and he can hardly decide whether the Gothic architecture had become a classic, or the classic had fallen back upon Gothic associations.

I shall follow the classification rather than the position of the buildings, merely mentioning the most prominent;—nor shall I enter into minute details, for which I shall refer you to the admirable work of the lamented Pugin and Le Keux, and, for a general idea of the impressive effect of several interior and exterior views, to the sparkling and simply effective delineations of Cotman, whose eye could seize and pencil reflect the broad and leading points and characteristics of whatever he saw, and which, fortunately, we have on the table before us, through the liberality of our generous friend Mr. Kendall.

The Norman style, which is called by our learned honorary and foreign corresponding member, M. de Caumont—Transition, and by others in France—Romane and Romanesque, has, in Caen, several impressive and beautiful examples. The largest of these is the church of S. Etienne, known also, from its monastic establishment, formerly in connection with it, as the Abbaye aux Hommes.

It was founded by the Conqueror, in 1064, and possibly erected in honour of the glorious kingdom which he had won. The west end consists of two square lofty towers, surmounted by spires, rising to the height of 262 feet. The lower part has three openings, leading into the nave and side aisles, and up to the gable of the roof, presenting a poor and mean appearance, though imposing in size. There are also in this part several fissures and settlements, proving, in this as in too many other buildings of Caen, that haste or want of skill, or absence of foresight, were of too frequent occurrence in this city. From this point commences the glory of the towers—pile rises upon pile, story rises upon story, surmounted by upshooting spires with clusters of tabernacles or pinnacles as the bases, all carrying the eye and the thoughts into the world above, not with the blasphemous pride and impure daring of them of Babel—but with the holy glowing aspirations of the enthusiastic Christian, arising in faith and hope to his God.

The interior, remarkable for the simplicity of its divisions and the sobriety of decorative treatment, is a noble production, consisting of a nave, an aisle on either side, transepts, and apsidal altar-end. There is a groined cylindrical vaulting up to the crux, the springing shafts of the main ribs rising on each alternate pier. This stately feature of the vault, so rare in our large Norman churches, is very imposing in those of Caen. The triforium has a series of arches equal in size to those of the side aisles; and there are curiously divided double openings from the uppermost windows, surmounted by stilted arches, intersecting the intermediate bays of the vaulting. This portion of the chancel has little enrichment on the mouldings, and as far as the transepts the same plain majestic simplicity is preserved. But in the choir a transition takes place, and the more graceful lines, the more frequent mouldings, and the refined enrichments of the lancet give a radiance of beauty to this holy of holies of the Roman Catholic sanctuary. There is something peculiarly attractive in an apsidal termination. Instead of the eye stopping with a harsh abruptness at the end, the sight is carried round and resumes the circuit of the church; and the radiating apertures, with their receding chapels, each with its altar, and incense, and worship, seem a worthy realization and embodiment of the figurative meaning attached to this part of the cross-like form of the plan, as indicating the position of the head of the dying Saviour. I take it in the mystical and emblematic sense given to it by the ecclesiastics of old. I do not judge it as a Protestant, but I look to see, as an artist, whether the idea has been realized; and I feel, as in the church at Caen, that in the apsidal form of the choir end, and in the greater enrichment in the style of the architecture, the architect has realised in its fullest

* We strongly dissent from this opinion.—ED.

spirit a radiant crown and point of glory to his holy fane. The exterior of this delightful specimen of the early pointed style has recently been obscured by some additions, made to the college buildings with singular want of taste and judgment. It is also to be regretted that the effect of the interior generally is gloomy from the obstruction to the windows caused by the proximity of buildings immediately attached to the very walls of the church. Lanfranc, Archbishop of Canterbury, was the first abbot of this royal foundation.

The total length of the church is about 370 feet; its external width, half way down the nave, 85 feet; the nave itself 29 feet wide; its greatest width at the transepts, 136 feet.*

At this end of the town William the Conqueror had erected this noble pile under the invocation of S. Etienne. In the opposite suburb, elevated on a high terrace and commanding a view of the city and surrounding country, his wife, the pious Matilda, built a church of somewhat less magnitude, in honour of the Holy Trinity, just at the same period, and largely endowed it. It is in the same style as S. Etienne, with the exception that the Norman reigns throughout, as well in the choir as in the rest of the church. The altar end is also apsidal, presenting great simplicity and richness of effect. A most picturesque feature is the crypt under the choir, divided into aisles by sixteen pillars, in four rows, from which springs a groined vaulting to support the pavement of the choir. At one end is the tomb of Matilda,—an interesting spot, carrying us back nearly eight centuries to the contemplation of the interesting and meek character of the foundress. The capitals are illustrated by Cotman: they are roughly executed in hard stone, but present a great variety of birds, animals, and symbolical figures. The decorations to the outside of the clerestory windows are peculiarly elegant and effective, and display more of refined design than is usually met with. The entrance-front is flanked by two square towers without spires; the upper parts are of modern architecture, and a square tower also rises from the intersection of the nave and transepts; but the upper part of this is also evidently very different from what it was originally, and I think it was formerly surmounted by a spire.

Close to the church of the Trinity is another of S. Gille, the outside of which is of rich and elaborate ogival art, but the interior is Norman and transition, very peculiar and beautiful, and well worthy of being thoroughly studied, both inside and out. I call attention to this church especially, for it seems doomed for destruction, and perhaps in a few years may not exist.

There are three churches, already named, which next claim especial attention—S. Pierre, S. Sauveur, and S. Jean, designed principally in the ogival style, presenting a mass of elaborate ornament, richly wrought, to which the architects of the period have been evidently led by the peculiar facilities afforded for the execution of intricate embellishment by the Caen stone. The tower and spire of S. Pierre I have already mentioned in reference to its construction; the choir and part of the nave are of the end of the 13th century; the tower was erected at the commencement of the fourteenth. The absidal end overhangs a branch or tributary of the Orne, and was constructed upon piles in 1521, by Hector Lohier, architect, of Caen. This portion is of the Renaissance style, with flying buttresses, finials, and pinnacles, the main features of Gothic origin, but is covered with a surface of classic ornament, producing a strange contrast of different sentiments, each, however, so beautifully carried out, that we are lost in wonder and admiration at the elegance and delicacy with which all the details are designed and executed. The position of the choir end adds marvellously to its effect, for it rises immediately out of the water: it is in the immediate vicinity of a bridge, and is surrounded by picturesque and lofty houses, altogether presenting a group worthy the pencil of a Roberts, a Prout, or a Harding. S. Sauveur is also illustrious by its lofty spire, second only to S. Pierre. The absis of the church is likewise of the Renaissance style, singular for its richness and delicacy, and exquisitely designed. On the flank of this church there is one of those capricious freaks of taste, that surprise and delight from their unexpected occurrence. The circular face of a staircase appears slightly recessed from the outside surface of the wall, and the ornaments are disposed so as to indicate the ascent and windings as it rises up. This can be for no other purpose than mere ornament, for, if the outside face of the side wall of the church had been continuous, the staircase would have been lost in the thickness of the construction, as it does not project beyond the face.*

T. L. Donaldson.

* In the "Penny Magazine" for August 15, 1840, is a well-chosen view of the exterior of the apsis, and an ably-written article upon the subject.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The second lecture of the course at the Royal Academy was given on Thursday, the 13th inst. The Professor having already dwelt upon the importance of clearly discriminating the essential requirements in architectural study, now proceeded to consider the objects of inquiry in the art, incidentally remarking upon certain principles of taste, a sound conception of which, it was the end of that study to elicit. In the course of his valuable observations—which were illustrated by frequent quotations from Horace, and of which the notice that we are now able to afford, cannot be understood as giving an adequate reflection—he entered into the subject of invention and its limits, and the inquiry into the original elements of beauty and the influence of association and fancy. Taste and invention were the great objects of our study in the art of architecture, but in invention, there were great lines of demarcation, which might be made familiar to all: it was not every one who could invent, as it was not every one who could be a poet. Notwithstanding the rarity of the inventive faculty, talent in the art was not inspiration; it arose out of the circumstances and demands of the time, and Palladio and other great architects of the Italian school were cotemporaries. Feelings inseparable from our nature, amongst which might be included even superstition, led to the influence of precedent, so that we could rest satisfied with the repetition of form: as in the case of the orders, were the question—can we get rid of them? the answer would always be, No! To shew the influence of custom and precedent, as equally characteristic of another state of society, he gave the instance, with which Professor Willis had illustrated an argument in one of his lectures, that the Egyptians had completed the great Temple of Karnac after an interval of a thousand years, on the precise design which had been commenced at another period. In fact, this respect for precedent was universal.

The Professor further remarked upon the subject of imitation, condemning that abject imitation now too much practised, and saying that, notwithstanding the influence of fashions, through all ages and styles we traced the ever busy pursuit of the beautiful,—but the true test of a style was constantly in such principles as he had before referred to. The Grecian style still held a more constant sway than any of those ephemeral fashions which we had known. During his own time, he recollected four distinct fevers of fashion. First, there was the Egyptian style, when every carpet and chair was covered with hieroglyphics, then not understood. The Egyptian gave ground to the Greek, which had been at that time very little understood by us, as was seen by the constant use of the massive Grecian Doric in narrow streets; since these styles, we had had the Italian and the Gothic. These caprices arose from influences which might be explained—thus the Egyptian style became prevalent through the attention drawn to Egypt during the war there; and in France, also by the publication of the elaborate work which was one result of the expedition to Egypt. Grecian architecture had probably been carried out better at Edinburgh than elsewhere. The practice of the art was, in some degree, always the victim of fashion.—The page of architecture was more explicit than the page of history.

The professor, in speaking of Gothic architecture, said, that probably for some time to come, the most elaborate buildings would be executed in that style, but that we of the nineteenth century should think for ourselves, and, like all other ages, suit our architecture to our wants. He referred to the architecture of the revival, and instanced the gradual progress of that style, in which it was the object of each architect to add some new features, and further the progress of his art. The architect of the Library of St. Marc at Venice, Sansovino, had proportioned the cornice to the height of the whole building, judging that method more consistent with propriety, than to proportion it to the height merely of the upper order; thus, whatever our opinion as to the modification, displaying a kind of judgment in design not now usually given. Bramante had introduced the coupling of columns,—an arrangement since adopted in some of the best works, as in the portico of St. Paul's Cathedral. In like manner, other features of novelty were introduced, as the pediments to windows and balconies.—The fourteenth century in Gothic architecture was a glorious luminary in art.—The plan at the intersection of the cross at Ely, was dwelt upon by the professor as an instance of very happy arrangement, and possibly entirely original, it being uncertain whether the example at Sienna had priority of date. To it, Wren was indebted for his arrangement of St. Paul's Cathedral.—So great was the ardour in raising the great works of the period, that construction had not always the importance given to it which was essential, and towers at Winchester and Lincoln fell down from the haste in their erection. In many buildings, too, the pressure of the arches at the intersection of the transept with the nave, was tending to overthrow the main columns which supported the central tower; and the counterforts at Salisbury, and those remarkable arches at Wells, had been introduced with a view of remedying the original evil. The professor concluded an able discourse by impressing upon his hearers, that, though the models of antiquity and the rules of the art were matters for their attention as students, when they entered into the field, they should be able to throw away precedent, and consider how they could improve the happy incidents, arising in the requirements of a building.

* The remainder next week.

Mr. Nelson, the Sculptor.—Of the short career of this gentleman, whose death we recently mentioned, the *Manchester Times* gives the following particulars:—"He was born in Sligo, Ireland, in 1800. For the first twenty years of his life, like too many of the youth of Ireland, he was put to no business, but was afterwards put to a trade which turned out to be unsuited to his genius, and he made no progress. About this time he took a particular fancy to painting, and his productions attracted considerable attention. Among the admirers of his genius were Colonel Lloyd and Mr. Wynne, two wealthy landed proprietors of the neighbourhood. They both became his patrons, and in 1833 sent him to Paris, where he studied at the gallery of the Louvre for some four years, when he returned to England, soon after which, obtaining introductions to some Welch families of distinction, he went to Wales where he painted the portraits of many of the most distinguished families. He afterwards pursued his studies at Bristol. Mr. Nelson, from Bristol, went to Dublin, when he painted the portraits of many of the chief nobility, and was fast rising into fame. It is rather a remarkable incident which set Mr. Nelson to become a modeller. Having promised to take the likeness of his wife's mother while she was on a visit to them, and the time for the lady's departure having arrived, as a last resource, arising from his procrastination, when within two days of the time, he took a small model in clay, from which to make the painting. The bust was completed, and so striking was the likeness, that it astonished all who saw it. Thus encouraged, Mr. Nelson turned his attention to modelling, and produced a small Sappho, and some admirable busts of his friends, and many eminent persons in Dublin. He subsequently commenced his last great work, the 'Venus Attiring,' at which he worked so assiduously as scarcely to allow himself necessary repose. This figure cost him two years' unremitting toil."

CIRCULAR WINDOW IN THE SOUTH TRANSEPT OF LINCOLN CATHEDRAL.



CIRCULAR WINDOW IN THE SOUTH TRANSEPT OF LINCOLN MINSTER.

THE circular window in the south transept of Lincoln Minster is one of the most perfect compositions existing in England, in the flowing tracery of the fourteenth century.

It is still in perfect preservation as to the architectural part; the original glazing, however, is almost entirely destroyed, and its place filled up by fragments of stained glass of different dates, gathered from the remains of other windows in the minster. One compartment of the glazing, which seems original, displays a very beautiful vine-branch pattern, that agrees perfectly with the architectural design. The internal splay is relieved by an elegant border of open tracery. The diameter of the clear opening of the window is 23 feet 8 inches; the greatest diameter, to the outer line of the last moulding of the arch-mould, measures 28 feet. During the summer of 1846, that part of the minster was scaffolded to carry on the repairs, which, of late years, have been carefully executed in this noble cathedral, and this enabled me to make a thoroughly accurate drawing of this important window, which has never been published before.

The scale is ¼ of an inch to a foot.

G. J. WIGLEY.

LECTURES AT THE GOVERNMENT SCHOOL OF DESIGN.

ON Friday, the 21st, Mr. J. C. Horsley delivered a lecture to the Government School of Design, Somerset-house, on "Colour and Painting," introductory to a course. The lecturer maintained that the ornamentist ought to have the same high-art education as the artist, and that the idea of giving him a limited education was now an exploded fallacy. He treated of the Italian school, and likewise of the best English school of painting. He exhibited some pictures by Landseer and Mulready, and specimens of Michaelangelo's works in the Sistine Chapel. In illustration of the assertion that genius is not independent of industry and laborious study, Mr. Horsley shewed how the facility and power of execution ascribed to genius are developed by patient and modest devotion to study and practice. The lecturer insisted on a workmanlike method as the great clue to guide the pupil to true mastery over his art.

The lecture was clear and practical (although we are not certain that Mr. Horsley has quite the same views as ourselves), and was attentively listened to by a numerous audience. The establishment of a life class for the school is spoken of.

Mr. Redgrave will lecture this (Friday) evening on artistic botany.

THE LATE MR. CHARLES DYER, ARCHITECT.

PARALYSIS, induced by too close application, has deprived the profession of another promising member of it, in the person of Mr. Charles Dyer, a member of the Institute. His principal works are to be found in Clifton, near Bristol, and must have been noticed by all who have visited that beautiful locality, especially the "Victoria Rooms," which display a Corinthian portico of large size, admirably well studied. The Bishop's College, a Gothic building near the latter, was also built by him, as were Christ Church, Clifton, Bedminster new church, the Female Orphan Asylum, and some villas in the neighbourhood. He had two churches and a school in hand at the time of his death.

VILLAGE SCHOOL, MONTACUTE, SOMERSETSHIRE.

The small village school standing in the Market-place at Montacute, appears from the style to have been erected in the reign of Henry VIII. Like the rest of the buildings in the vicinity, it is built of stone from the adjoining quarry of Hamhill. The building, with the exception of its ornamental parts, remains in tolerable preservation. Under the upper window is a shield supported by two boys, surrounded by some curious old foliage: the shield has in it the letters R. S., with a staff or stick, somewhat resembling the letter I, between them.*



FINIAL.

* *Inscription, Montacute House.*—The inscription on the entrance-door of Montacute House is,—

"Through this wide opening gate,
None come too early, *none* return too late;"

instead of "*some*," &c., as printed last week.

BENCH END FROM HARMONDSWORTH CHURCH, MIDDLESEX.

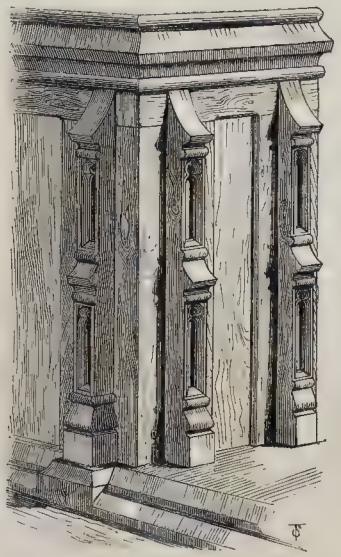
Bench ends have been for a long time, and still are, taking the place of pews; so that in a few years we shall probably have them universally adopted in our churches.

To this end we intend to continue our series of examples from time to time, taking care to select those which will be found most useful in practice.

The accompanying specimen is from Harmondsworth Church, Middlesex, whereof we some time ago gave an engraving of the ancient doorway.

VILLAGE SCHOOL, MONTACUTE, SOMERSETSHIRE.





BENCH END, HARMONDSWORTH CHURCH, MIDDLESEX.

ALCOHOL, AS USED IN ARTS AND TRADES.

Mr. Editor,—The deservedly great influence which The Builder exercises over an extensive field of public opinion, leads me to request the favour of a place in it, for a few observations on a subject which has long engaged much of my attention, now recalled thereto by an article which lately appeared in your most useful publication, regarding the Alcohol used in French polishing.

I need not inform you, Sir, that independent of its consumption as a potable liquor, Alcohol is most extensively used in many arts, trades, manufactures, and branches of domestic economy; that it is more or less indispensable in most of them, and that its invaluable properties might be more generally and advantageously availed of, if it could be obtained at a lower price. At the toilette and tea-table, in the bedchamber—both of the sick and healthy—and in the nursery, in the naturalist's museum, in the artist's workshop, and the chemist's laboratory, it is one of the most necessary and useful agents we possess.

You are well aware, Sir, that in other countries its consumption in the above, and many other ways, is much greater than in England, conducing in no trifling degree, not only to their national prosperity, but also to the health, comfort, convenience, cleanliness, and elegance of those who use it; and it certainly appears desirable to devise some means to reduce its price in this country, if it can be done without danger to public morals, *ultimate* injury to her Majesty's revenue, or serious damage to the interests of other trades, especially to those already engaged in the spirit trade in its present state.

With the sincerest wishes for my country's

welfare, I, therefore, beg to suggest the annexed plan, and shall feel myself most amply repaid, if my humble efforts at all contribute towards the attainment of so desirable an object as the one now in question; and I cannot but allow myself to believe, that by its adoption, with, perhaps, some modifications, not only will all the ends above alluded to, be most fully answered, but also, that a considerable increase of public revenue will ultimately be obtained; a powerful support and stimulus given to some important but now depressed trades; greater facilities afforded to the arts, sciences, and professions; and a very desirable adjunct more easily furnished to the comforts and conveniences of social life.

You know, Sir, that Perfumery forms an important item in French manufactures, and that we cannot successfully compete with French Perfumery in foreign markets, and that this department of our home trade requires a high import duty on perfumed spirits, to protect it from French competition. But now, Sir, that the excise duty is taken off glass, the English perfumer can obtain most, if not all the articles used in his trade, at as low a rate as his French competitor; and nothing is now wanting to give him all the advantages over him which his greater capital, industry, and enterprise will assuredly confer, but to grant him the relief sought for by the present proposition.

The manufacture of white lead is by no means an insignificant branch of our trade; and acetous and pyroligneous acids are also very extensively used in the calico-printing; and we have powerful opponents in Holland and Germany; but let our white-lead manufacturers be allowed to make their goods either from vinegar made from impregnated alcohol, instead of from grain-wash, or else with common vinegar, impregnated so as to prevent its being used for culinary purposes, and this department of our native industry will increase most surprisingly.

It is true, Sir, that, compared with our stupendous cotton, woollen, linen, iron, and some other manufactures, those above-named, and others affected by the price of Alcohol, sink into insignificance; yet in the aggregate they are of considerable importance; and when it is considered how we are opposed on every side by the rival interests of every other trading nation, and how needful it is to open all new channels of trade possible, no advantage ought to appear too trifling to be availed of; and when it is, moreover, borne in mind, how many trades stand or fall together, how the prosperity of one adds to that of another, and how many unemployed hands are set to work by the revival of even one apparently insignificant trade, you will readily admit, Sir, the important results which may arise from the adoption of the present plan, by which, I think, it may safely be affirmed, some million gallons of Alcohol will be consumed in the ways I have here very superficially alluded to, which at present, by reason of the high duty on it, are not so consumed, and that even many new trades may be thereby created which as yet have no existence.

It cannot be denied, however, that the manufacture of Naphtha, Camphine, &c., is becoming every year of more importance, and that these products serve for many purposes as good substitutes for Alcohol; yet their properties are so very different from it, and Alcohol has a so much wider field of applicability, that these manufactures would not suffer by the adoption of the proposed plan, nor materially interfere with its utility, but, on the contrary, their use, in combination with Alcohol, might in many cases be doubly advantageous.

The purposes to which cheap Alcohol, impregnated in the way hereafter proposed, might, and would be applied, are too numerous to be here particularly enumerated; but amongst others may be named the following:—as a neat and pleasant combustible, particularly in the summer season, to heat small quantities of liquid where no fires are kept; as the basis, or at least a component part of most articles of perfumery; as a recoverable menstruum in the extraction of colouring and other matter from various substances; and as a universal and indispersible agent in the chemical laboratory, —as, for example, in the preparation of the Fulminants, now so generally used in her Majesty's service as well as by the public: as a refrigerant in medical and surgical practice, as an agreeable and powerful evaporant and antiseptic in the sick room, hospitals, &c.: as a recoverable menstruum in paper-hanging, varnish-making, and in the manufacture of stearine, margarine, and other fine candles: as a vehicle for paint, where the nauseous smell of linseed oil and turpentine is unbearable: as a detergent for paint-work, pictures, plate, wearing apparel, &c.: as the basis of many chemical and pharmaceutical preparations, and in the preservation of objects of natural history and botany, which in many cases are of enormous size and require much spirit.

All articles proposed for impregnating the spirit, ought to possess the following properties:—1st. Volatility, so as to rise, more or less with the spirit in every distillation, however often repeated. 2nd. Solubility in alcohol, so far as all the flavouring matter it contains is concerned, so that the alcohol may be fully impregnated thereby. 3rd. Solubility in diluted alcohol, to the extent that it will be impossible, in consequence of these three properties, to separate the impregnating matter from the spirit in which it is mixed, by any processes which would not bring the cost of the recovered spirit, higher than that on which the full duty had been paid.

Some of the articles which might perhaps be used for this purpose, are,—coal naphtha, rectified oil of bones and amber, camphor, oils of lavender, rosemary, origanum, &c.; musk and musk-seed, ambergris, otto of roses, and some of the acids.

The articles which, however strong-scented, are inadmissible, are self evident, such as turpentines of every kind, and culinary and conditorial aromatics of all descriptions, to protect the gin and liqueur manufactures; and also nitric acid, to prevent the illicit manufacture of sweet spirit of nitre.

It would be indifferent to her Majesty's excise what impregnants were used, provided they answered the single purpose of rendering the spirits with which they were mixed, absolutely unpotable, therefore the parties requiring this impregnated spirit might select those allowed ingredients which best suited their trade. With some, as the painter, varnish-maker, &c., economy would be a greater object than to the perfumers; therefore, for them the impregnants must be cheap, while the latter would avail to use those dear ingredients which they now use, as musk, otto of roses, &c. Sometimes, and to suit his particular views (whether honest or not), a large consumer might propose to the proper authorities, an ingredient not already on the proposed excise list, and it would then devolve on the chemical department of her Majesty's excise, to ascertain (at applicant's expense), whether or not such ingredients could be allowed to be used without danger to the revenue, and if so, let the permission be granted, and that article be added to the list of those already allowed.

There always have been, and ever will be, illicit distillers, so long as any duty on spirits exists, worth evading; therefore let the present proposition be fairly examined, to see if it affords any additional facilities to such offenders. These persons, I believe, Sir, generally make their own wash, and distil and rectify it on the same premises, and with the same utensils. Now, what would they gain by purchasing the impregnated spirit at the low duty, with the view of making it potable? Who are their present customers? If any others than those who drink it, they would lose all their sale to them by the present plan, for a suitable spirit might be openly purchased at the lowest price. How, therefore, would they be placed as illicit distillers of drinkable spirits by my proposed plan? Why, just as they are now,—for suppose them to buy spirits impregnated with any of the cheapest (and they must be cheap) ingredients on the Excise list, it is assumed that it would have a widely different, and more disagreeable flavour than the coarsest spirit they now make, and such as no processes within their means could render endurable to the taste; and, besides this, how could they prevent the peculiar smell of this spirit, when hot, in their imperfect stills, from detecting them, and they would require too much room and too many additional bulky and expensive utensils, ever to make it worth their while to run so much risk, even if, after all, the spirit might possibly be made drinkable. Their chief customers are the poor and vicious, who are nevertheless very nice and fastidious in the flavour of their favourite beverage, and such a spirit would not at all suit their previous tastes; so that it may be assumed, on tolerably good grounds, that the danger to her Majesty's revenue from this source would, instead of being increased, be greatly diminished by the present proposition, inasmuch as the consumers for non-potable uses, who now buy illicit spirit, would then use that on which at least some duty had been paid.

Chemists and druggists are very great consumers of alcohol, and they would, to a trifling amount, substitute the impregnated, for the pure alcohol now employed, but I well know this could only be done to a very limited extent, and the ten-fold quantity of the impregnated alcohol which they would otherwise consume, would more than compensate for the small deficit, caused as above named, and more especially as every wholesale and retail druggist would then find it abundantly remunerative to take out a licence (to be granted for this particular spirit alone), which would greatly improve that branch of the revenue, and as no distiller or rectifier would, by the proposed plan, be allowed to have or keep any of this impregnated spirit on his general business premises, it would most probably give rise to a separate trade, or else, and what is more desirable, become a leading article with some of those already established.

It would require, Sir, a knowledge of the sciences, arts, manufactures, professions, and trades, possessed but by very few individuals, to view this subject in all its bearings, and fully to estimate the advantages here proposed; and they may, therefore, appear overstated to a superficial calculator; but a careful consideration will enable such to appreciate them better.

Let us, Sir, as a feeble illustration of my views, take Alkanet root as an example of the working of the proposed plan. You know, Sir, what a troublesome, dirty, and very wasteful operation it is to get the colouring matter out of this substance by oil or turpentine; but a chemist, who under this plan, would make such operations his business—would, at a trifling expense, extract the entire colouring matter, at little or no loss of alcohol, and send it into the market, somewhat in the form of powdered dragon's blood; and ask any gun-stock-maker, cabinet-maker, or perfumer, if he would not consider this a great advantage. I am aware that an alcoholic solution of the colouring matter of Alkanet root would not answer, but here the alcohol would be entirely driven off, and the dry extract left in its original beauty and purity, a new article in commerce.

It must also be remembered, Sir, that the question is not exactly what wonderful advantages do we see the trades, &c., of those countries possess over us where spirit is very cheap? but rather—what advantages might we not reap, taking in view our greater national enterprise, our superior capital and skill, our extensive possessions abroad, and our luxurious and rich consumers at home, were we similarly situated? For example: a French perfumer can far better afford to pay 5s. per gallon for the spirit he uses, than a Russian or German perfumer 3s.; and an English perfumer can still better afford to pay 7s. or 8s., than the two former 3s. or 5s. So, also, a German or Russian family would, perhaps, rather endure for months the odious smell of oil or turpentine in their newly-painted houses, than pay 3s. or 4s. a gallon for alcohol to avoid the evil; whereas in England it would be most gladly paid, to escape from such an evil—but 18s. or 20s. is too much to pay for the immunity.

From these observations, Mr. Editor, you will see, that I only here propose to carry out in principle, the plan adopted by Government some years ago, with regard to the salt used for agricultural purposes; and although many obstacles may be opposed to the one in question, I think, Sir, you will admit that well-directed and persevering efforts have overcome far greater ones, for the attainment of objects of less importance.

If, therefore, any class feel themselves in-

jured by the operation of the present high duty on spirits of wine, let them at once use the means obviously at their disposal; and, if this be done properly, I feel assured, Sir, from the present favourable disposition of our Government to remove, as far as practicable, every hindrance to our national prosperity, that the relief sought for will be granted.

I am, Sir, &c. P.

HOW A SANITARY ACT MIGHT BE WORKED.

SIR,—Further to carry out the views already advocated in your journal,* I will now briefly state how a Sanitary Act might be worked.

In every city, town, and village, I would have a local sanitary commission, composed of a certain number of persons, according to the numerical extent of the ratepayers, by whom they should be elected. A portion (say a third) of this body should retire from office according to rotation every two years, so that in six years the whole body would be changed or re-elected, as retiring members should be eligible for re-election. By this arrangement, any sudden change of the whole body, by which their business arrangements are likely to get deranged, would be avoided, and when the members had obtained an insight into the routine of their duties so as to render themselves an efficient and useful body, they would not be hastily dismissed from their office, as would be the case if they were annually elected.

These local sanitary commissions should be formed quite independently of any existing commissions of sewers, paving, &c., which would be abolished, and also of any municipal corporations or vestries.

In order to insure the carrying out of the Act in one uniform manner, and in the best possible way as regards the details, I would also have one central commission, to be composed of men to be elected by the ratepayers, one from each county, which central commission should have an establishment, and meet at regular intervals, in London, and whose duty it should be to give instructions from time to time as to the carrying out of the Act, and who should also define the districts of the respective local commissions, and who should have the power of extending the limits of such districts when petitioned to do so by two-thirds of the members of any local commission. The central commission should be elected every six years, and should have an efficient staff, composed of medical officers, engineers, surveyors, chemists, and others who may have made the subject, or any particular department of it, their study. They should also have a laboratory, and have the power to make experiments, examine witnesses, or go into or send their officers into any part of the country in order to inquire into and examine any improvements or new inventions relating to the subject which should be worthy of their notice. Perhaps it may be objected that such a central commission would be too numerous; but to this I reply, that as very considerable powers would be intrusted to the commission, it would be necessary that it should be numerous, in order to guard against any perversion or tyrannical use of its powers, and the commission would be more accessible through its members than would one consisting of three—like the Poor Law Commission—or a larger number. Besides, we have it on good authority that, "in the multitude of counsellors there is wisdom." The Chief Commissioner of Woods and Forests and the First Lord of the Treasury should be *ex officio* members of the central commission.

Whatever may be the general opinion as to a commission such as I have proposed, I think it will be admitted by all that a central governing commission of some sort is absolutely necessary for the efficient carrying out of the "Act."

To return to the local commissions. In large towns and cities these commissions should be divided into committees for the carrying out of the different branches of the subject; thus there would be a sewerage committee, a paving committee, and so forth, and an efficient establishment would of course be required, the various officers of which should be elected by the whole body. One or two committee-rooms, and a room for general meetings of the whole commission would be required, and the committees should meet at different times, so that they might each have the attendance of the secretary and of any of the officers.

After the election of these local commissions, their first duty would be the election of officers, and their next the obtaining of a complete plan (shewing the levels) of the whole of the city, town, or village which came within their district. The expenses of the local commissions should be defrayed by a rate, and those of the central one by government. Although at first sight it might be thought that the rate for the carrying out of so many objects would be a very heavy one, yet, if properly managed, I do not think that need be the case, as there would be revenues derivable from the sewage manure, from the ashes, and the sweepings of the streets, from the supply of water and gas, and from the baths and washhouses, which would very materially reduce, if not altogether do away with, any necessity for the rate—at least after the first expenses had been incurred. In places where the water and gas are supplied by private bodies, in a satisfactory manner and at a moderate rate, it would not be necessary for the sanitary commissions to interfere, but where such is not the case, should the existing companies decline to accede to the requirements of the commissions, the commissions should be empowered to purchase the works of such companies at a fair valuation, or establish works of their own.

It may, perhaps, be urged that the expense of gas would be too great for its use to be extended to villages; but when we see small railway stations, on some of the lines, lighted by gas made at the stations, simply for their own supply, I do not think that argument can have any weight.

Then as regards cemeteries: these may be objected to as unnecessary in villages; but when we find that there is hardly a village churchyard which has not been raised several feet by the repeated burials, so as to render it necessary in many cases to descend steps into the church, I do not think that argument can stand. However, I would insert a provision in the Act allowing the enlargement of village churchyards where they are situate at a considerable distance from any dwellings, but in such cases I would prohibit any more burials in or under the church and within a distance say of fifty feet of it. The proposed Act should be properly punctuated, and drawn up in a clear and concise manner, and the absurd legal verbosity which characterises most Acts of Parliament should be carefully eschewed.

The Act should also be framed so as to meet any changes that may take place, such as the extension of towns, &c., &c., so that, as far as possible, alterations and amendments should not be rendered necessary; but should such be found requisite at any time, the central committee should frame a bill for that purpose, and apply to Parliament for their sanction to it, or otherwise. It would not be desirable to allow any modifications or alterations to be made in the Act without the consent of Parliament. In particular cases, however, the commission should be empowered to relax the provisions of the Act, should they consider it requisite; for instance, upon sufficient grounds being shewn, they might allow the carrying out of some of the provisions of the Act to stand over for a reasonable period,—but such power should be used with great caution.

I cannot close this without reference to a statement recently made by one of the members of the corporation of London. He said that "He did not care about the evacuation of the sewers of London into the Thames. The constant ebb and flow of such a mass of water soon diluted all the impurities which the river received, and he had no apprehension of the consequences of such out-pouring as had been described."

Surely the gentleman who made this statement cannot have been in the vicinity of any of the large sewers in the city, where they empty their contents into the river at low water, very recently, or both his nasal and visual organs must be very defective; if neither of these surmises are correct, I would recommend him to pay a visit to Puddle Dock, Whitefriars Dock, the mouth of the Fleet Ditch, and the steamboat pier at Earl-street, at the period named, and I think he would change his opinion on this point.

A LONDONER.

* See p. 610, vol. v.

CHURCH RESTORATIONS.

St. Mary's Swineshead.—The new chancel of this church was opened on the 6th instant. It has been entirely rebuilt, under the direction of Mr. Stephen Lewin, of Boston, architect, in the general style of the church, which is the Perpendicular. The walls are of Ancester stone, dressed exteriorly, and faced with tooled rubble within. The roof is of stained fir, open timbered and covered with lead. The stalls are of English oak, and the floor of white Mansfield stone. The walls are buttressed, and the east gable is pierced by a window of five lights, with cinque-foiled tracery, in the style of the bays between the side buttresses. Between the chancel and the nave the ancient carved rood-screen has been re-erected. The carved oak stalls of the chancel were made in the village. The stone-work was executed by Mr. John Baker, jun., of Sleaford; the wood-work by Mr. Morris, the iron-work by Messrs. Woods and Allen, and the glazing and plumbing by Mr. Horner—all of Swineshead. Trinity College, Cambridge, provided the necessary funds.

Thornbury.—Mr. Francis Niblett, of Gloucester, has been appointed by the vestry of the parish of Thornbury, Gloucestershire, to carry out certain restorations and repairs proposed to be done to the church. On consideration of a report and specification by the architect, it was decided by a majority of the vestry that only those portions of the restorations absolutely necessary should be carried into effect, and that there be no expenditure on unnecessary ornament. In detail, and "to ascertain what was considered necessary and what unnecessary," the specification was gone over, and sections relating to the roofing of the nave, north aisle, and chapel, and the re-building of the walls of the clere story, and to the south aisle and chapel, were carried without opposition; and, on the suggestion of Dr. Gingell, it was determined that the timber should be of foreign oak, and that the old timbers of the nave roof be made available for the restoration of the north aisle roof, the nave roof itself to be of Riga oak. In face of some opposition, too, it was determined to re-pew the church, the cap mouldings and external sides in oak, panelled, moulded, and filled with tracery—the pews provided with doors, and the present deal pew-framing to be used for the divisions and seats, and to be stained. Restorations in the chancel are to be carried out by the Rev. Mr. T. S. Townsend, the vicar. Twenty of the principal ratepayers and parishioners have been appointed as a building committee; "too many by half," as our correspondent remarks.

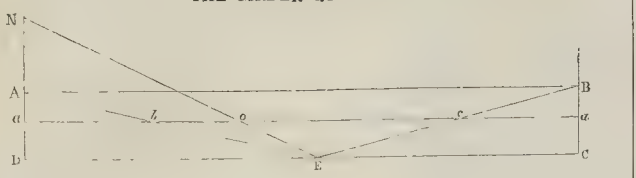
The following estimates have been given in for the contemplated works, viz.:—For nave roof of Riga oak, covered with 7 lb. lead; clerestory walls and windows; repairs to and restoration of north aisle roof, covered with lead, and parapet; repairing nave aisles and chancel stalls, using old materials; repairs of roof, north chapel, and screen; south chapel repairs (to roof principally); and general repairs to roof, &c., of south aisle—

Plawton	£2,578 10 0
Cholerton.....	2,549 16 0
Lawerence	2,294 9 8
Willcox, Bristol	2,130 10 0
Brown	1,555 4 0!!

On certain conditions, relative to security and to testimonials from an architect, the lowest tender (that of Mr. John Brown, of Broadmead, Bristol) was to be accepted.

BRIDGE OVER THE RHINE.—Two French engineers have just been charged, by the municipality of Cologne, to throw a suspension-bridge over the Rhine in that city, similar to the magnificent one over the Danube at Ofen, in Hungary. The new bridge is to have a pile in the middle of the river, and will cost 150,000 thalers, or 600,000 f.

THE GIRDER QUESTION.



Sir,—I have read with great interest the reports on the girder that have lately appeared in The Builder, and having paid considerable attention both to the practical construction and theoretical investigation of the subject, I hope your correspondents will excuse any observations I may make in reference to their communications.

The practical and clear manner in which Mr. Cubitt's experiments are described,* render them particularly valuable, and I read them with the greater pleasure from the fact that the result as regards the action of the tensile bars corroborates my own conclusions, published in the *Mechanics' Magazine*, No. 1260, page 334.

In considering the action of these rods, we must observe, that, as ordinarily applied, they must be considered as an integral part of the girder, and calculations of the force existing in them must bear reference to the neutral axis of the girder.

For if ABCD be a girder, *abcd* the neutral axis of that girder, the portion *a*B which is above the neutral axis, will, on the application of a load, be compressed, and the part D*d* will be extended, but the bar A*b*E is partly above and partly below the neutral line, therefore it will have both a compressive and a tensile force to resist, compressive in the part A*b* and tensile in the part *b*E, and the difference of these forces is the force which actually exists; *b*E being longer than the segment A*b*, the tensile force is probably the largest in the bar A*b*E, but if, instead of being attached at A it be carried to N, then N*o* being greater than *o*E, the compressive force would be in the excess, and therefore the bar NE would be decreased.

I cannot, however, conclude from this that the truss is useless, for it is evident (whether extended or compressed), whatever force it resists, is or ought to be so much strain taken from the girder, and should, therefore, go to support the structure, for you must bear in mind that a girder resists the action of a load by a compressive force above the neutral axis, and a tensile force below it. Hence, if the truss bars are extended by a weight on the girder, it should assist the tensile force in the girder; if, on the other hand, the bars decrease in length, they ought to assist the compressive force; in either case it should assist the girder in proportion to the strain which it bears. It is only when there is no force at all existing in the truss that it can be said to be entirely useless, though I fear in most cases it is worse than useless, from the fact of their action not being sufficiently understood, and too much dependence having been placed on them. The same observations equally apply to the compressive truss so common in buildings, &c.

The difference in Mr. Cooper's tables of experiments A and B, in last week's Builder, arises from the difference of proportion between the superficial and solid contents of the bars, which were used at the two classes of experiments. The surface of a casting cools first and then has to resist the contractive force of the interior metal in becoming solid, which has always the effect of lessening the strength of the surface metal. Some tables of valuable experiments made by Mr. Bowman were published in the *Mechanics' Magazine*, No. 1268, pages 520-23, by which it appears that the transverse strength of iron cast in a chill, and afterwards annealed, is increased upwards of one hundred per cent. This is worthy of attention.

The load borne in the experiments C was equal to twice the load which the weakest bar under trial would bear.

In conclusion, I would beg to observe that the difference in the structure of wrought and cast-iron greatly increases the difficulty of the subject, and this point requires special attention.

I am, Sir &c.,

William Dredge.

10, Norfolk-street, Strand, Dec. 13th, 1847.

* See p. 612, Vol. V.

DECORATIONS OF THE LYCEUM THEATRE.

DECORATIVE ART SOCIETY.

A paper on the recent decorations of the Lyceum Theatre, &c., by the active secretary of the society, Mr. Laugher, and discussions on theatrical decorations generally, have engaged three meetings.

The subject was introduced with a brief recital of several opinions and suggestions having reference thereto, which originated through various papers on theatres, scenery, stage properties, and heraldry, previously read before the society and reported in The Builder, and which, it was argued, may have had some share in promoting a meritorious progress in the decorations and scenery of our metropolitan theatres. It did not appear, however, that any particular style of decoration then in existence had been recognised as perfect; but the *relievo* decorations at the Princess's Theatre had been accredited as excellent, although displaying a treatment too massive and cumbrous for a theatre of its dimensions, whilst those of the Opera House in the Haymarket, and Covent Garden Theatre had been censured mainly for the comparatively tame and ineffective result obtained by a preponderance of flat-surface paintings; and the desideratum, therefore appeared to resolve itself practically into an amount of light and shadow in the embellishments; and, further, that this is more forcibly derived by projection of surface and *relievo* ornaments.

Mr. Laugher argued, that a freedom in criticism would promote the refinement of our tastes, and, by diffusing a more correct estimation and regard for decorative art, a reform therein must be hastened. To inculcate such lessons through the medium of a theatre might displease some, but the interior decorations of a mansion do not offer equal scope for fair debate, nor, with persons assuming practical views, does a constant reference to precedents afford equal advantages with a consideration of the living progress and actions of our own times. Our theatres and public buildings, it was contended, therefore, ought to be considered proper vehicles for the education of a nation's taste.

The reader then remarked, that in the recent decorations of the Lyceum Theatre, there may be found much of progress in art to watch and carefully study, as they exhibit artistic results very superior to any of a similar character at present in any other metropolitan theatre, and undoubtedly would have an important influence in fostering a demand for that highest class of embellishment, which consists in representing animate forms in relievo. A general description of the ornamental details having been given, he observed, that the embellishments emanated chiefly from the ateliers of the artist-modeller and sculptor, while, with the exception of the fronts to the uppermost tier, pictorial art is only sparingly introduced, and that the contrast in the energy of the respective efforts of sculptured and painted decorations, ought particularly to be noticed. The excellent groups of well-modelled boy-figures clustering amidst the foliage and branches which stretch forth to support chandeliers, arranged at intervals around the theatre, have, it was said, a purport and business-like air, intelligible to all observers: and the expression in the features of the upper groups is especially appropriate to their position. The panels and medallions, containing figures in relievo, were described as works worthy of minute examination; and the foliated scroll-work, birds, beasts, and serpents, introduced upon the fronts of the boxes and friezes, were said each to possess great artistic merit. The manner in which the birds on the dress-circle are arranged with their natural enemies, such as serpents and wild cats, appearing amidst the lower *convolutions* of the foliage on which they rest, was alluded to with commendation. It was said, that nine days was the extent of time in which the whole of the relievo decorations had been prepared and fixed by the Messrs. Jackson.

The reader, in conclusion, remarked that the style adopted in the decorations of the Lyceum displays many features which have been favourites with the greatest artists in past ages. He referred to the coins, cameos, and bassi-relievi of ancient Greece and Rome, on which human figures, such as Cupids, bacchantes, &c., are ordinarily found; also to the examples of beautiful boy-figures in Raffaelle's Cartoon of "St. Peter healing the cripple at the beautiful gate," as well as the works by Donatello, Ghiberti, Brunnelschi, Titian, Il Flamingo, and others, from the fifteenth to the seventeenth century,—and particularly to Gibbons, whose skill in representing birds, &c., in alto-relievo, for applied decorations, had rendered this class of decorative art popular, down to late in the eighteenth century, evidence of which, it was remarked, might be practically gleaned from the sculptured tombstones to be met with in almost every village churchyard in England.

NON-PROFESSIONAL CRITICS.

RESTORATION OF WIGAN CHURCH.

The parish church of Wigan is about to be restored by Messrs. Sharpe and Paley, who, considering that most of the features which it now exhibits must have been given to it in the seventeenth century, propose, in the restoration, to substitute such more appropriate details as may accord with the character of the mass of the building,—that of the perpendicular period.

This has led a writer in the *Wigan Herald* (unaware of the supposed alteration in the seventeenth century) to reprobate the architects' proposal, and they, in their turn, considering that, "an architect is the only professional man whose character is liable to be publicly attacked, without the usual remedy," have replied to him through the same channel; in the course of this they make the following remarks, the truth of which will be acknowledged by many of our readers.

"In the large and rapidly-increasing class of persons who interest themselves in the study of church architecture, but who are not professedly engaged in it, there are to be reckoned many eminent men, who have contributed largely to the stock of knowledge that we possess at the present day on the subject; and it is a satisfaction to know that the number of those who have the leisure and the ability necessary to render such contributions valuable, is daily on the increase. It is, however, natural that we should find, as is generally the case in movements of this kind, a small section of this class of a different character, consisting of the busy and ambitious few who, possessing a superficial knowledge on the subject, are nevertheless not content to tread the common path, but desire to separate and distinguish themselves from their fellow students in the eyes of the rest of the world, by publicly assuming an authority and knowledge in the matter to which they have no pretensions. Having purchased a handle to their names by attaching themselves to some society in repute, they traverse the country, occupied in *rubbing* monumental brasses, and taking notes. Unaccustomed to the use of the pencil, but ready with the pen, they are poor advisers, but powerful critics! Possessing an acquaintance of a few years' standing with the

architecture of the middle ages, unable to distinguish the details and mouldings of one style from those of another, or to separate the good from the bad, and the beauties of one period from the blunders of another; believing safety, in fact, to consist in the total absence of all originality of design, the principle they prescribe to modern practice and to the architects of the nineteenth century is that of *servile imitation*. If a new church is to be designed, the doorways must be taken from this building, the windows from that, and the moudings from a third; or, better than all, an entire church may be copied. If an old church has to be restored, every feature that it contains—good, bad, and indifferent, are alike to be repeated, even to the defects of the workmanship, and the blunders of the builders."*

NOTES IN THE PROVINCES.

The Norwich Board of Health report that during the past year they have suppressed forty nuisances, and that their medical officer, by carrying out their plans for the prevention of small-pox, has added materially to the sanitary improvements of the city and hamlets.——A design for the Corn Exchange at Peterborough, by Mr. S. Hemming, has been adopted.——Our street pavements, says the Winchester correspondent of one of the Hampshire papers, are a curiosity, or rather a display of curiosities; not a very useful display certainly, for the whole globe seems to have been ransacked to find bad specimens of footway paving. Here you stumble and there you limp on rough Purbeck flatteners; anon you dive and catch a catarrh in the holey depths of a lias formation, or stick in the mud over which patent asphalte and crackjaw bitumen possess such an attractive power. If you wish to take a comfortable walk on *pavement*, you must take a ship's-deck turn to and fro in front of the gaol, where the county authorities, in pity to the tender-footed and infirm of the city of Winchester, very considerately forewent experimenting, and laid down pavement fit to walk upon.——The subject of an esplanade at South Sea Beach, authorised by the Board of Ordnance, is to be brought before a public meeting of the inhabitants shortly. It is thought by some that measures ought rather to be taken "to cleanse and light the town, more especially as certain commissioners had reported that of the six dirtiest towns in England, Portsmouth obtained the filthy pre-eminence."——The Secretary of State has confirmed an agreement entered into between the magistrates of the counties of Glamorgan, Carmarthen, Pembroke, and Cardigan, for the erection of a central lunatic asylum, to be erected in the western part of Glamorganshire. It is to contain 300 patients.——From the reports of the dean of Llandaff Cathedral, and the architects employed in the restorations, it appears that the funds received in 1847 amounted to 1,040*l.*, and that the expenditure was 573*l.*: secure resources still remaining, 2,700*l.* Of the expenditure of the present year, 450*l.* have been the outlay on the parapet and new windows at the eastern extremity of the two side aisles, and the works in clearing and repairing the Norman arch, and preparing the ground for future works. Both architects concur in recommending in the next place the perfect restoration of the eastern compartment of the choir, or presbytery, the architects believing that, by the complete restoration of this portion, with the construction of a new clerestory, and an entirely new and appropriate roof, the most efficient example will be given of the whole design. Failing funds, the works in the rest of the choir to be confined to the main or ground story, leaving temporarily the Italian clerestory, in that part, rather than, by attempting too much, to restore the whole imperfectly and partially.——Several improvements have been recently made in the parish church of Manorbier, near Tenby. Open oak seats have been substituted for an unsighly gallery of painted deal, which shut out all view of the font; the plans furnished by Mr. J. P. Harrison, architect of the church in course of erection at Pembroke-dock, and the wherewithal by Mr. Edward Wilson, a resident in the parish, who also contributed to the substitution of an early English window of three lights, worked in blue limestone, in place of a square wooden sash which disfigured the west end of the church. Further restorations are contemplated.——The Polytechnic Institution, at Birmingham, is outgrowing the limits of its present accommodation in the Philosophic Institution-rooms, and a specific building for the institution has been recommended by a committee, on plans provided by Mr. Orford, architect, at an estimated cost of 3,000*l.*, fittings included: the building to have a theatre for 800, besides a gallery for the school pupils; and also a laboratory, male and female class-rooms, library and reading room, &c., and a room for public purposes. A suitable site had been secured in Upper Temple-street. It was suggested, however, at a meeting for consideration of the committee's report, that the present was a favourable opportunity for obtaining a building which would accommodate all the literary institutions in the town, in the desirableness of which Mr. Alderman Cutler, the recorder, and others, concurred, and ultimately the report was referred back to the committee, to take means to promote the proposed amalgamation.——The Corn Exchange Company at Wolverhampton have decided on the site in Smithfield, near Queen-street. The determination being distasteful, it is said, to many of the owners and occupiers of property in and near the Market-place, a proposal for the erection of a new Market-hall has been originated, and a Company, with a capital of 20,000*l.*, is now in course of formation.——A contemporary, in noticing the opening of St. Neot's Church, and a few of the most striking improvements effected, says that "the hideous galleries and pen-like pews have been completely swept away, the whole area furnished with carved oak stalls, low and open, and the floor lowered several feet to the level of the original pavement, so that the clustered columns of the nave, and indeed all the architectural features of the church, stand boldly out. The lectern and pulpit are of carved oak, by Mr. Rattee, of Cambridge. The restoration is far from completed,

* Mr. Sharpe has completed, to a certain extent, his "Architectural Parallels." We shall on an early occasion give it the attention it well deserves.

Miscellanea.

The Clergy and Burial in Towns.—It gladdens us to find the Rev. Dr. Jackson, the rector of St. James's, Westminster, heading a movement against intra-mural burials. A petition to Parliament for the abolition of the practice has been determined on, and a committee appointed to draw it up. The same parish have determined on petitioning against the window-tax, also.

Movement of Cylinders over Roads.*—Sir: Respecting "E. A.'s" answer to my problem in a late number, I beg to state, that it appears to me that your correspondent must have overlooked the following observation, which is appended to that problem, namely:—"If it be admitted that as little power would be wasted by this method of crushing as by any other, it necessarily follows, that in any given time the power (p), pounds raised one foot per minute, would be sufficient to roll a particular cylinder (whose weight was proportionable to the hardness, &c., of the substance to be crushed), over the required quantity of the said substance (placed as aforesaid), and thereby crush the same." Because I think your correspondent would otherwise have objected to that statement, previous to making his solution of the problem at variance with it. "That (W) will become greater the greater the cylinder," is true only when the specific gravity continues the same, or becomes greater, more or less, the greater the cylinder. It will be observed that the problem is so worded that the motion of the cylinder may be supposed to be either uniform or variable, and not the former only, as your correspondent supposes. I cannot agree with your correspondent in supposing that P is evidently equal to $(P+p-m)$. For the purpose of eliciting further information on this subject, I shall conclude by asking the following question:—Would not less power be required (within certain limits) to perform the said work with a cylinder of the same weight as the given cylinder but of less specific gravity, and consequently greater in diameter?

J. W.

* See page 616, Vol. V.

Electro-telegraphic Progress.—It is proposed by Messrs. Brett, of Hanover-square, to establish an international communication, *viâ* Dover and Calais, by their printing telegraph. The English and French Governments have, it is said, conceded grants to the projectors, and the French Minister of the Interior, M. Duchatel, is understood to have expressed an ardent desire for the fulfilment of the undertaking, and promised to give it his cordial support. Experiments made with this telegraph, on land extending 146 miles between the points of communication, have been performed, it is said, with the same rapidity and certainty as at a distance of only a few feet.——A citizen of Edinburgh, sojourning in Manchester, lately received, by telegraph, an incidental call homewards to Edinburgh, which he reached (a distance of 289 miles each way) in twelve hours, whereas the same feat, only twelve months since, could not have been accomplished in less than three days, and even that, not long since, would have been a "world's wonder" in this age of miracles.

Improvement in Springs.—A patent has been taken out by Mr. J. Woods, of Bucklersbury, for springs for supporting heavy bodies, and resisting sudden and continuous pressure; they are formed of flat plates of steel of equal thickness and breadth throughout, except at the two ends, in such manner that the weight shall tend to deflect the plate in its breadth, instead of its thickness, as has been usual. A plate of steel is wound round a cylindrical or square bar, in a spiral or volute form, hardened and tempered. To form the spiral springs a cast-iron mandril of the proper form is employed, furnished with a wrought-iron stem, collar, and cotter, and the plate of steel is hammered or rolled round it while hot, and then tempered. To obtain springs of different strengths, the breadth and thickness of the steel is varied, as also the pitch of the curve, by which means a higher or lower spiral is formed from the same plate.

Institution of Builders' Foremen.—The annual social meeting of the members and patrons of this commendable institution was held in Dowell's Tavern, St. Swithin's-lane, on Wednesday evening, Mr. Parker, architect, who is an honorary member, in the chair; when the third annual report by the auditors and Mr. W. Allard, the secretary,* with a list of eighty members, was presented in a printed form to the meeting. The issue of the report in this form, it was stated, had been, and was still likely to be, highly beneficial; and in the mean time the committee congratulated the members on the steady progress of the institution. The total receipts for the past year amounted to 182*l.* odds, of which 66*l.* 17s. was still in hand, while 100*l.*, 3½ per cent. annuities, had been purchased on behalf of the charity fund, at 82*l.* 7s. 6d. Small gifts to afflicted members had already been made. Further subscriptions and donations were announced at the meeting; the Chairman, in his address, remarking that, considering the comparatively unsettled position of the members while in the exercise of their calling, the difficulties of the establishment of such an institution had been, or were likely to be, much sooner and more effectually overcome than might have been anticipated, when its foundations were laid in 1842. The meeting was a numerous and highly respectable one, and the evening was passed in harmony and good order.

The late Mr. Seward, Architect.—This winter has been fatal to architects: Mr. Henry Hake Seward is to be added to the list of the departed. Mr. Seward was Assistant Surveyor-General of the Office of Works, to which situation he was appointed on the resignation of Mr. Robert Brown, a pupil of Sir William Chambers. Mr. Seward was an early member of the Institute of Architects.

Give every Man his Own.—Sir: My object in addressing you is to call your attention to an article in your number of January 8, on the Bath Abbey, headed "Architectural Rebuses," which you quote from the *Bedford Mercury*. Now, that article is an almost verbatim extract from my work "Rambles about Bath," and I shall feel obliged by your stating this in your next publication.

James Tunstall, M.D.

* No. 4, Gloucester-buildings, Albion-place, Walworth-road.

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of a church and parsonage-house at Penge, near Sydenham, Kent; for maintenance of the permanent way of the Midland Railway between Nottingham and Lincoln stations, with branch; for the construction of a tunnel at Macclesfield; erecting workshops at the engine-house, Wellington station, Leeds; constructing the Smethwick deviation of 4¾ miles on the Birmingham, Wolverhampton, and Stour-valley Railway; also, for cutting backs water in Kintyre; for executing stone-paving and carriage and foot ways in the city of London, for three years; for the masons' and paviors' works in the parish of St. George, Hanover-square, and for the supply of Guernsey granite chippings and Yorkshire paving—all for one year,—also, for the supply of workmen's tools and hammers, for stone-breaking, and repairs of same, and for iron lamp-posts and gas-fittings, for one year, for same parish; for a supply of 750 tons of best picked broken granite, for the Leicester and Peterborough turnpike-road; and for a supply of 100 tons English tough cake-copper for the Admiralty.

THE WESTMINSTER LITERARY INSTITUTION.—We are glad to find this institution making satisfactory progress. The building debt is paid off, and the list of members numerous. It was pleasing to see the Dean of Westminster and some of his canons leave the Abbey last week to discourse on the progress of knowledge and its wonders in the theatre of the institution. As the Rev. Mr. Milman remarked, after the lecture—"Truth is not less delightful when it condescends to wear a light and graceful garb."

RAILWAY WORK.—The Great Western have resumed full work at Swindon.——The Aire Valley Viaduct of 23 arches, on the Leeds and Thirsk line is well advanced.——A viaduct on the Dewsbury line crosses the same valley.——Some of the embankments on mossy bottoms on the Caledonian line have subsided, and are to be allowed time to consolidate, after being again raised up to the requisite height. The opening of the line, therefore, has been indefinitely postponed, though in other respects ready for working.

GREENWICH TIME AT EDINBURGH.—The Postmaster-General, by letter through his secretary, has recommended the Town Council of Edinburgh to substitute Greenwich time for true time there too, as elsewhere throughout the three kingdoms,—and, he should have added, to consummate the absurdity,—as elsewhere throughout the colonies, on which the sun never sets. The Postmaster-General should go to head quarters at once, and recommend the Professor of Astronomy, at least, or the keeper of the Observatory, at Edinburgh, if not the 'Clerk of the Sun-office,' to alter the set course of time so as to suit the convenience of the clerks of the Post-office. By adopting Greenwich time for the sake of convenience,—adopting it, just as any other lie may be adopted in place of the truth, for the sake of *convenience*,—much time and trouble, says an Edinburgh paper, will be saved, and "travellers east and west will be enabled to meet at some common centre, each with a timepiece in his pocket, and keep his appointment without first consulting the longitude of the town clock." If much time and trouble really could be thus saved consistently with 'rhyme and reason' or the 'harmony of the spheres,' one would have naturally expected to find the local time of that 'common centre' between 'east and west,' recommended for the convenience of those two travellers for whose accommodation the world and its course of time are thus to be virtually turned upside down. But that a world of trouble in place of a saving, though a harvest it may be of trouble to lawyers, will result from such an absurd attempt to save time, or rather to anticipate it, we are very confident. If our town clocks, for instance, are to be universally *deranged*, or those to the westward of Greenwich, at least, or St. Martin's-le-Grand, be made to 'go fast,' like the ninger's own 'turnip,' in order to make the sun set all the sooner, what a fruitful element of confusion, and trouble, and litigation, we shall have in all the parish, and other records of births and deaths, and the heirship, and other questions at law, which are so frequently affected by, and dependant on, points of time, even down to the exact expiry of days, and hours, and minutes of true local time! To other inconveniences and sources of confusion, and of litigation, such as those connected with the true time of stopping payment, &c., in branch banking or other commercial establishments, simultaneously in different towns, we have already alluded, but this one is worthy, even *per se*, of the intervention of Government, in putting a stop to such cantrips of a deranged head-piece as this is.

VALUE OF LAND IN BATTERSEA.—A triangular plot of land in Battersea, adapted for building purposes, and containing 2 acres 3 roods and 31 poles, was recently sold by Messrs. Foster, at the Auction Mart, and fetched 3,700*l*.

THE SURVEY OF LONDON.—Operations for the intended survey of London by the Ordnance department have commenced. Scaffolding has been erected at Westminster Abbey, as a starting place, and various station points have been set up on houses in the suburbs.

THE WATER COMPANIES AND THE CORPORATION OF LIVERPOOL.—Mr. Stephenson, the arbitrator, having concluded his investigation into the claims of the Harrington and Bootle Water Companies, for the surrender of their works to the corporation, has given his award, which arrived in town on Monday evening. The Harrington Company, who claimed 570,000*l*., are to receive 330,719*l*., or 826*l*. 15s. 11d. per share. The Bootle Company, who claimed 354,000*l*., are to have 204,087*l*., or 548*l*. 12s. 5d. per share.

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, FEBRUARY 1.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 2.—Society of Arts, 8 P.M.

THURSDAY, 3.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 4.—Archæological Institute, 4 P.M.

TO CORRESPONDENTS.

"*J. B.*"—In the Aylsham Union competition, Mr. Donthorne is, we believe, the successful competitor.

"*B. B.*"—We know nothing of the gentleman named.

"*W. C.*"—May use his discretion as to the quadrangle. The throne we may as well have.

"*Artesian Wells*"—A correspondent asks where he may find most information on Artesian wells.

"*W. B.*"—Can we have a sight of the sketch?

"*H. M. B.*"—Has our correspondent any particulars of the structure?

"Revision of the Buildings' Act" next week.

"*Effluvia Trap.*"—We shall consider several conflicting letters on this subject next week.

Received.—"H. G. L.," "Subscriber A.," "Mr. B." (book did not reach us), "J. S.," "C. B." (declined, with thanks), "One of the party," "Mathematician," "B." (cabman), "C. J. C.," "R. R.," "Col. M." (next week), "W. J." "G. R. W.," "H. L." (unimportant?), "T. S." (Yeovil), "J. H." (Chichester), "C. V." (Charles-street), "J. B." (Lombard-street), "H. W. B." (will appear), "W. R. C." (Leeds), "D. B.," "Junius," "O. P. Q.," "Mr. W." (declined with thanks), "P. W." (thanks—shall appear.)

Books received.—"The Theory and Practice of Ship Building." By T. White, jun. (Johnstone, Paternoster-row). Wood's edition of "Songs of Scotland," Nos. 11 and 12, (Novello, Dean-street).

ADVERTISEMENTS.

TO ARCHITECTS COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is" offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be studied in Drawing, and has lessons lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

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THE most perfect DRY GAS-METER in the World.—N. DEFRIES, Dry Gas Meter-maker, in directing the attention of the Public and the Gas Companies to his having just erected an extensive Factory, 10, Hampstead-road, in conjunction with his old-established premises, 67, St. Martin's-lane, begs to say that he can now MEET any DEMAND for METERS, from 2 lights to 1,000. The sale of 18,000 meters and the rapidly increasing demand, stamp as complete a meter that eight years' experience has proved to be unaffected by weather, by time, or by injurious gas. He invites attention to the fact of many of his large meters being in successful action at the Houses of Parliament, the Royal Dockyards, the Thames Tunnel, Theatres, Churches, Club-houses, &c., and has powerful and flattering testimonials at either factory, which may be obtained on application.

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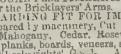
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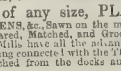


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SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS. Manufactory, 56, REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising the Lowermost Shutter from the Pavement, and Two for Hinging and Detaching the Edges of Wood Laths with and Iron.—The Patentee having fixed up a Shutter in each with full power to forward the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of rag-wheel worm and screw gear, or any other complicated machinery employed by other makers.

The Builder.

No. CCLXI.

SATURDAY, FEBRUARY 5, 1848.

ON Monday morning last, at half-past ten o'clock, the committee-room at the Euston-square station of the London and North-Western Railway was crowded with persons interested in architecture and building, to hear the inquiry into the cause of the late disastrous accident there,—an inquiry most improperly and unwisely omitted, as we felt it our duty to point out, in the first instance. Besides Mr. Hardwick, the company's architect, and Mr. Sheriff Cubitt, the parties more immediately concerned, Professor Hosking attended on the part of the Government (in accordance with a request for such assistance forwarded by the jury), and Mr. Braithwaite, the engineer, was there in pursuance of a summons from Mr. Wakley, the coroner. Mr. S. Angell, Mr. E. Blore, Mr. Higgins, Mr. Poynter, Mr. Shaw, and Mr. Tite, with Mr. Grimsdell, and other well-known builders, were also present. The jury first, and Mr. Hosking and Mr. Braithwaite afterwards, having viewed the scene of the accident, the inquiry was commenced, and was continued with the greatest care and patience till nearly four o'clock, offering a very marked contrast with the former proceedings.

Mr. Hardwick, assisted by his son, on whom the superintendence of the works had chiefly devolved, was examined at great length, and described the construction of the northern inclosure of the new vestibule which fell, by means of the working plan and sections. This description we will endeavour briefly to convey to our readers, even at the risk of repetition, as it unquestionably entails matter for consideration. The wall was carried on four pairs of columns, one column immediately behind another, not side by side, standing on pedestals. Springing from the top of the columns, which were tied together by iron tension-bars, were flat arches, with a tier of York landings and brickwork to form the entablature, and on these, over the *inner* line of columns only, rose the inclosing wall, 2 feet 8 inches thick, to a height, as nearly as we could ascertain, including the entablature, of 24 feet, with a series of openings in it for windows. The back columns, it will be seen, thus took only a small portion of the weight. The columns were formed of bricks *on edge* in cement, 2 feet 2½ inches in diameter at bottom (not 2 feet 4 inches, as before stated), 1 foot 10½ inches in diameter at top, and 20 feet high. The pedestals 4 feet 6 inches high, something wider on the face than the lowest diameter of the column, and 6 feet 8 inches in depth (or thickness), were built in mortar. Below these pedestals were brick piers, with two tiers of arches to connect them, carried up from a solid bed of concrete through the ground-floor and basement beneath the vestibule, a height of perhaps 30 feet. These piers had ten courses of footings in five sets off, and were 5 feet 2 inches wide and 7 feet 4 inches in depth (or thickness). Thus, to recapitulate, there were, first, the piers and arches in basement story; the piers continued up, and arches in the ground-floor; the pedestals and columns above these piers (commencing at the intended level of the floor of the vestibule); their entablature and the wall above,—a height in the whole, from the top of concrete, of, say 80 feet. The mischief is confined to the part above the line of intended floor of vestibule: the pedestals for the most part stand, but are splintered off from the top; all above fell. Having premised thus much, we give some minutes of Mr. Hardwick's further evidence:—

"Messrs. Cubitt were the contractors for the works, from my designs. Originally a time was fixed for the completion of the works, but, in consequence of a large addition to the contract, the stipulation as to time was altogether dispensed with. The original contract was that the works should be finished about the spring of 1848, but the additional works would require at least six or eight months' more time; and the general understanding simply was, that Messrs. Cubitt should proceed with the works as fast as was necessary. The work which fell down was a portion of the additional work, and not included in the original contract. The materials were specified to be of the very best—the best bricks, the best stone lime, the best Thames sand. The foundation of the works had not been examined since the accident. It had not been ascertained that any of the concrete had been displaced. The substratum of the brickwork was as sound now as when first erected. It was an enormous foundation for such a building. He was satisfied that the fall was not occasioned by any thing which occurred with regard to the concrete or to the substratum of work. He had never any reason to complain either of the work or of the materials, nor did he know that his clerk of the works had ever done so. He (Mr. Hardwick) had never calculated the amount of loss sustained by the accident; it could not be above 120*l.* or 130*l.* He had never thought on whom the loss was to fall; he should suppose Messrs. Cubitt would make the work good. The loss would certainly not fall on the Company; they were blameless. There had not been any discussion with Messrs. Cubitt upon the subject. If the loss had been thousands, it might have been of importance; but being so small, he presumed it would not be made a matter of consideration.

Mr. Wakley—I shall ask Mr. Cubitt presently whether he agrees to build the work up again. Englishmen very seldom bear a loss of that kind unless they consider they are in the wrong.

Mr. Hardwick did not consider there was blame to be attached anywhere.

Mr. Wakley—There is none imputed. The object of the inquiry is to avoid a similar occurrence.

Mr. Hardwick—All I can say is, that if Messrs. Cubitt will not pay for it, I will, for I should be ashamed for such a question to go before the board.

Mr. Wakley—Have you yourself formed an opinion as to the cause of the fall?

Mr. Hardwick—My first impression was, that in consequence of our having gone on with the works as fast as it was possible the works could go on, the cement of the columns had not sufficiently set, though when we proceeded with the works we believed it had. The work was entirely green work, and liable from a little pressure to accident. It was a bad time of the year. The columns were constructed in November, when the weather was wet and damp. If the work had taken place in spring, no accident in all probability would have occurred. No complaint was made that the works were carried up too fast. One justification for expediting the work was the general inconvenience the public experienced from the want of additional accommodation. It was necessary cement should be used immediately after it was prepared. By being left long its adhesiveness was destroyed, and it became crumbly. A column of 2 ft. 2½ in. in diameter admitted of solid brickwork. There ought not to be any interstices, but if there were they would be filled up with cement. The columns were begun to be built with the bricks lying flat, but soon after the plan was changed, and the bricks were laid on their edges. Roman cement was used. There was no specified proportion between cement and sand. When the cement was good, the union produced between it and brick was as firm as stone. The substance became a perfectly indurated mass. No specification was made as to the mode of laying the bricks, whether flat or on edge. To the architect the difference was of little moment, because the principle of constructing a column was, that it ought to be one solid mass of material formed of brick and cement. If the cement was not good and the combination well formed between it and the bricks, the column would not be safer by the bricks being laid flat instead of on the edge. The danger would be the same. In using the bricks on the edge there was less cutting of the brickwork than in using the bricks flat. He could not at the moment remember any building constructed in a similar manner, but brick columns were very common. He had built a great many brick columns, but he had never had his attention particularly drawn to the subject, he always having trusted to the judgment of the workmen.

By a Juryman.—The columns were entirely crushed by the weight of the brickwork above falling. The general work was to be partly mortar and partly cement, but the columns were to be all cement. He had inspected them, and found them all cement and brick, but the cement was not in some portions of them sufficiently set. In saying this he did not mean that there was danger from pressure, but that it was likely the work might receive a lateral injury from the scaffolding, or some such thing. For example, since he had made his report upon the subject, it had been felt that the work might have been affected in some degree by the removal of the scaffolding. The scaffolding was carried to a very great height above the wall. In the course of the construction the ledgers of the scaffolding were placed close against the columns. The least movement of that scaffolding would have the effect of bending the column to which the ledger was attached. If the work had been done in the month of May or of April it would have set in a few days, but in this part of the year it would not set for several weeks. Men were employed during the morning of the accident in making some alteration in the scaffolding at the top; it was quite possible, therefore, that a movement might have taken place. The cement not being set, the slightest lateral thrust upon the columns would occasion the accident. How much greater must have been the effect of removing the whole of the scaffolding! The height of the scaffolding was so great, that it afforded a lever of enormous power when the movement took place at the very top, and this might account for the occurrence of an accident.

Mr. W. Cubitt, when examined, confirmed the statement that no time had been stipulated for the performance of that part of the work which fell: he knew of no deviation from the specification: had never doubted the goodness of the design. As to the cause of the accident, he felt ashamed to say he could not arrive at a satisfactory conclusion: he did not think the scaffolding had any thing whatever to do with it. Believed that the columns eventually would have carried all the weight; and that, if the period of the year had been more favourable, the work might have been done safely in half the time which they had occupied in doing it. When examined as to the necessity of using cement fresh for such work as the columns, Mr. Cubitt said,—It is of great importance that the cement should be used at a proper period, but what that is depends much upon the nature of the cement: in 20 casks, had from one manufactory, several of them will differ from the others. Sometimes the cement requires time before it is used, otherwise it sets so rapidly as to prevent its closing up the bricks properly. Cement, when it is very fresh and new, hardens instantly, but it does not take the character of stone for a very considerable time; and that which is used fresh is less likely to do so than cement which has been kept a little time. By the touch is the best mode of judging of it, and not the eye. His workmen were picked men, and under-

stood the nature of their work. The best Thames sand was used, and the men had no inducement to hurry the work. The question as to who would sustain the loss had not been mooted. He was not prepared to answer that question, but would like to leave it to the coroner to decide, after the inquiry was over.

Robert Butterwick, the general foreman of the works, was examined, and deposed that no undue haste had been used. The foundations of the work were commenced in August, and the pedestals were begun on the 21st of October: the columns were begun on the 11th of November, and finished on the 22nd. On the 11th of December the arches were commenced; and the work went straight up from that time to the 6th of January, when the accident happened. The bricklayers were putting on the two last courses of bricks to receive the stone cornice when the accident occurred. Between the building of the entablature and the walls, from the 11th of December to the 6th of January, the columns were occasionally left, in order to carry up all the other works with the same scaffolding. None of the men complained that the work was carried on in too great a hurry, or that the materials were of an inferior description. Witness said he could not satisfactorily account for the accident; but, being pressed by the coroner, said he was disposed to think the pedestals must have failed in consequence of the wet weather, which did not admit of the mortar getting hard.

Mr. Hosking questioned this and other witnesses very closely as to the scaffolding; and it appeared that the ledgers went across the building, and were secured into the side walls, and that the scaffolding had no bearing on the work that fell, excepting the putlogs, in the usual way. Below, short scaffold poles were used as thorough putlogs, and were tied to the ledgers alongside each column, both inside and outside (touching the columns), so as to stiffen them. There were braces to prevent vibration: there was no weight on the scaffold at the time of the fall.

Butterwick was questioned as to the construction of the columns, and said he had seen columns built mostly with the bricks laid flat, but it was thought that the work would be sounder by laying the bricks on the edge, and that the columns would hold more bricks and less cement.

For our own part, we are bound to say, that columns of the diameter and height here used, constructed with either bricks flat or bricks on edge, should not be hastily depended on. The bricks are necessarily so much cut about, as to afford little solid bed, and less bond. Every thing, in such a case, depends on the cement; and if this be bad, or not allowed to indurate sufficiently, a trifling force is sufficient to produce an accident. Calculations of what such columns will bear, without knowing exactly their internal condition, is idle.

James Stephenson, the foreman of bricklayers, stated that there was no haste, no complaint. The scaffolding was put up in the usual manner, and there was no pressure upon it. He attributed the accident to the failure of one of the pedestals, which, being built with mortar and soft (though well bonded with whole bricks and flushed up), might have yielded, and thrown the weight on one column.

James Harris, a bricklayer, deposed that Gedge, one of the sufferers, had complained to him respecting the alteration in laying the bricks on their edge instead of flat, and asked him what he thought of it. Witness told him he did not know; he had seen the plan adopted in short columns, but not where there was any heavy weight. He said he considered it was rather a "comical job." Gedge, in the Christmas week, made a remark, saying that he should go to the works once too often; and he added, that he thought the columns were not strong enough to support the work above. Witness did not communicate this to any person, though he had great confidence in Gedge's opinion.

It is somewhat extraordinary that the only man on the work, so far as can be learnt, who had the slightest doubt as to its stability, should have been the sufferer. Similar instances, however, are not rare.

Mr. Christopher Bavin, the architect's clerk of the works, said the work had been executed in the best manner, and that he had never had occasion to find fault. It was he who suggested that the column should be built with the bricks on edge, because it occurred to him that the material would be more compact. The bricks were damaged by the workmen in laying them flat. There would also be less cement required. The men approved of it. He did not think that the inequality of the pressure, resulting from the upper wall being over one column only, was in any degree dangerous; he estimated that the back columns took one-third the weight, and the front columns two-thirds. He was disposed to attribute the accident to the vibration produced by the scaffolding, but could not say how, nor did he know of any defect in the scaffold.

Mr. Tite, architect, was examined on the part of Mr. Hardwick, and said he had looked at the drawings with great care; had heard all the evidence, and had formed an opinion as to the cause of the accident. He thought, from the brickwork having been carried up in wet weather, somewhat rapidly (in better weather he would not have hesitated to do it in half the time), that the brickwork in mortar was insufficiently set. The brickwork in cement would of course be better, and he did not think that the columns broke. He believed that the pedestals gave way first. "The evidence on the face of the pedestal," said Mr. Tite, "induces me to think so. It is cut off angle-ways, as if the column had slipt off it. I think the cause was this—the masons were raising the scaffolding to an extreme height above the wall. There were four men on the highest point,* and I think that the sway which their weight gave to so long a lever as 90 feet, had a tendency to pull over the upper wall, and throw an excess of weight on to the inner column, besides altering its position, which threw a pressure on the pedestal that the unsettled work would not bear. Men on a scaffold are not conscious of the danger of their proceedings. I have been on a scaffold, and when I have myself been alarmed none of the men have evinced any apprehension. By the slipping of the column, the York landings, which were above them, would naturally fall on the northern side of the wall, or outward (?), where they were actually found. In Tredgold's "Treatise on Cylinders," which I now hand up, will be found a plate illustrating the effect of altering the line of pressure in columns. In the architecture I see nothing which could have led to the accident; taking the best English and French authorities for the basis of my calculation, I have no doubt that the columns would have carried eight times the weight which was put upon them."

In reply to a question by the coroner, Mr. Tite continued—I should not blame any body for this accident. I think it is without blame. I rather refer the accident to the bad system of scaffolding adopted in England. In France they use framed timbers for scaffolding; we use a different kind for brickwork, but the framed scaffold for stonework. Ours unquestionably is much easier, and, as proof that accidents are not frequent (because of the skilfulness of the men), I may say that I have been twenty-five years in practice, and have never had an accident from a scaffold. With regard to the mode of laying bricks flat, or on the edge, in the building of columns, I always hesitate to interfere with the habits of English workmen, but I think that the change of placing the brick on the edge is advantageous, and I certainly should direct it to be adopted in future. I have no doubt that column for column it would carry more than if the bricks were laid flat. My own conviction is, that if this had been March instead of November you would never have had any inquiry of this nature.

Mr. Edward Blore, architect, said that he had carefully examined the drawings and considered the matter, and entirely concurred in the statement made by Mr. Tite. In reply to the Coroner, who asked, what steps he would take to prevent the repetition of a similar accident, Mr. Blore said, he would connect the wall during its progress with a second wall, which there is behind it at about ten feet distance, so as to steady it; but he was not certain that he should have thought it necessary to do this in the first instance.

No further evidence being offered, Mr. Wakley said that Mr. Hosking desired to give the matter careful consideration, and to offer his opinion in writing; he would, therefore, with the concurrence of the jury, adjourn the inquiry till Thursday morning, ten o'clock.

On Thursday, Mr. Wakley being too unwell to attend, Mr. Mills, the deputy-coroner, took the chair, when Mr. Tite asked permission to say, in confirmation of his opinion previously offered, that experiments had been tried on two piers, one built with bricks, flat, in cement, and the other with bricks on edge, in cement,—and that while the former was crushed by 30 tons, the latter required 35 tons. The less bricks were cut, the better they were, since they are harder outside than in. Moreover, bricks are burnt on edge. In proof of the strength of bricks, he referred to a chimney at Warrington 440 ft. high.

Mr. Mills stated that Mr. Hosking had handed to him his opinion, and in so doing had remarked that he differed in some of the minor points from those who had preceded him, and desiring to avoid the appearance of arrogance in setting up an opposite opinion in matters of no consequence, he had confined himself to a general opinion as to the fall. He would, however, willingly answer any questions. He then read the following:—

"I am of opinion that the columns, or some of them, failed under an impulse derived from the scaffold acted upon by the movements of the workmen; and the failure of any one would, under the circumstances, necessarily involve that of all the rest, and of the superstructure; the weakness which admitted of failure from such an impulse being entirely attributable to the unindurated state of the cement used in building the columns,—and that the columns broke under an impulse which I believe they might have borne safely if the cement had

* It was afterwards shewn that there was only one man on the scaffolding; three had come down.

attained the state of induration which it is capable of attaining. William Hosking.

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Mr. Hosking, in examination, said the columns were wholly dependent on the cement: properly bonded brickwork in mortar was capable of bearing greater weight than those columns. The pedestals would not have failed but for the columns first yielding. Roman cement, when set, was incompressible: he thought it had not yielded in the present case till the agitation of the scaffold had broken up the columns, Some impulse was necessary to produce the accident, and he could find none other than in the scaffold. In answer to the coroner—the scaffold might have been bridged over without allowing putlogs to bear on the work, but this was seldom thought necessary in practice. The columns, until indurated, were not safe: under the circumstances, the attic wall should have been delayed. Knew no fixed rule to determine when cement was sufficiently set; none but the workmen employed could judge. As to position of bricks, was satisfied that bricks laid flat could be better bonded than when on edge. In these columns the strength of the brick had not been called into action. When set they would have borne ten times the weight. In reply to a juryman,—did not think it necessary to exclude round columns, but square piers of same area would certainly be stronger, because no cutting required. In underpinning, cement was used, and it was never thought necessary to keep in the needles after filling in the new work: cement was not compressible. As to the unequal pressure, the columns would have had a better chance if the weight had been equally over the two columns, but the arrangement was not inconsistent with safety.

Mr. John Braithwaite, civil engineer, was then examined, and stated he had paid much personal attention to brickwork during thirty-five years' practice. He thought the cause of the fall was the time and the weather. Did not think the columns first failed, but the pedestals. The whole was carried up in equilibrium till the attic wall was commenced, and then, being loaded unequally, the pedestal had yielded—had thrown extra weight on front column, and this broke up, induration not having taken place. Scaffolding had not had much to do with the failure. Cement must have time and quiet. If two walls were erected, and one left quiet while the other was proceeded with, the former would be found perfectly indurated, while the latter at same moment would be green through vibration. The work had been hurried, for which the public were to blame. The public pressed on the directors, the directors pressed the architect, and the architect the builder. In proof of the danger of haste, he instanced a bridge built by himself over the Blackwater river, consisting of three arches, of 45 ft. span each. It was much hurried in dry weather, and he, feeling afraid, kept in the centres for six months. It was opened and admired, but three days after, it fell and killed two men. When he examined it, he did not find a single brick to which mortar adhered. He thought there was no undue weight on the column, and the pedestal was sufficient if it had been indurated. Mr. Braithwaite further stated that he had had the pleasure of working with Mr. Cubitt for many years, and as far as his work was concerned, had never heard of its failure before; the care he took, and the supervision he uniformly exercised, both by himself and his subordinates, were most remarkable; and he could mention works constructed by him, in far greater haste than the structure in question, which had stood without the slightest failure.

The Deputy-Coroner then proceeded to sum up the evidence. The opinion had been given in a most candid and honourable manner by Mr. Hardwick, that the work was begun and carried on a little too fast, considering the season. That gentleman had thrown some light upon it, by saying that the mortar had scarcely sufficient time, and that the erection had come down because it was not enough indurated.

Mr. Hardwick—And therefore more liable to lateral pressure.

The Deputy Coroner—The season was not *excessively* wet. The time was not pressing; the contract, as he understood it, did not require Mr. Hardwick to press it on violently, and the men were employed by day-work, so that it was not a matter of haste in that respect. The gentlemen who followed Mr. Hardwick had given opinions to the same effect, that it was not from any weakness of the columns, or the pedestals, or from too much weight being placed upon them, but the non-induration of the mortar at the time the upper part was being laid upon them was the cause of the whole coming down; and whether one column or another first burst, or whether too much weight was thrown upon one column or another, were questions which might be dismissed from the minds of the jury. The question was, whether the mortar or cement was sufficiently set to justify the building being carried to such a height. The impression of Mr. Wakley and himself was, that the mortar was not sufficiently set, and that the time was not a proper one for carrying the building to such a height. It had been suggested that the motion of the scaffold might have caused the failure; but that was a matter which, as nobody saw it, was merely a matter of opinion. Mr. Wakley's impression (which he had communicated to him that morning) was, that the shaking of the scaffold had nothing to do with it at all. It seemed, therefore, that it was wrong to carry a wall to such a height in that season; and no doubt Mr. Hardwick—for all those things rested on experience — would not again, at the same season, carry up such a structure so fast. If there had been sufficient time for every thing to set, none of the gentlemen seemed to think it would have been unsafe. Much had been said about the use of columns at all in such a wall as this; but if the pedestals were not strong enough a solid wall might have come down even sooner. It was for architects to consider whether brick on edge or brick flat were the safer; but in the present case no gentleman seemed to think that the mode of building the columns had any thing to do with it. The jury would consider all the circumstances of the case, and return their verdict accordingly.

The jury then retired, and after an absence of three-quarters of an hour, returned the following verdict:—"That Charles Gedge and James Hickey were killed by the falling of a portion of a certain building situate at the Euston-square station of the London and North-Western Railway, and that the fall was caused by the non-induration of the cement and mortar with which the building was erected, during a wet and bad season of the year. And the jury add to this verdict an expression of their opinion, that due caution was not taken in the erection of the building, considering the time of year at which it was put together; at the same time they avoid expressing any opinion respecting the general design and details of the building, as they consider them to be subjects on which the judgment of architects and builders should be founded, after reviewing the various facts relating to such buildings which may come before them, amongst which facts they consider that those which have been disclosed at the present inquest may probably be regarded as of an important character."

Mr. Hardwick begged to thank the coroner and jury for the attention they had given to the matter. It was a subject on which inquiry was necessary, and he had been anxious that it should be fully investigated.

The Deputy-Coroner said that a great deal was due to Mr. Hardwick, for the very candid manner in which he had given his evidence, which, in his humble opinion, would tend to raise his character in the public estimation. Mr. Hosking had expressed an opinion, that no one could be better judges as to when a building was being raised too fast than the workmen, and that it was their duty to complain to their employers when they thought that was the case. He fully concurred in that opinion; if they neglected to act upon it, the penalty, in most cases (as in the present instance), fell upon themselves, and therefore the fact could not be too strongly impressed upon them.

Mr. Blore said he entirely agreed with what had been stated on that subject, and he knew that architects generally were much obliged to any workman who, if he apprehended danger, would come to them and say so.

Mr. Hardwick remarked that, for himself, he always gave every encouragement to workmen, being anxious in all cases to have the full benefit of their opinion.

Something has been said, during the inquiry, of an intention to rebuild the columns and wall precisely in the same manner as at first: we sincerely hope, for the sake of all concerned, that no such attempt will be made.

ON CAEN, ITS QUARRIES AND BUILDINGS.*

Saint Regnobert is said to have founded the church of S. John; the actual church was commenced in the fourteenth century, and the porch, the first tower, and nave are of this epoch. The choir and transept are of the beginning of the fifteenth century, and glorious in all the abundance of richness in plan, and varied splendour of enrichment in detail. There are two towers, one over the entrance front, the other at the crux or intersection of the nave and transept. They are both elaborately decorated, but from defective foundations they are considerably out of the perpendicular; and after having been carried to a great height, have been left unfinished. It is said that the famous Admiral Coligni, in 1562, directed Theodore Beza, who followed his army, to preach in the nave, in order to teach the faithful that "*money was the sinews of war.*" After which, as a natural corollary, he directed 10,000 crowns to be levied on the Catholics, as an improvement of the text. I shall not further fatigue you by allusions to any of the other eight or nine churches, of which Caen can boast, some of which have been appropriated to civil purposes, as for instance, the superb church of S. Sauveur au Marché, now used as a corn-exchange, and which contains a profusion of delightful Flamboyant and Renaissance details.

The citadel, once a fortress of considerable strength and of great extent, towers on an eminence above the town, surrounded by strong and lofty walls, rising in parts from the fosse to a height of 80 or 90 feet, with towers or bastions, connected by a curtain wall, sometimes rising from the ditch itself, another overhanging the chasm, and supported by machicoulis. There are two ancient buildings

* See p. 53, *ante*.

within this precinct, one a Norman chapel, engraved by Cotman; the other an exchequer, principally of the later period of ogival art. Here, on S. George's day, 1418, our Henry V. celebrated the festival of the saint, and held a chapter of the order of the Bath, at which twelve knights were created. As I walked along the ramparts, I looked down upon the roofs, and terraces, and gardens of the houses beneath, and my curiosity and wonder were highly excited by beautiful and picturesque dwellings that were perceptible here and there. I immediately threaded my way down the narrow streets that led from the castle, and many a carved wooden over-hanging front, many a striking interior, rewarded my curiosity, as I passed in and out unobstructed, almost unobserved, in the bustling din of the every-day business carrying on. Here is quite a mine of novelty, that would completely illustrate the domestic manners of the middle ages, opening to us novel features and unexpected varieties of detail.

But I must turn your attention to the public institutions. Immediately attached to the Church of S. Pierre, is an herb market, on one side of which passes the principal street of the town, called, I believe, that of S. Jean. The façade of the Hotel le Valois immediately faces the market next the street, and is directly opposite the flank of the church of S. Pierre. This fine building, of the Renaissance style, has a central court about 50 feet square, around which are halls and rooms, of late years appropriated (as I understood) to the meetings of the merchants as an Exchange, the Tribunal of Commerce, and other like purposes. It was erected in the sixteenth century. The front to the market-place has eight divisions, separated by attached columns in two storeys, raised on pedestals, and the cornices over profiled to correspond. An arched way leads into the court near the east end; and this feature is curious, as over it was once an equestrian statue of heroic size, such as we find in the Chateau of Blois, alluded to by Mr. Crace in his paper read last session; and as also existed over the archway of the Tribunals at Mechlin, and in other edifices of like character erected at that period. Each side of the court is decorated with handsome attached columns, niches, statues, highly-decorated windows—the uppermost of which are remarkably fine dormer ones, surmounted by gable-ends, finials, &c. In one angle of the court is an open pavilion leading to a circular-newelled staircase of stone, with its landings handsomely adorned with dressings to the doors, panelled pilasters, and friezes filled with sculpture; it leads up to an open pavilion at the top, from which is a dazzling sight of lofty elegant chimn y-shafts, dormers, turrets, and other details, recalling the picturesque varieties and fancies of Blois and Chambord.

This is but one out of many revival buildings which might worthily illustrate the peculiar arrangements and taste of that period. Cotman, also, (vol. ii. p. 70) gives one of the many beautiful small fronts of houses not unfrequent at Caen, and offering most appropriate authorities for the domestic architecture of the Gothic style.

Attached to the church of S. Etienne is a public seminary, at which 700 or 800 youths receive a very superior education—326 residing in the college: there is a public library of 40,000 volumes in the Hotel de Ville, in which building is also a museum of 200 pictures, several of which are by distinguished masters. The Palace of the University is a building more remarkable for its very good taste than for its size. There are several fine lecture-rooms in it, and a museum of natural history. On an open terrace in front, next the street, are bronze statues of Malherbe and Laplace, raised on pedestals. Opposite to the University, the College of the Arts—a new building of the present prevalent style, bordering on the Renaissance,—completes the educational establishments of the town. It has a handsome entrance and inner vestibule, with niches, in which are placed bronze busts of many of the celebrated men of France. A Civil and Military Hospital, attached to the Church of the Trinity, and a very large hospital for the poor, in the lower part of the town, attest the munificent sympathy of the city for the poor, the unfortunate, and afflicted.

There are several learned and useful societies established at Caen, for studying the antiquities, the history, the commerce, the agriculture of the department of Calvados, and for promoting the study of divinity and of the useful sciences, as law, medicine, &c. Each has its suitable appointments, and the zeal of the learned maintains the reputation of the studies and researches of the enthusiastic lovers of those pursuits.

Allusion has recently been made in The Builder to inscriptions on buildings: there is one over the door of the cloister of the Convent of the Carmelites in Caen. Perhaps I may be excused in alluding to it, although not immediately an architectural subject. The lines are these in honour of Simon Stock, one of the saints of the order:—

D Di Si scap ac ab as
um vus mon ulare cepit tris
T Sæ Dæ ul in in an

To which I may perhaps be permitted to join the following parallel free version:—

W ho Si first beg pr
hen ly mon an his eaching
T wi De howled to sc t

Such, then, is a faint glimpse at Caen, its quarries and monuments, the fruits of a hurried visit of some thirty hours in the short and gloomy days of January, 1848. This town is a mine of fruitful thought to the most expeperienced—a treasury of useful examples to the student, wherein the taste may be improved, the imagination excited, and one's constructive knowledge increased. It deserves as many weeks of careful investigation, as I bestowed hours of passing attention. I well know that many of my hearers have visited this city; I trust I may induce a few now present, who may not have done so, to go and see what I have described so inadequately; and I shall be delighted if what I have said may procure to others the gratification which I myself experienced in visiting the capital of a people with whom we were once so intimately connected, and with whom we still have in common so many historical reminiscences.

A FEW WORDS ON ARRAS.

Arras is a large city on the line of the Chemin-du-fer du Nord, about 7 or 8 hours' journey from Paris, and is one of those fortified places with which the genius of Vauban has bristled the north-western frontier of France, so as to defend it, at least for a time, from the approaches of an invading army. It is one of the principal towns of the Artois.

The Hotel de Ville faces a handsome Place, or market-place, of considerable size, occupying one of the sides: the other three have a colonnade as high as the shop floor, and about 6 or 7 feet wide: the fronts of the houses are supported by the columns, as the Piazza of Covent Garden, with the fronts immediately over the arcades. Each narrow front rises four or five stories high, and the gable end towards the market, has a semicircular top, so that the range has a varied, palatial, and picturesque aspect, and was probably erected in the sevententh century. The Hotel de Ville is gothic, of the usual municipal character, similar to that of the Belgian towns, and quite distinct from an ecclesiastical aspect: like them, there is a lofty perforated spire rising to a towering height, an object seen from a distance of many leagues as you approach the city. One corner of the Hotel de Ville is peculiarly attractive, being of the period of François I.; all the details designed with great purity, and executed with the utmost delicacy. And here I would pause and offer an observation or two on this period of architecture, as I have had occasion to refer so frequently this evening to the style of the Renaissance, and to express my admiration of the numerous and admirable examples found in France, whether seen at Caen, at Arras, Fontainebleau, Chambord, Blois, Ecouen, or Paris. The revival architecture of France is very superior to that of England, both in design and execution. With us it is too generally rudely designed, though picturesque and varied in outline. But in France the love of the ornate, with which the voluptuousness of form, the interpenetrating intricacy and flowing lines of the Flamboyant had imbued the people, made them desire in its immediate successor, the Renaissance, all the same brilliancy of effect. The French architects then evidently went to Italy, the native soil of ancient art, and studied the new taste among the classic monuments at that time more numerous than now. They seized the spirit of the best examples, and, adopting the mere masses of Gothic buildings, covered them with the most refined details of Roman art; the one adapting itself to the other with plastic facility. This superiority of education, this mastery of drawing, this refinement in the selection of ornament, invest the Renaissance with a character that places it on a par with that of any style, ancient or modern. Reflecting the tastes of two periods, combining them with a skill that gives the impress of an original creation, it pleases the eye and satisfies the judgment. Playful yet correct, graceful yet solid; adapted to the humblest purposes, appropriate for the highest; I consider it equal to the cinquecento of Italy, far superior to that bastard style prevalent here during the reigns of Elizabeth and James I., and too generally the production of vulgar, uneducated minds, unenlarged by foreign travel or acquaintance with the high models of antiquity. The execution alone in England is too often barbarous; so low that, now-a-days Dutch rubbish has been imported and greedily purchased, by the so-called lovers of Elizabethan art. Our friends, Mr. I'Anson and Mr. Crace, in last session, and Mr. Poynter, on a former occasion, have so ably treated on this subject, that I shall now proceed to resume our excursion through Arras.

In the centre of the smaller Place was once a Gothic building, I forget now for what special purpose destined, but I see it indicated upon a small plan of a volume on the table, containing plans of most of the fortified cities of France. And on that plan also appear several other noble Gothic churches and public edifices, swept away by the Revolution. As you turn round a street, at the further end of the Place of the Hotel de Ville, one is quite surprised to find that it opens upon another more extensive Place, still similarly surrounded by large buildings—the variety of the façades and loftiness and size of the edifices giving it an air of great magnificence. A curious historical event is connected with this Place:—One of the Counts d'Artois had his title in succession likely to be disputed, as he had no son. His countess was announced to be in such a state "as women wish to be who love their lords." People were incredulous, for his enemies circulated the report that the countess was not likely to give an heir to her lord, and that it had been got up to cover a fraudulent substitution of a son. The count, as the reputed time of his lady's confinement approached, had a magnificent tent pitched in the centre of the *grande place*, the countess was removed thither, the nobles of the country and the city authorities were summoned at the critical hour, and the countess, in their presence and that of the burgesses who chose to come in, became a mother to a young prince.

In another part of the town is a large church, in the Italian style, admirably designed and executed, the nave being divided from the side aisles by massive Corinthian columns, instead of piers, with impressive effect. To the church is attached a noble establishment, once the residence of the Benedictine brothers of the monastery. It was built some 150 years since, in the style then prevalent. Its façade is some 10 or 1200 feet long, facing a garden. In the body of the building are three large courts, two surrounded by arched cloisters, opening into spacious halls, now appropriated to lecture-rooms for clerical students. The Bishop of Arras, now a cardinal, has his palace in another portion of the building, and a considerable extent is appropriated to a fine public library, a museum, as also a picture gallery, containing some very fine paintings, purchased by the government at the annual exhibitions of the Louvre, and presented to the town. Here, then, we find at Arras, as at Caen, a college, educational institutions, a public library of tens of thousands of volumes, a museum, a fine theatre, in fact, every establishment calculated to refine, instruct, and amuse the inhabitants, and to receive and cure them when visited by disease and sickness. Where can we name English provincial towns where the same facilities for instruction and improvement are provided by the central or local government? A Parisian, it is said, is apt to exclaim, *Paris, c'est la France*; and when he points to his noble public monuments, as

the Hotel de Ville, the Palais du Ministère, the Madelaine, the Louvre, the Garde Meuble, the Place de la Concorde, the Champs Elysées, the Arc de l'Etoile, and the Jardins des Tuilieries and of the Luxembourg, embellished with marble statues, seats, and fountains, where fine art is rendered familiar even to the vulgar by the profusion of its productions to be met with in every part, we feel that they have a government who know what art is, encourage and patronise it;—they spend a million of francs, where 10,000*l.* are asked here—and they can boast of three noble libraries where we have one. The complacency, then, of the Parisian may be pardoned; but his assumption over the other cities of France may be corrected. Caen and Arras we have seen, and Lyons, Marseilles, Toulon, Bordeaux, and Rouen, and a host of other cities, may boast of their public institutions, fostered by the government, or by the munificence of the municipality, and libraries, museums, schools of design, and other institutions well stored and amply provided, as for an intelligent, a refined, an art-loving people.

T. L. Donaldson.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The third lecture was delivered on Thursday, the 20th ult. The professor commenced by an inquiry into the present state and prospects of architecture, and the influence upon the art of certain features of the opinions and state of society in the present day, in which diffusion was the main characteristic. What he termed the march of mind in Europe, was considered in reference to its influence upon architecture, and the comparative decline of the classic influence, and the increase of the northern, or Teutonic, out of which the parties known as "Young England" and "Young Germany" had arisen, was dwelt upon, as tending to make the Gothic style prevalent for some time to come. This feature of the time had caused a remarkable attention to archæological pursuits, which were not even confined to Gothic architecture, but extended to the styles which formed the subject of the works of Gally Knight, and of Canina. Whilst this tone of thought had one form of expression in the press, in every part of Europe, there was another form in the activity displayed in restoration. The professor referred to Cologne Cathedral as one of the most striking instances, but said that it was in this country that the architecture of the middle ages had had the greatest influence. Since the year 1818, thirteen hundred and eighty-eight churches and chapels had been built and endowed in England, and a vast number in addition had been altered and enlarged. More than this, a similar amount of activity had been shewn out of the pale of the establishment, and the Baptists alone had built 900 chapels. The professor seemed to consider, that though all these examples might not be adduced as meritorious works, their number was a remarkable evidence of the tendency to which he had alluded. He also made some remarks upon the injurious tendencies of competitions, as they are now managed, and illustrated them by saying, that since the days of George the Third, it might be said that no architect had been asked for a *design*, though all had been invited to send in plans and estimates. In fact, quantity, and not quality, was what had now to be furnished.

In the course of his lecture, the professor entered into a high panegyric of the art of architecture, and the order of mental requirements in those who would practise it. He spoke of the wisdom and forethought which the works of architecture might evince, so that the beholder felt that the architect was but the mimic of nature, in whose works there was a secret *rule*, and in which *design* might be discovered in every thing. It was therefore natural to seek for a principle, for without theory every thing necessarily was confusion. In Greece, the professor had previously said that rules of art were as regularly attended to, and transmitted from one generation to another, as rules of husbandry. He also reminded them that Augustus had commanded Vitruvius to expound the principles of the art, which he derived from Greek authors. Hadrian attached a corps of architects to the cohorts. It might be inferred that the profession of the architect was in great request during the Roman empire; the aqueducts employed a considerable number, and no doubt the baths had each their own architect regularly attached to the building, as in modern instances.

In inquiring into the influence of rule and system in the middle ages, the professor repeated the evidences he had adduced in a previous course,* from the translation of Vitruvius, and commentary upon that author, by Cæsarianus. He said that Vitruvius, or the interpretation given to him, had ever been the guide of the Gothic architects, for the diagrams to his work having been lost, the mediæval architects substituted their own interpretation. Attributing great credit to Rickman, as being the first who did any thing to systematise our knowledge of the architecture of the middle ages, orthographically considered, he said that we required the icnography also. The discovery of the whole theory was important, for all the great domes had been raised upon the principles of the middle ages, of which Wren was an able master. By perfecting this discovery, we also superadded a great dignity to the art, and shewed that it was not a matter of caprice, as had been asserted. He then cited old documents of the freemasons, in which the name of Vitruvius was mentioned, and noticed, although at less length than in his former course, the explanations given by Cæsarianus of the text of Vitruvius, in which it will be recollected that the plans of nearly all mediæval churches were supposed to be governed, as to the positions of the columns and walls, by an arrangement of equal squares. The plan of the cathedral at Ratisbon was then deemed, if we remember rightly, to be an exception from the usual system, but the professor now shewed, from a plan contributed to him by Mr. Penrose, that the same principle was adopted, although a variation was made by having the shafts which support the vaulting, instead of the main piers, upon the intersections. In speaking of the section of these mediæval structures, as governed in general by the equilateral triangle, he instanced Westminster Abbey as an exception, and said that one mode of accounting for its great height, was by supposing it to have been intended for a church of double aisles.† The professor also referred to the forms of the east end of a church, which Cæsarianus said "the learned generally make square," which was the general form in England, and he exhibited a comparative diagram of the heights of the vaults in several different buildings, shewing the gradual increase from the height of the Pantheon, where the crown was at a distance from the pavement, equal to the span, to that of the nave and dome of St. Peter's, and lastly to that of Cologne Cathedral.—All that was symbolic in these medieval structures, was formed upon the triangle and the cross; all the rest was designed, and was directed by no caprice. The professor argued that he had proved the value of these ancient documents, and he concluded by quoting for his hearers' amusement, the paragraph with which Cæsarianus winds up his commentary, and in which he calls upon the reader to thank heaven for the birth of the author.

* *Vide* the reports and "Commentary upon the Lectures" in The Builder, Vol. IV.

† In the "Commentary upon the Lectures," in Vol. IV. of The Builder, the same view has been taken, and the circumstance of there being a double range of windows in the aisle, adduced as an argument in favour of the supposition.

NOTES IN THE PROVINCES.

The first stone of the Cheltenham General Hospital, now erecting in the Sandford fields in that town, was laid on January the 25th, by Lord Dunally. It is built for the accommodation of between eighty and ninety patients, and contains two large wards on the ground floor, four large and four smaller wards on the upper floor, with operation theatre, board-room, museum, physician's and surgeon's rooms, &c. &c. Mr. D. J. Humphris is the architect. —— Mr. Rennie, the engineer, is about to commence a survey at Dover, preparatory to the construction of a pier, to extend 1,000 feet into the sea, for the mails and passengers from Calais and other continental ports.——According to the *Chelmsford Chronicle* there is some probability of the site of the Essex County Lunatic Asylum being fixed at Brentwood, instead of Chelmsford. A piece of land, consisting of 80 acres, at 100*l.* an acre, is said to be that now in view for this purpose.——We are informed, by a correspondent, that six tenders were furnished for the erection of the new Corn Exchange at Peterborough, and that the tender of Messrs. Ruddle and Thompson was accepted. The building is to be completed in June.——The Birkenhead Dock works, it is now thought, will be re-commenced early in April, as an arrangement with the Government is said to be so far advanced that a bill has been deposited and a petition lodged in customary form. The land granted to the Commissioners on the Seacombe side is to belong to the Crown, and probably to form an arsenal, &c., the Crown undertaking to construct, at its own expense, the walls of the great tidal basin, and those fronting the river; in consideration of which, the Crown is willing to lend the Commissioners 150,000*l.* for the completion of their own outer works.——Mr. W. Rishton, surveyor of buildings at Liverpool, has prepared the following return of the number of houses and warehouses erected, or in course of erection, within the borough, from 1st January to 31st December, 1847:—Houses under 12*l.* per annum, 59; from 12*l.* to 25*l.*, 905; from 25*l.* to 35*l.*, 167; from 35*l.* upwards, 89: total, 1,220. Warehouses, 5. Houses erected since 1837:—1838, 1,052; 1839, 997; 1840, 1,576; 1841, 1761; 1842, 2,027; 1843, 1,390; 1844, 2,150; 1845, 3,728; 1846, 3,460; 1847, 1,220: total, 19,661.——In the erection of the Manchester new Borough Gaol, since its commencement in June last, by the contractor, Mr. David Bellhouse, upwards of 7,000,000 of bricks, according to the *Manchester Courier*, have been laid, besides a large amount of stone work, iron beams, columns, &c. The central hall of inspection, with the four wings radiating from it, are ready for the roof, and the chapel is built to the level of the second story.——Edinburgh is about to borrow a hint from Paris in providing winter amusement. The Caledonian Horticultural Society proposes a glass-enclosed winter garden, at first to be 140 feet in length by 35 in breadth, and afterwards enlarged, so as to admit of the cultivation of the most rare exotics, as well as to form a brumal promenade. The project is likely, it is thought, to meet with every encouragement. ——The clay model of the Edinburgh statue of Wellington, by Mr. Steell, is finished, and the bronze castings are to be also done at Edinburgh, the whole to be ready by June, 1849. ——The town-council of Perth having applied to Mr. Leslie, civil engineer, as to the preservation of the city from inundation, he has recommended the erection of a mound or embankment across the North Inch, and along the river side to the South Inch. The inhabitants, however, it is thought, will be adverse to any scheme involving what they will probably regard as an injury to their public park or play-grounds.

"Raffling for Work."—A correspondent has sent us an account of "a raffle for work to be done at a public-house in Union-street, Lambeth," which we should be glad to think was merely a joke, but cannot, because of the complacency and gravity with which it is told. It describes an architect in the chair, with the landlord on his right, and shows how, according to the terms of the agreement the latter was to "stand" three bottles of port, the winner another three bottles, and every one present just what he pleased, excepting that all were to finish with brandy and water! Every man sent in his proposal, and the result was as follows:—

Holland and Son	£325
Starch	275
Spikeman	258
Trives and Son	258
Hardy	250
Chesserman	228
Stevens	227
Pritchard	226
Wilson	220
Warrup	213
and Thomas	187!

who "was declared the *winner* amidst the rejoicing of his friends." The difference, preposterous as it is, was no greater, perhaps, than might have been expected in tenders made under such circumstances.



OUNDLE CHURCH, NORTHAMPTONSHIRE.

CHURCHES IN NORTHAMPTONSHIRE.

OUNDLE CHURCH.

As some of the churches in Northamptonshire are of great beauty, and deserve to be more visited than they are, a few notes will not be uninteresting, and may be the means of making the buildings better known.

Wannington Church is considered by Rickman to be one of the most valuable churches in the county, and few persons will be disposed to dispute the assertion. With the exception of the chancel, which has been barbarously used, it is a perfect specimen of an Early English church, with a tower and spire of great beauty: the interior is very fine, presenting rather a peculiar appearance from the roof being of dark oak, forming a strong contrast with the light colour of the walls. The whole of the detail is of the most valuable description, particularly in the doors and windows, of which there are a great variety. Until very lately the whole of the interior was covered with whitewash, but owing to the exertions of the present vicar a portion of it has been removed, and much beautiful detail disclosed.

A pleasant stroll across the fields will lead from Wannington to Fotheringay (a distance of two miles). This church is better known than most of its neighbours, from a publication by the Oxford Architectural Society. It is a very good specimen of a perpendicular church; and is, with the whole of the grounds about it, kept in good order.

At about the same distance from Wannington, in an opposite direction, is Polebrook Church, another valuable specimen. The tower and spire have something the same outline as at Wannington, but are very inferior in every respect; it has, however, the advantage in its chancel, which is a very fine specimen of Early English. The north transept has a good arcade, and the other parts of the church have some curious portions well worthy of notice, including one or two early windows with transoms.

About a mile from this place is Oundle. The spire of this church is very lofty, and may be seen for some miles round the country. The tower, spire, and south porch, are the principal features worth notice, and these are best seen from the point chosen for the accompanying view: the rest of the church is not equal to these portions. There are a few decorated windows of rather curious design, but by no means worthy of imitation.

The interior is disfigured in the usual way, by much whitewash, high pews, and heavy galleries.

In the same neighboorhood are three or four other churches. Tansor is remarkable for the beauty of its situation; it has also a good Norman door. Cotterstock, Lutton, and Elton, are each worth a visit; and to the list may be added Thrapston and Lowick. In fact, there is much to interest an architect in this county, and it may be seen very cheaply and very quickly. One way is to get into Northamptonshire by the London and Birmingham Railway, making for Peterborough, and returning by the Eastern Counties, not forgetting to visit Ely and Cambridge.

* A local correspondent some time since sent us the following note on Fotheringay Church.- This place, though now only a village, was formerly a market-town; and is connected with the unfortunate career of Mary, Queen of Scots:—"Edmund of Langley, the original projector of the College at Fotheringay, began his intentions by erecting a 'large and magnificent choir' at the east end of the old parish church; and, after his death, his son Edward, Duke of York, wishing to rebuild the nave of the old church, appointed trustees to carry his intentions into execution. The death of the Duke of York at Agincourt put a stop to further proceedings, but the present church is a monument of the care with which the trust was afterwards fulfilled. The plan was carried into execution by his nephew Richard, Duke of York, in the thirteenth year of Henry VI., 1435. The church stands boldly on an eminence. A tower of two storys rises above the west end of the nave. The lower story is square, and finished with plain parapet, ornamented at the angles with octagon embattled turrets: upon these were placed statues, two of which only now remain. There are two windows—one large, the other smaller—divided by plain tracery, on each side of the tower: the upper story is octagonal, embattled, and has buttresses at the angles, with crocketted pinnacles; on each side is a lofty window, which fills one compartment. The clerestory is strengthened by flying buttresses, the buttresses of the aisle are finished with a pinnacle, and between each is a window filled with handsome tracery. The aisles and clerestory are embattled. On the west front is a spacious entrance, under an arch, within a square moulding; the spandrils have an escutcheon in the centre of a quatre-foil. Above this is a large window, finished with tracery. On each side are two bold and lofty buttresses. The entrance most in use is under a large porch, of plain architecture, on the north side of the church. In the interior, beneath the tower, is a beautiful groined ceiling, which is thrown open to the nave by a lofty arch: beneath this is the font; it is octagonal, adorned with foliage and grotesque heads, within Gothic compartments, supported on a short pillar of similar architecture, and elevated upon two steps. On the west side of it is a stone pedestal, designed for the station of the priest. Baptisteries are seldom found so commodiously arranged as this is, to give the congregation a complete view of the ceremony. The nave is flanked by four arches, of light and elegant construction. The area of the church is fitted up with neat pews, and the pulpit is original and in good preservation. Many stones in the pavement contained brasses, but they have long since been erased. The length of the church is 87 feet; width, 68 feet; height of nave and groined ceiling, 41 feet; tower from floor to the roof of the octagon, 103 feet 4 inches: aisles, 27 feet to the top of the battlement; the west door, 16 feet 3 inches in width; and the great western window, 29 feet.—W. B."

CARVED ARM-RESTS, FROM WINCHESTER CATHEDRAL.



MUSEUM OF ARCHITECTURAL MODELS.

MR. EDITOR,—It is strange that there is not in this country, so celebrated for its public and private buildings, a collective series of models, so placed as to bring them into prominent view. In order to effect this, I have paid some attention to the subject, and have matured a plan which, in my humble opinion, will answer the end proposed. It is this, to establish a museum of architectural models, to consist of—

The models of cathedral, collegiate, conventual, and parochial churches, whether perfect or in a ruinous condition.

The models of all the public and some private buildings.

These models to be of three separate scales—one scale for the exteriors; another, large one, for the interiors; also a larger, for some integral portion, as may be desirable to shew the peculiar characteristics of each building.

In all cases where desirable, a model to be made, of a scale correspondent, to shew the effect to be produced by the completion of the edifice, according to the original design, which may have been frustrated by fortuitous circumstances.

The scales to be fixed, and, when decided on, not to be deviated from on any account whatever. Thus the comparative sizes will be better understood, and by this means more satisfactory ideas can be obtained.

An expense of three or four hundred pounds per annum for ten years would effect wonders. Expenses might be materially lessened by allowing parties in actual possession of the buildings, of which models would have to be made, such as deans, masters, principals, &c., to have a duplicate model, at a price fixed upon.

Should this plan be followed out, in a few years we should be able to boast of a collection of models such as no other country could produce.—I am, &c.

HENRY WALKER BENSON.

North Shields, January 17.

*** The establishment of the much-desired Museum of Architecture, long ago urged by us, and at one moment supposed to be almost in view, seems no nearer realization than it ever has been.

ARM-RESTS FROM WINCHESTER CATHEDRAL.

DURING the middle ages, the golden period for introducing into architectural accessories simple imitations of nature was the century in which flourished the "Decorated" style. Under its influence the oak, the ivy, the hazel, and other habitants of our woods were grouped round the bells of columns, or carved as if growing from the wood-work of interior decorations, with a freedom of touch which, even in imitative art, displayed perfect originality of treatment. But of all the carved works of this period which have been handed down to us, few possess so many interesting features as the far-famed stalls of Winchester Cathedral, which are profusely and elaborately enriched in every part, from their lofty canopies to the arm-rests, and again down to the subsellæ. These are a complete epitome of ecclesiastical botany, and we believe some of the plants here introduced are to be found in no cotemporary works; animals and grotesques, inseparable from medieval sculptures, and explained by the learned author of the "Mores Catholici," in his comment upon the stalls of Amiens, as an appeal to all creatures to praise the Lord, "dragons and all deeps, beasts and all cattle, creeping things and flying fowl," repeatedly occur, while costumes ecclesiastical, military and secular, are brought into the series with accurate fidelity. The two principal arm-rests nearest to the altar are especially curious, and of these we give illustrations, though scarcely is there one compartment of the stallwork unworthy of being engraved. The first represents a squirrel in a hazel tree, and the second a dragon with open mouth, executed with remarkable spirit. A circumstance attending the latter particularly merits notice. The small "perpendicular" chapel east of the cathedral, and profusely enriched with carving, contains a fine series of poppy-heads, though of late character and much mutilated. One of these is composed of two dragons in the same posture, divided by foliage, and the animals are careful and correct fac-similes of the one we now engrave, executed above a century earlier. We know of few similar examples of workmen in the middle ages, when ingenuity and imagination were proverbially at their highest, stooping to copy any previously produced enrichments. Had this principle been prevalent, the differences of style, which arose from only a few successive years would have occasioned a host of bizarriries in the sculptures and carvings of our churches.

REVISION OF THE BUILDINGS' ACT.

Sir,—You apprised your readers, some weeks since, that Lord Morpeth had appointed a committee to consider the amendments of the Metropolitan Buildings' Act, and whilst we may confidently expect the best results from the ability of the members of this committee, yet I cannot but feel surprised that none of your correspondents have come forward with suggestions in furtherance of the improvement of this important statute, upon which very strong opinions have been expressed from time to time.* I hope we shall not find presently that the multitude find their pleasure in criticising and objecting to the labours of the few, rather than in generously rendering timely assistance for the public weal. From the opportunities which have presented themselves to myself, I am disposed to differ from the opinion which you have expressed, that is, that it would be better to pass over the present act, as being beyond repair, and construct an entirely new one. I think the latter course unnecessary; and, moreover, that in the end there might be the same complaints as were raised, too late, when the old building act was repealed; for most certainly in many quarters *nil nisi bonum* is now heard of the defunct statute. My experience leads me to think that the exercise of a little sound and unbiased judgment, would satisfy all parties, as far at least as the Legislature ought to be expected to satisfy them, having regard to the intended purposes of the statute. Perhaps the main and only important ingredients wanting in the existing statute, are a little more perspicuity in its language and stringency in its rules and enactments, at the same time eschewing any thing approaching to "glorious uncertainty," or alternative rules. The foremost of the matters which appear to require amendment, are the proceedings to ensure the abatement of irregular (and, therefore, publicly injurious) works. To do this, the jurisdiction of the justices, under the 15th and 18th sections, should be defined, or rather the intention of the Legislature should be declared (if it be so), that they are not required or expected to set up their judgment against that of the official referees and registrar, whose decision in all matters of irregularity should of course be final and conclusive, or at least beyond the control of police courts, and perhaps of quarter sessions also; otherwise matters must stand in pretty much the same uncertain position as under the old Buildings Act.† Possibly to effect a more speedy and effectual abatement of irregular works, the district surveyor should be divested of the onerous duty and expense attending the proceedings, and an officer well acquainted with such subjects appointed for this office. Intimately connected with the subject of irregular works, is the irregularity of neglecting to give notice under section 13, before commencing works. This neglect subjects the builder (if the district-surveyor takes proceedings), to treble fees, and a heavy penalty; but under the terms of the act, the district-surveyor does not feel that he is *required* to do so, but that he may exercise his discretion. This should not be, for there can be no doubt that much mischief is caused to houses after their original erection, by stove-setters, bell-hangers, and other workmen employed in making what are considered to be alterations too trivial for the notice of the district-surveyor, who (the workmen) in one hour may undo all the good produced by a compliance with schedule F, or other of the schedules. Whilst adverting to this schedule F, it is submitted that the *backs* of all *flues*, as well as of the chimney openings, should be not less than one brick in thickness; and further (especially if half brickwork should continue to be allowed) that every person building a party wall, with chimneys on his side of the wall, should be required before receiving payment of his neighbour for any portion thereof, to furnish him with an outline plan and elevation, showing the thickness of the wall, and chimney backs and flues, and the position of the chimney openings, and the course of the flues; and also the position of the bearing ends of all timbers inserted in the wall. For this a small charge might be made by the party building.

With regard to the proceedings to be taken by the district-surveyor on a builder refusing to amend irregular works, it would seem questionable whether, after the schedule, or *specification of works*, has been revised, it would not answer every purpose, besides expediting matters, if *one* official referee were authorised to inquire into, and dispose of, informations in some such summary way as is now practised at the police courts, giving the parties the option of having the question heard or re-heard, and determined, by the *two* or *three* official referees, as at present. This inquiry should be made at the works, and the decision of the official referees *read* at the office, to the parties who should be supplied with copies of the same.

Another subject that would seem to require some attention, is section 16, as it is obvious that government buildings, and buildings erected by public companies, &c., ought to be subject to all the rules of the act regarding fire, in common with other buildings within the limits of the act. Again, the powers of modifying vested in the referees, would themselves seem to require some modification, if it is to be understood that, under section 11, they are not authorized to make any modification in the nature of amendment or repeal of isolated rules. Unless, indeed, they are authorized under section 14, if the circumstances of the case warrant it, to allow trivial departures from the schedules (except schedule F) to be passed without amendment. The provisions relating to party structures and their owners might be simplified. One point at least requires to be cleared up, viz.: whether it is incumbent on the building owner, under section 26, to call on the district surveyor to survey, as under the two preceding sections, where the work, if authorized to be done, is done at the joint expense of building owner and adjoining owner. A supplemental section might, perhaps, be introduced which would assist an owner in procuring the rebuilding or amendment, on moderate terms, to himself, of party-walls not out of repair, and, therefore, not condemnable under the statute, but yet manifestly insufficient for the main purpose of the statute,—security against the spread of fire. This provision would take a middle place between sections 25 and 26; the former of which, as before observed, contemplates building owners and adjoining owners doing the work at their joint expense, whilst the latter throws the whole and every expense on the building owner. The remedy might, I think, be obtained by the referees being empowered, if specially called on to do so, after a wall has been certified by the district-surveyor to be in such a condition as not to require to be repaired or rebuilt, to determine whether it is not so reasonable a desire on the part of the building owner, and so beneficial to the adjoining owner's property, to have the wall amended or rebuilt, that the adjoining owner should bear at least the expense of shoring up his house and making good on his side of the wall. Such a provision would also have the effect of inducing caution and examination on the part of persons when taking leases of, or purchasing, houses presenting a fair outside. The proceedings, section 40, concerning ruinous buildings, from the very nature of the subject, require to be made as summary as certain and intelligible; and it may be here asked, whether the overseers of the poor are the most proper persons to be entrusted with the charge of ruinous buildings? The provision concerning the occupation of single underground rooms as dwellings, which are improper for the purpose, must be supposed to have quietly worked a perfect cure, or else to have had no good effect: the latter may be the case, as the statute has not imposed the disagreeable duty of enforcing this part of the law on any particular person or persons.

With respect to the schedules, a general revision (but only a revision) is desirable, as obviously this portion of the Act, being the part to which workmen and all persons immediately concerned in the execution of works are required to refer, should specify, grammatically, in the plainest and most precise and direct terms, the rules which are to be observed. In the seventh part of schedule C greenhouses, aviaries, &c., &c., are excepted from the ordinary rules, and, therefore, some special rules as to the materials, &c., of these buildings seems to be required, if schedule E does not take them in.

A clear definition of what constitutes an "attached building," as contradistinguished from an "addition" to a building, is wanted, as in this question are involved two very important considerations, viz., the thickness, and therefore, the cost of the walls, and also the fee payable to the district-surveyor on the work. The liabilities of "insulated buildings" should also be defined, and means adopted to prevent evasions of the Act after their erection. As it is now, it is supposed that a party having purchased the ground about, may build close up to an insulated building; or a large insulated building, even if of wood, may be afterwards divided into a number of separate buildings, by party-walls being built between them. Either there should be no exception made in favour of insulated buildings, or their dimensions should be limited, particularly as regards height above-ground; and they should be very distinctly required to observe the rules of schedule F (chimneys), and schedule H (drains). Schedule E, the most difficult of the schedules, requires some consideration, particularly if it be, as stated in a work recently published by Mr. Hosking, that a notion prevails that the expression "hereafter rebuilt" would be applicable only to buildings which have been rebuilt since the Act came into operation. By one rule of schedule E, "balconies, verandahs, porches, porticoes," &c., &c., and *all other* projections not forming part of the wall, may stand beyond the general line. Whilst, by a subsequent rule, "bow-windows or other projections of any kind" are prohibited, and such projections only as are by the other rule allowed to stand beyond the general line may do so. As a porch or portico, if inclosed, is as bulky as a bow-window, it would seem to be a question whether the latter rule does not refer mainly to buildings, or parts of buildings, as affecting the line established by other buildings, as contradistinguished from mere ordinary one-story appendages to buildings. If this be the rule, it is too important to be repeated without, at the same time, giving the referees or some other authority power, to relax the rule in certain cases as they may arise. Schedule H will require to be remodelled to meet all the practicable views of the new sewers' commission, to whom it should perhaps be transferred eventually. Schedule I requires to be re-considered, as it has been found to be operative—as it perhaps ought to be, with regard to partially-built streets, and old-established but unbuilt roads or ways; and the decision of the referees, to the effect that future alleys must be thoroughfares for foot passengers, deserves attention. Schedule K requires to be entirely re-written. The several modifications which the referees have made from time to time would of course be incorporated in their proper places.

There are two important points which have been omitted to be adverted to in the order of the Act: these are, first, ancient windows in party walls; and secondly, the difficulty that arises in cases where the registrar withholds the seal from an award by the referees. On the first of these two points it would seem that great differences of opinion exist in the minds of professional men, as regards the perpetuation of window openings in party walls on the walls being rebuilt; some persons maintaining, and the referees deciding, that the Metropolitan Buildings' Act cannot deprive a party of a prescriptive right; whilst others contend that the Act will not allow the windows to be reformed, but that the next owner must compensate the owner of the window for his loss; and a third party goes further, alleging that the statute (whose schedules are to be observed "notwithstanding any thing contained to the contrary in any Act of Parliament now in force"), and not the individual, takes away the window, and therefore no compensation can be claimed by the owner thereof from his neighbour, be he building owner or adjoining owner. The other point merits the most serious consideration; for as the Act now stands, the refusal of the registrar—if his

* And suggestions too, as our correspondent will find, if he refer.

† The particulars of a case taken by Mr. David Roper, district surveyor, before Mr. Norton, at the Lambeth police court, last week, when the magistrate refused (in the face of the law, as it seems to us), to recognise the award of the referees, is before us; we defer notice of it, however, in order that we may give fuller consideration to it at this moment.

opinion be confirmed by the Commissioners of Works and Buildings—to seal the award, at once puts the case as it were into Chancery, and the effect of this may be injurious, not only to the case which has given rise to the question, but may become a direct impediment to all other parties between whom questions of the like nature may arise, and thus a rule or proviso of the Act—whether restrictive for the public, or protective for an individual—may become virtually inoperative.*

Συνεργος.

BRICKS *v.* STUCCO.

A CONGREVE has been fired by your correspondent, Mr. Brandon, in a late number of THE BUILDER, against the use of *stucco*. The good gentleman seems to forget there *may be* something said on both sides. As an amateur of every thing in art and architecture, I differ with him *toto cælo*. And, on the contrary, feel that the public owe a deep debt of gratitude to those architects who have and do still continue to embellish our smoky capital, and other cities and towns in the empire, with examples of architecture, that would not otherwise be disclosed to the public eye, unless to such of them as could afford to visit the continent of Europe for that intent.

There are some of us whose fondness for art is such, that we think if realities are not attainable, their accurate copies or imitations are better to possess, than not have them to look at at all. I wish, within my heart, the Government of this country had half the zeal for promotion of the nation's honour in patronising the fine arts, that they shew in a willing obedience to throw away the public money in perpetrating would-be architecture in certain royal residences. France shames us as a nation in these particulars, and always will whilst, as a people, art and architecture continue at such discount as it does with the English. What other nation but ourselves would have found a minister venturing to build a gallery for the arts with second-hand pillars and entablature taken from a little low structure, and then throw the imputation of bad taste on the architect? whilst hundreds of thousands were *filched* from the Treasury to build, with no taste at all, a royal bauble.

These are subjects for a congreve, my good Mr. B., if you will, and the Government ought to have plenty of them. But where expense excludes the possibility of using stone, I trust the architects will always be "*few*," and there may be "*several*," as Mr. B. says, too, and yet not many, as compared with the whole body, who will consent to forego the use of cement; but notwithstanding all he says, adopt the motto—"*contra audentior ito*." I recollect, in wandering through the streets of Pompeii, I entered a Patrician building, in the court of which stood the remains of an arcade; the pillars constructed of brick: these generally were covered with a *red stucco*, evidently intended as the substitute for what is now called "*rosso antico*."

The Pompeians lived in a classic age. The building belonged to a rich man, yet there was stucco! I might go on with other examples, if I had my journal here to refer to, I make no doubt. But the above circumstance I well recollect: I observed to my friends at the time,—that it seemed *rosso antico* was very valuable even in those days.

I am, Sir, &c.
W. MASON.
Necton.

CITY OF LONDON UNION WORKHOUSE.—Sir: Will you ask the worthy guardians what has become of their self-concocted plan, "Vivo Spem?"—and whether it has not occupied more time in altering than the whole 41 rejected architects were allowed to execute theirs. It has been sent back from Somerset-house, as it would not bear the test: and by special permission is to be presented a second time. If I conjecture rightly, the plan will undergo such an operation as will very materially alter the estimate, if not the general appearance. This was foreseen and commented on by you in November last.

ONE OF THE REJECTED.

* Of this we shall have occasion to speak before long, and may feel it our duty to shew that within side of the Metropolitan Buildings Office it has produced a state of things very far from satisfactory.

FACILITIES FOR CHEAPENING AND PURIFYING GAS.

WE were the first to draw attention (now some time ago), to Mr. Leslie's new burner and other improvements tending to increase the purity and lessen the cost of gas, and have had no reason to retract the good opinion of them which we had expressed when the experience of them was less than it is now. At a meeting of the City Commission of Sewers, on Friday in last week, to inquire into the subject, Mr. Leslie made some statements which excited no little astonishment.

The first public experiment made by him as to the illumination, had been effected under the authority of the Commissioners of Woods and Forests, in the Queen's-walk, in the Green-park, where he had fixed his burners to eighteen of the lamps, which were 90 feet apart, and consumed 4½ feet per lamp per hour. The contrast between those lamps and the others lighted upon the usual plan, was most palpable. The next experiment was made by him at the Post-office, perhaps the largest affair of the kind in the world,

The saving effected at the Post-office in the first week of the present year was 23,600 feet; in the second week it would be 54,000 feet. He had undertaken to save them 1,000*l.* a year in the lighting. His mode was now being applied at the Ordnance and other Government offices. When asked by Mr. Lawrence at what cost the Commissioners of Sewers ought to be able to make and supply gas themselves, Mr. Leslie said at 3s. per 1,000 feet, which would include cost of plant, mains, &c. He dwelt much on the benefits of purification, and asserted, as we have before done, that ere long the public will demand a purer gas than that with which they are now supplied.

It appears that 2,700 street lamps are lighted in the City by the commissioners, and cost between 11,000*l.* and 12,000*l.* per annum. The lighting of the prisons and other buildings is extra.

THE WORCESTER LUNATIC ASYLUM COMPETITION.

SOME months since the magistrates of Worcester advertised for designs for an asylum, and, in due course, twenty-seven architects sent in designs, of whom three sent two each, making a total of thirty designs.

The advertisement announced that prizes of 50*l.*, 30*l.*, and 20*l.* would be given to those gentlemen whose designs the committee considered entitled to stand, in point of merit, first, second, and third. After consideration, the magistrates awarded the first prize to Messrs. Hamilton and Medland, Gloucester; the second to Mr. F. J. Francis, of London; and the third to Mr. S. S. Markham, of London. After some delay, the Committee of Visitors have determined on adopting the first design. If the Commissioners on Lunacy approve of it, it will be erected, with such improvements as may be suggested, and the authors of it will be employed to carry it out. The site is said to be one of the most beautiful spots in the county.

PREVENTION OF FIRES IN WAREHOUSES.

SIR,—We have had a great number of fires in Liverpool warehouses, and found great difficulty in getting at the place where the fire was (many of our warehouse rooms being above 30 yards long, and full of goods). Lately, in the case of Mr. R. Gladstone's warehouse, for example, the great body of smoke kept the firemen out for a long time, and though from the first there was plenty of water, it had no effect, as the iron doors could not be got at to open them.

Having witnessed the great difficulty to get at the fire in the above case, I have sketched a plan, by means of which, if we have a good supply of water, any fire can be flooded without the firemen being exposed to either smoke or fire, and beg leave to send you the heads of it:—The stairs are to be open to the street all up, the steps to be of stone or iron. I propose to have an iron water pipe from bottom to top of the warehouse in one corner of the stairs, so that access could be had at all times. This pipe must be supplied by a strong force of water from below, or from a cistern at the top of any building where used.

To each warehouse floor an iron pipe with round holes at each 3 feet, is to be carried round each room, and attached to the service-pipe, and to each floor a tap is fixed to let the water play when wanted. The service-pipe to have a tap at the bottom, if served from a street main water-pipe, or at top if served from a cistern; the pipes to be kept empty until wanted.

On each landing on stairs there must be a place to screw a brass pipe to, to play in the room, if the iron pipe is not thought needful. The doors into each room to be of iron, and hung so that when the door bar is drawn the doors will open by their own weight.

The iron rod that fastens the warehouse doors should be brought through the wall and fastened on the stairs, so that it can be got at any time.

Liverpool. JAMES THOMSON.

METROPOLITAN COMMISSION OF SEWERS.

A MEETING of the Metropolitan Commissioners of Sewers was held on Thursday, the 27th ult., in Committee Room, No. 23, New Houses of Parliament. Lord Ebrington, M.P., in the chair.

The Clerk read a report from Sir H. De la Beche and Mr. Chadwick, on the subject of the proposed Ordnance Survey of London, giving reasons for its commencement in Westminster, and recommending that "a block plan should be completed for the district bounded by Bridge-street, Great George-street, Bird-cage-walk, Constitution-hill, Hyde-park-corner, Knightsbridge, Brompton-road, Fulham-road, Park-place, Milman's-row, and the river line from Milman's row to Westminster-bridge." The report continued,—

"We have further to report that the survey has been commenced at the points we recommended, and that under the authority of the orders of the court, a portion of the Sewers Office in Greek-street, has been set off for the accommodation of the officers of the survey; that the upper part of the premises of the Sewers Office, Hatton-garden, and a part of the house and office of the Sewers Commission for the Tower Hamlets, have been occupied for the lodging and accommodation of non-commissioned officers and men of the Sappers and Miners engaged in the work of the survey."

Appended to these reports were a series of questions put to Mr. Wilson, one of the parochial officers of St. Margaret's, before the Sanitary Commissioners at Gwydyr House, with his answers thereto, setting forth that in various parts of Westminster, particularly in the neighbourhood of Buckingham Palace (viz. Palace-street, William-street, &c.), the refuse of cesspools in the houses is pumped into the streets, where it is frequently suffered to remain until a shower of rain falls to wash it away, and that many of the basement stories are uninhabitable from the offensive exhalations arising from the cesspools; and although sewer rates have been paid for centuries, yet little benefit has been derived therefrom. The reports were received and unanimously adopted.

A letter was received from Mr. Abraham, the architect to the Westminster Improvement Commissioners, as to the drainage of houses falling within the range of the projected improvements from Vauxhall-bridge to the Broad Sanctuary. The clerk suggested, that as a question might arise between the Commissioners of Woods and Forests and the Improvement Commissioners, it would be perhaps prudent in the first instance to refer the subject to the General Purposes Committee, which suggestion was agreed to.

A document was received from Mr. Bardwell, of Great Queen-street, Westminster, on a subject mooted at a former court, having for its object the collection of the sewage of the whole of the metropolis into reservoirs, to be placed at three selected points, so that the entire of the refuse matter at present discharged into the River Thames might be withdrawn, and converted into a valuable manure for agricultural purposes. He proposed in his plan the formation of three reservoirs for that purpose: the first, to be on the banks of the Kensington canal, a length of 3¾ miles; the second, on the banks on the River Lea, 5½ miles in length; and the third, 4½ miles, near the Surrey Docks, and the estimated cost as follows.

The first reservoir, 3¾ miles		£92,400
The second do. 5½ miles		166,320
The third do. 4½ miles		59,840
		318,560
Three depots, with plants to each	£35,000	105,000
Total cost		£423,560

By this scheme, it is calculated that the three reservoirs will intercept 200,000 tons of solid matter, which, when manufactured by Robinson's

process as at Montfaucon, will sell for 4*l.* per ton, and deducting 1*l.* per ton for its manufacture, the result will be three times 200,000*l.* or 600,000*l.* per year. Liebig estimates it at 700,000, and Dr. Graham at 720,000 tons, which, if treated according to Mr. Bardwell's plan, would produce upwards of *two millions sterling per annum*, by which plan, eventually, sewer-rates might be altogether abolished.

Mr. E. Chadwick thought it better that these matters should be, in the first instance, referred to the General Purposes Committee, as, by being thus brought forward, the time of the court would be occupied, and when brought from the committee, the whole matter would require consideration *de novo*.

The subject was referred accordingly.

Mr. Chadwick laid before the court a very voluminous report, drawn up by Mr. Lovick, the surveyor to the Paving Board of the united parishes of St. Andrew, Holborn, and St. George the Martyr, which pointed out the great defects of drainage in that locality, and said the information contained therein had been obtained from the inhabitants themselves, who had been visited, house by house, and in every case the inhabitants testified the liveliest interest in the proceedings adopted for their comfort and cleanliness. The report particularly alluded to the state of Baldwin's-gardens, where the most noxious exhalations were emitted from cesspools, only four feet from the basement. Mr. Chadwick said he thought this was a fair specimen of the evils they had to deal with and to remedy. To show that persons were alive to habits of cleanliness, he found that in many cases the practice of sweeping and sanding the doorways had re-appeared in districts where it had rarely been in before. He moved that the thanks of the court be given to the Paving Board of St. Andrew's, Holborn, and St. George the Martyr, and to Mr. Lovick, the surveyor, for the zeal and ability displayed in conducting the inquiry, and for the able report presented to them.

The Hon. F. Byng hoped they should not alone have to tender their thanks to the parish of St. Andrew, Holborn, for instances of want of sewerage were not wanting in many other districts. St. James's parish, Westminster, alone, contained 168 streets and alleys, and out of this number 58 were totally without sewers, and the greater part of those where sewers did exist were very old, and as far as he knew of the locality, not 1 in 7 of the houses communicated with any sewer. The resolution was then put and agreed to.

Mr. Broderip hoped that other boards would act in the same spirit, for he knew that so far from the poor objecting, they were eager to receive the benefits of cleanliness. He thought, in every case, there should be an abundant supply of water, for he knew that in the hot months frequent private quarrels arose from the scarcity of water.

Lord Ebrington said he received a communication lately from Dr. Farre, that many of the inmates of workhouses were suffering from the want of proper drainage. Referred to the surveyor.

The Dean of Westminster mentioned to the court that within the last few days four men had been employed in cleansing cesspools within the precincts belonging to the Dean and Chapter of Westminster, and during that time the progress of the works had been watched by Mr. Glass, chemist, and the clerk of the works, and their reports, for which they were responsible, were highly satisfactory. Sir W. Burnett's fluid, consisting of the chloride of zinc, had been used for the purpose of deodorization,—four cube yards of soil having been completely deodorized by ten quarts of fluid, and removed in two hours by four men. The men coming new to the work, it was believed that when they were organised, they would do twice as much work in the same time. He certainly felt surprised when a man stood over a cesspool, and the more the deposit was disturbed the less odour arose. He did not quite agree with those who considered cesspools tainted adjoining wells. He knew several cesspools near to wells, wherein not the slightest impregnation by percolation had occurred to the water, which he attributed to the filtration through a fine substratum of gravel in that neighbourhood.

Mr. Chadwick could not allow this statement to go forth unqualified, for he knew in many instances wells had been abandoned, the cause being traced to offensive cesspools.

Mr. Leslie said he had himself a good well situate some distance from the cesspool, but still he found the water tainted, but could not ascertain the cause until he had the cesspool taken up and removed, when the water became again pure. The deodorizing fluid might successfully neutralise the smell, but still he hoped that as cesspools were cleansed, they would be filled in, for he looked upon them as the pestilences of the land.

Professor Owen said the filtering alluded to by Dr. Buckland could only apply to clean gravel.

Mr. Chadwick said a list of regulations had been drawn up for voluntary associations, having for their object the cleansing of courts and alleys. In addition to Sir W. Burnett's fluid, others were in course of trial, and amongst them the chloride of manganese, and with every prospect of success; but before they could supersede cesspools, they must have not only an abundant but a continual supply of water, and then they might hope to annihilate the evil.

The surveyors then presented the following report on the flushing and cleansing of courts and alleys:—

"Since the last court, deposit has been flushed away from sewers hereunder named:—

	Length in feet.	Double loads.
In the Westminster division.....	10,599	3,535
,, Surrey and Kent.....	10,866	1,513
,, Tower Hamlets	6,746	899
Open sewers in Surrey and Kent.....	14,315	1,323
Amounts reported at the last court....	22,400	3,386
Making a total of.....	70,826	10,656

In cleansing cesspools, courts, and alleys, Sir William Burnett's deodorizing fluid has been used a sufficient length of time to ascertain the quantity needful for cesspools of large size. The surveyors are now about using M. Ledoyen's fluid, and propose afterwards to use Mr. Ellerman's in a similar manner, as also a fluid sent by Mr. Herapath, of Bristol, to arrive at a result that will enable us to say which fluid will be the cheapest."

The report was received and adopted.

Upon the recommendation of the committee for a rate of 8d. in the pound on the Kent and Surrey division being read, Mr. Hutton said he wished to offer a few words in explanation of this subject. This rate had been agreed to by the late commissioners, and in now ordering it to be collected, it was to enable the present commission to liquidate the outstanding debts of that body. His object in thus mentioning it was, that it might not go forth that the commencement of the operations of the new commission was to be accompanied with the imposition of a large rate. The rate was then agreed to.

A letter was read from Mr. Gwilt, one of the late surveyors of the Kent and Surrey Commission, in answer to the subject discussed at the last court as to his continuance in the office of surveyor. He stated that he considered any formal resignation of office was unnecessary, as he, in common with others, had been superseded on the issue of the present commission; but having held the office for nearly forty-six years, he thought he was entitled to some compensation for its abolition.

This letter was referred to the Committee, and after some routine business had been transacted the court adjourned.

Correspondence.

CAEN STONE.

Sir, — A few inquiries appear to suggest themselves in reference to the discussion on building stones, at the Institute of British Architects, as reported in your valuable paper of the 29th inst.

In what respect is it "difficult now to get stone from the beds, from which the early buildings in Caen were erected?"

How to distinguish between what is stated to be "very durable, and some that is by no means so." Is it not desirable that well-seasoned blocks should be available in the London market, for any work on the point of commencing, so that the quality and date of importation might be properly attested?

Is there not some risk of change in the transit, if stones are selected at the quarry?

I am surprised that a statement should go forth, that "blocks of Caen stone may be placed in construction in any direction, except when the white veins are perceptible," an opinion from which you most properly dissent, but it is a question which should at once be set at rest. If "the most experienced eye can hardly detect the different qualities of the stone in the block, when once they have been removed from the quarry," what test should they be submitted to before being used in a building?—I am, Sir, &c., L.

Pimlico, February 1, 1848.

Miscellanea.

Union of Cast-iron with Copper, Wrought-iron, Steel, &c.—The process patented by Mr. Perlbach consists of the preparation of the copper by filing, or the wrought-iron by acids and alkalis, to clear the surface of oxide, after which it is plunged into a bath of tin 95, copper 5 (or more copper and less tin for large surfaces), and then laid in the cast-iron mould so as to allow the cast metal to be poured upon it to the requisite form. When united with copper, the metal must be poured in at as low a temperature as possible.

Institute of Mechanical Engineers.—The first annual meeting was held at the theatre of the Philosophical Institution, Cannon-street, Birmingham, on Wednesday week. In the absence of the president, Mr. J. E. M'Connell took the chair. Mr. Fothergill read the report prepared by the council, congratulating the members on the successful progress and prosperous condition of the institution, which now numbered 103 members, and four honorary members; and calling upon the members and friends of the institution to renew their efforts to promote its further rise and success. Mr. Alderman Thornton gave the following account of his new hydraulic jack:—"The principle of this jack is the same as that of the hydraulic press. Its advantages are the ease and steadiness with which a great weight can be raised by one person; the facility with which the lowering of the weight can be regulated without labour; and from there being no circular motion of the handle, there can be no tendency in the jack to twist from the position in which it is placed; also, by the use of strong wrought-iron tubes for the cylinder and ram, the weight of the jack is less than those now known. This jack can be used in cases where others are available, and in some where others are not so; for the motion of the lever being vertical instead of lateral, it can be used wherever there is a sufficient width to place it. With a jack of the size shown, one man can lift from 15 to 20 tons weight." Considerable discussion ensued upon the merits of the invention, in which the Chairman expressed his opinion favourably of it, as did also several other members.

Roman London.—Last week, in excavating for the foundation of the new Coal Exchange, in Thames-street, a red tesselated pavement, and the remains of a hypocaust were discovered. According to our informant, the warm air chamber is 20 inches high, and consists of a series of pillars, composed of 14 tiles, 8½ inches square, 1½ inch thick, and 1 foot 5 inches apart, paved and covered with large tiles 1 foot 11 by 12 inches, and two inches thick. At a meeting of the British Archæological Association on Friday evening, in last week, drawings of the remains were exhibited and a description given. The apartment containing the arrangement for warming is semi-circular on one side, which projects beyond the outer wall of the other room, and has a recess in the wall, or seat for two persons. The outer-wall of the semi-circular apartment has been entirely removed at some remote period, but that of the other room is in part standing to the height of several feet, and is entirely composed of long flat red tiles, with an occasional course of pale yellow ones. The remains are about 13 feet below the pavement of Thames-street, shewing how much the level has been raised since the time of the Romans.

The Cab-Stand Nuisance.—A *quasi* "Cabman" has addressed a letter to us in reply to Mr. Waller's statements, commencing:—"Whilst in the coffee-house many of my fellow-cabmen sleep, others smoke and discuss the Parliamentary debates of the week, I, with the feelings of an emigrant reading of his fatherland, examine in The Builder (they take it in here) the transactions in those fields of science where I rambled a boy, and which I cultivated in my youth. It were right to say that I was brought up an operative. What thorny paths I trod, accompanied by pale sickness and flesh-fed want, until I came to this *stand*, it is needless to say. I fell, as many a better man has done, and I am now (I should have been ashamed at one time to write it) a common, though not despairing, cabman." He jokes on the attempt to get rid of what he does not think a very great nuisance, asks who is to pay for the proposed covered places, and thinks inconvenience would result from putting the cabs out of sight. In truth, however, the cab-stands *are* a great nuisance, and though, as he says, there exist worse, and "he would have the giants lamed and leave the pigmy for a time," it is desirable we should see all our foes before us, so that we may knock them off one at a time, as opportunity occurs. "Cabman" wisely asks for more *water*. We would have all London shouting for the same thing as if every house were on fire, and will gladly aid to raise the cry.

Deviations from Contracts.—Some of our readers will remember an action brought by Mr. Kirk, a builder, who had undertaken to erect the Union workhouse at Bromley, against the guardians of the Union, in 1846. There had been certain deviations from the plans and specification originally agreed upon under the contract, for which additional work he had charged the guardians, but they had resisted the payment of these items of charge. The plaintiff had alleged in his bill that he was, by the terms of the contract, empowered to make deviations if approved of by the clerk of the works, and this he alleged he had obtained. The Vice-Chancellor had, consequently, made an order in his favour, and from that decision the defendants appealed. The appeal was heard last week, when the Lord Chancellor was of opinion that the plaintiff had failed to make out such a case, and was not entitled to any relief, as he had not proved that he had obtained permission from those who employed him, and were to pay him, to depart from the terms of the contract, by which only the parties were to be bound. The order of the Vice-Chancellor was therefore reversed.

Self-acting Effluvia Trap.—Mr. Rettie, of Richmond, has addressed to us some indignant letters in respect of the effluvia trap registered* by Messrs. Bunnett, and lately illustrated in our pages. Mr. Rettie says he patented the trap in June, 1846; and that in July, 1847, "Mr. Bunnett applied to me to be employed to make them, and to have a licence to use my patent. He got the drawings and models. Finding it to be a good thing, he registered my effluvia trap as his own, and took it to the Commissioners of Sewers, where Mr. R. L. Jones challenged him on the very subject; and I hold letters to my solicitor, stating the fact, in Mr. Bunnett's handwriting." We feel bound to give Mr. Rettie's statement, the similarity being evident, but cannot further pursue the subject, or afford space to half-a-dozen other letters which we have received: our advertising columns are open, and the law will surely afford redress for injury. Mr. Bunnett considers that he has made certain improvements in the arrangements; he does not claim the invention.

The Compensation Case, Battersea Park.—On Friday in last week Mr. Chambers, in the Court of Queen's Bench, moved for a rule calling upon the Commissioners of Woods and Forests, and also upon the sheriff of Surrey, to shew cause why a prohibition should not issue, directing the sheriff not to record the verdict and judgment of the jury in Mr. Chabot's case. The learned counsel said some confusion must have been caused in the minds of the jury by a dispute that existed with the corporation respecting the greater portion of the land. The sheriff unfairly and unjustly omitted to ask the jury, as pointed out in the statute, the exact portion of the land on which they found their verdict. The jury had no right to inquire into the question of title, and no doubt found for the two or three roods of undisposed land, and not for the whole. Lord Denman thought the case one in which a rule should be granted, and it was granted accordingly. A claim by Mr. Paine, which was to have been tried on Tuesday last, is postponed for a time in consequence.

Institution of Civil Engineers.—At the annual general meeting of the institution, held on Tuesday evening, the 18th ult., the following gentlemen were elected to form the council for the ensuing year:—Mr. Joshua Field, President; Messrs. W. Cubitt, J. M. Rendel, J. Simpson, and R. Stephenson, M.P., Vice-Presidents; J. F. Bateman, G. P. Bidder, I. K. Brunel, J. Cubitt, J. Locke, M.P., J. Miller, W. C. Mylne, T. Sopwith, J. R. M'Clean, and C. May, members; and J. Clutton and T. H. Wyatt, associates of council. The report of the council continued to be very encouraging, and shewed that the progress of the society was steadily good. Telford medals were presented to Messrs. Jackson, Richardson, Murray, Glynn, and Frodsham, and to the two former gentlemen council premiums of books were added. Telford premiums of books were also awarded to Messrs. Elliott, Heppel, Shears, and Masters, for their communications made during the past session.

* Not *patented*, as we stated in accordance with the information forwarded to us.

Competitions.—A plan is wanted for a county lunatic asylum for Wiltshire, to accommodate 250 patients, and capable of extension. No premium is announced.—Plans are also wanted for new gas-works for Belfast: premiums—first, 50*l.*; second, 25*l.*; third, at discretion of the Town Council.—Plans of complete sewerage for Gloucester are wanted: premium, 75*l.*—Tenders are also wanted for surveying and mapping the parish of Battle, Sussex.

Projected Works, &c.—Tenders have been called for by advertisement for the erection of a wing to the Littlemore Lunatic Asylum, near Oxford; for maintenance of the permanent way of the Midland Railway between Nottingham and Lincoln, with branch; for erection of four stations on Yorkshire Junction Railway; also for stone paving the carriage and footways in the City for three years.

Improved Sash for Lunatic Asylums, &c.—A model of a sash and frame (arranged by Henry Lane, of Upper Tooting) has been submitted to us, which appears to possess advantages for lunatic asylums, workhouses, and schools. The sashes are proposed to be of iron, in small squares, and each row of squares is made to open outwards from its top, by means of a quadrant acted on by an endless chain and small wheel, turned by a key, so that when open the sash-bars present a guard against patients escaping or children falling, yet offer no obstruction to free ventilation. Amongst its other apparent advantages are these,—that at whatever height it may be fixed (as on staircases) it may be opened and shut by a person standing on the ground, and can be opened and shut only by the right person. Whether sufficient strength can be given to the attachment at the angles to prevent mischievous patients from wrenching out a row of squares we cannot say positively, but the arrangement decidedly deserves examination by some who might be able to assist the inventor in carrying it into practice.

Martin's Improvements in Draining.—Mr. John Martin, the well-known artist, has patented a mode of constructing water, sewerage, and gas pipes, of which a prospectus is now before us. We shall take an early opportunity of inspecting the materials themselves, and in the mean time may say that the patent embraces, at all events, one very important matter, namely, a means of so *coupling the pipes* as will prevent one pipe settling away from another, and the consequent leakage, as may be the case when they are simply butted against one another without a socket, and yet give the greatest facility for taking out one or more lengths without injury. The mode is exceedingly simple and apparently effective.

Western Literary Institution.—We are glad to find that the Western Literary and Scientific Institution, in Leicester-square, the continuance of which was thought to have ceased, has been re-organized by the late secretary, Mr. Malcolm, and offers the same great advantages to the inhabitants of the locality as heretofore. The library remains, and the rooms have been fitted up very neatly. Irrespective of the, weekly lecture, last Monday Bishop's patent "Self-acting Breaks for Railway Carriages" were illustrated; and next Monday Mr. Cantelo's steam "Egg-hatcher" will be described.

Electro-Telegraphic.—An American projector proposes an electric-telegraph from the Atlantic to the Pacific. It is already carried from the Atlantic to St. Louis, in the valley of the Mississippi, whence the distance to the Pacific is 2,000 miles, and the estimate is that the line could be formed for 300,000 dollars.

Ironfounder's Estimates.—As a proof that ironfounders are not more particular in the preparation of their estimates than some builders, we publish the result of a competition for a cast-iron bridge, of 35 feet span, proposed to be erected in the city of Chester, from the design of Mr. Baylis, borough engineer:—

J. Williamson, Stockport	£220	10	0
W. Mabon, Ardwich, Manchester	212	11	3
Teyburn and Co., Warrington	210	15	0
W. Glasgow, Manchester	180	0	0
R. Pauling, Manchester	178	10	0
Juland and Longdon, Manchester	170	13	0
Ogle and Son, Puston	150	0	0
Messrs. Johnson, Chester	149	0	0

The lowest tender was accepted,

Landlord and Tenant: Breach of Contract.—On the 20th ult. an action was tried at the Sheriff's Court, brought by Miss Robinson, sister of Dr. Robinson, of Brompton, against Mr. Pearce, for breach of contract. The defendant had agreed to take a house in Sloane-street, Chelsea, for the term of ten years, at the yearly rent of 70*l.* Under the covenant, alleged to have been broken, the defendant had bound himself to expend the sum of 200*l.* in repairing the premises; also to insure them to their full value; and that in case he wished to convert the house into a shop, he should obtain the plaintiff's consent and the sanction of Lord Kensington, the ground landlord. The defendant refused to comply with the terms of this covenant, although he had signed it, and he offered to throw up the contract and pay down a quarter's rent as a forfeit for the breach. This was, however, declined by the plaintiff. The defendant, in defence, said he had not been able to perform his part of the contract, but he offered a quarter's rent as compensation, which sum he thought ample remuneration for any loss the plaintiff might have sustained. The jury found for the plaintiff,—damages 40*l.*

Galvanised Iron.—Mr. R. Hunt, in the course of a lecture on mining, recently delivered at the London Institution, said,—"Considerable attention had been lately paid to the process of galvanising iron,—a discovery which promises to be of the highest utility. Mr. Nadsmyth, of Patricroft, near Manchester, and Mr. Owen, two gentlemen connected with the Government committee on the subject of metals, had lately been trying experiments, the result of which would indicate that, by giving iron a coating of zinc, or by combining zinc with iron in its manufacture, it would be much improved, preserved from oxidising, and rendered less brittle; and that old plates of iron—such, for instance, as had been used for the bottoms of ships—with an admixture of zinc, still possessed its original qualities; and, in fact, iron remelted from such plates was found to be of a better quality than at first. These experiments had, indeed, excited great attention to the important question, whether iron would not be improved by a small portion of zinc. Tinned iron, exposed to the atmosphere, very soon became oxidised; but in iron protected by zinc, although exposed to all weather, there was no change. Indeed, a piece made bright remained so after being placed in water for several months. The zinced iron, which was now used in roofing large buildings—as, for instance, the new Houses of Parliament—had the quality of becoming incrusted with a coat of oxide of zinc, which prevented any further destructive effects from exposure to the atmosphere."

The late Mr. H. Lonsdale Elmes.—We have already alluded to the too-brief career of this gentleman. We find the following in the current number of the *Art-Union Journal*. "A committee of Liverpool gentlemen, in 1836 or 1837, advertised for designs for St. George's Hall, which was then intended to be a building distinct and separate. This advertisement was cut out of the *Times*, and sent or handed to Mr. Elmes by one of his friends, as being worth his notice. Mr. Elmes, then very young, took it over to Mr. Haydon, and asked him if he should send in a design. 'By all means, my dear boy,' said Mr. Haydon; 'they are noble fellows at Liverpool. Send in a design, and mind, let it combine grandeur with simplicity. None of your broken-up and frittered abortions, but something *grand*.' 'Accordingly,' said Mr. Elmes, 'I set to work with a burning enthusiasm, and took my first sketch to a friend's house. It was handed round and admired. Amongst the company was a boy about four years and a half old. The sketch was of course shewn to the little fellow, who, looking for a moment very gravely at it, threw it down, saying, 'very good; very good, indeed: it's worth five hundred pounds.' This, of course, was laughed at, but hailed as a lucky omen.' The sketch was finished, and in due time came the welcome news, 'victorious,' with the five hundred pounds. Some time after followed prizes for the Assize Courts and the Collegiate Institution. St. George's Hall, the great work of the young architect's life, must be finished by others; but it will ever remain his own noble monument. We understand that Mr. Elmes has left his widow

and child unprovided for. Commencing life solely by his own means, his career has been all up-hill; and, perhaps, of all the learned professions, that of architecture is the worst paid: no expenditure appears to be so grudgingly laid out as an architect's commission. Mr. Elmes' commission of five per cent. on this building was restricted to 90,000*l.*; the expenditure will be about 154,000*l.* For the Collegiate Institution in this town he obtained the premium of 250*l.*; but the directors claimed the drawings, and, to save the commission, put them into the hands of a clerk of works; and Mr. Elmes, rather than have his details murdered, furnished them for nothing. These are two instances which have taken place in a town renowned for its great wealth and princely liberality all over the world. It is to be hoped that the claims of the widow and orphan will receive that attention and liberality of treatment, justly, honestly, and most righteously due to the man who has laid down his life in adorning the town of Liverpool with one of the finest architectural buildings in Europe."

The Health and Light Tax.—The delegates of metropolitan parishes appointed to obtain the immediate repeal of the window duties determined, at a meeting held last week, on sending a deputation to wait on the Chancellor of the Exchequer to bring the question forcibly under his notice. Following out a suggestion made in The Builder a short time ago, another association has been formed, to be called the London and Provincial Union for the Abolition of the Window Tax, "for the purpose of obtaining by every legal means the total and immediate abolition of that obnoxious tax."

Asphalted Brickwork.—Some parts of the citadel at Plymouth have been constructed of brickwork and Scyssel asphalte. The north embrasure of the old saluting battery, the first of the kind ever built, took 12 men four weeks to construct it, and was finished about three months since. The men worked under cover of tarpaulins, and had a furnace constantly lighted near them. Twelve tons scale weight of asphalte bricks and of liquid asphalte were consumed in its construction. Between the new work and the old the asphalte was poured in boiling hot. The bricks seem to be all completely welded together as if cast into a mould, and the experiment in every respect is said to be successful.

TENDERS

Delivered to the Assignees of Mr. Burton, of Lambeth, for building the new barracks at Portsea, viz.:—

Trego	£41,025
Piper	40,793
Hicks	40,370
Haynes and Co.	39,650
Nicholson	38,899
Busby	38,896
Harrison	38,224
Kelk	38,201
Locke and Nesham (accepted)	35,200

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

Tuesday, February 8.—Institute of Civil Engineers, 8 p.m.

Wednesday, 9.—Society of Arts, 8 p.m.; Graphic Society, 7 p.m.

Thursday, 10.—Royal Society, 8½ p.m.; Society of Antiquaries, 8 p.m.

Friday, 11.—Archæological Institute, 8½ p.m.; Architectural Association.

TO CORRESPONDENTS.

"*The late Westminster Commission of Sewers.*"—We have received a reply from Mr. Phillips to a remark in a recent letter, but have not space for it in our present number.

"*Occasional Reader.*"—Two or three coats of paint on the ends of beams will be found useful.

"*R. G.*"—The insertion of his article would expose us to an action for libel.

"*J. L.*"—A valuer's licence may be obtained at Somerset House: the cost is, we believe, two guineas.

"*J. W.*"—We are unable to advise as to emigration.

"*Subscriber.*"—We know of no "paint for stucco which will stand well when exposed to a sea-air in a very open situation."

"*J. P. W.*"—Shall appear.

"*J. G. B.*"—The green slates in question are from Westmoreland.

"The Practice of Artists," "Filtering Water," "Use of Plaster of Paris," "Reviews of Books," &c., unavoidably postponed.

Received.—"C. T." (Oxford), "J. W.," "W. D.," "H. C." (shall see a proof), "M. H. C.," "R. T.," "H. L. T." (shall appear), "R. G.," "C. V." (shall appear), "J. B.," "A Subscriber," "J. S.," "An Old Builder," "E. A.," "C. A. H." (thanks), "F. P. D," "W. J.," "F. D."

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HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will instantly add 6 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation four different ways, forms a complete ventilator and sun-blind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns: also Hydrostatic Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Banksside, Southwark.

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TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, doing injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

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Patent Copper and Iron Wire Sash Lines.

IMPROVED FLOORING-CRAMPS, &c. &c.,

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2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

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3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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3 ft., £3. 3s.	3 ft. 6, £3. 15s. 6d.	4 ft., £4.

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5d.	6d.	8d.	1d.	1s. 4d.	1s. 10d. per 1,000.
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The Builder.

No. CCLXII.

SATURDAY, FEBRUARY 12, 1848.

LAST Monday we rambled to several places, and if our readers will let us do it over again, they shall hear something of what we saw. To get into the city now-a-days is no joke; inadequate thoroughfares, wholly in the possession of reckless and competing omnibus drivers, against whom Colonel Sibthorp sought protection in the House of Commons the other night, make the journey a work of time and trembling. Improvement in this respect is devoutly to be wished for by every resident or visitor whose life or time is worth any thing. At present, unhappily, there seems little prospect of it, but the daily increasing necessity must ultimately bring it about.

Twenty minutes were we fast in Fleet-street (and all know, that being fast there, is very slow work), but we felt anxious to see the Roman house recently opened, as mentioned last week, and bore the confinement as much like a philosopher as temperament would permit. In sober seriousness, however, we have 'many a time and oft' travelled *sixty miles* on the Great Western Railway (profitably employed too, the while), in the time that was wasted in getting from Brompton to Lower Thames-street, on this said Monday morning. Surely there is matter for thought in this, and a pricking argument for improvement.

The new Coal Exchange, as our readers know, is to be built on a plot of ground in Thames-street, at the corner of St. Mary-at-Hill, nearly opposite to Billingsgate:* and it is close to the eastern boundary of this piece of land that part of a Roman building has been laid open in digging for the foundations. The discovery has excited much interest, and the steps which have been taken by the parties in authority, with a view to an investigation of the building, and, it is to be hoped, its preservation, are very creditable to them, and shew that a different feeling prevails in the city from that which was dominant when, for many years, every remnant of ancient London which turned up was wantonly destroyed. The British Archæological Association made early mention of it: on Thursday in last week Mr. Bunning, the architect engaged, forwarded a plan and description of the remains to the Society of Antiquaries; and on Tuesday last they were fully illustrated at a meeting of the Freemasons of the Church.†

The remains consist chiefly of part of an apartment (or it may have been a passage-way), paved with common red tesseræ, each about 1¼ inch square, and a hypocaust which is semicircular on one side, and projects, as a bow, before the outer wall of the first-named apartment: this outer wall is 3 feet thick, built of tile-like bricks on a course of Kentish rag stone, and the mortar contains pounded brick, now understood to be an unfailing sign of Roman work. The commonness of the pavement (compared with the fine specimens of Roman pavements discovered as well in London as in various parts of the country) would seem to shew that this apartment was appropriated to common purposes.

The heating chamber—the hypocaust (not hypocaust, or *bath*, as it is erroneously expressed)—is exceedingly interesting, and becomes more so when carefully examined, as it is found to agree to half an inch in all the dimensions with those given by Vitruvius, in his instructions for forming the *hypocaustum*.

The hypocaust, as all our readers doubtless know, was a hollow floor, so to speak, communicating with a furnace by a flue, so as to receive the heated air when wood was burnt in the furnace, and thus warm equably the apartment above. A sound bottom having been formed, little brick pillars, 8 inches square, Vitruvius says, were raised, about 2 feet from centre to centre, and about 2 feet high. On the top of these piers large bricks, stretching from one to the other, were placed, to cover in the whole, and upon these a layer of pounded tile and chalk, covered with a fine cement, or a mosaic pavement, formed the floor.

The hypocaust in Thames-street agrees with this in every respect. The piers are 8½ inches square, 2 feet from centre to centre—leaving a space between each, therefore, of from 15 to 16 inches square,—and 2 feet high. The bottom of the hypocaust is formed of concrete, and the covering tiles carry a layer of the same material to form the floor of the apartment above. Similar constructions, both abroad and at home, have been found to agree in this manner with the foregoing description; but when we put a rule to the parts of the hypocaust in question, opened to view after the lapse of so many centuries, and found the dimensions agree, the confirmation came more strongly home, and interested us much. Again, Vitruvius says that the bricks forming the little piers were not put together with mortar, because of the effect heat would have on it, but with clay; and when we carefully lifted off one of our Thames-street tiles, we found, with great satisfaction, this had been the case there also.

We should mention that the flue, which opens into the hypocaust by two branches, divided by a triangular mass of brickwork, and four piers similar to those already described, extends eastward under the adjoining premises, and has been probed to an extent of 14 feet.

It is most likely that the room above this hypocaust was a bath, but we think not necessarily so: there are passages in ancient writers which shew that the Romans used a similar arrangement to heat ordinary apartments. Pipes opening into the hypocaust were inserted in the walls, and conducted the warm air to various parts of the structure: some pipes of this description were found at the building in question, but we are not aware in what position.

The apartment first described exhibits a feature which, although we think not part of the Roman construction, has led to much discussion. This is the remains of what appears to be a well, about 2 feet clear diameter, formed of neatly wrought blocks of chalk on an elm curb, and coming down from nearly the present level of Thames-street to within a few inches of the tesselated pavement. It would seem that those who constructed the well could not have known of the existence of the pavement, or they would have sunk the former a little deeper, to get a sound bottom for their curb.* There are difficulties in the way of opening the ground eastwards, but we trust these will be overcome to a certain extent, and that further investigations will be made.

Leaving the site of this very interesting discovery, we made our way to the Golden-lane district, concerning the miserable state of which, in a sanitary point of view, we recently spoke, —intending to make some further inquiries concerning it. In the course of the perambulation we were startled by an apparition of old St. Bartholomew's Church, which used to stand by the Bank, with its curiously-finished, or rather unfinished, tower, looking as if the top had been blown down, leaving on each side a doorway, or window-frame, standing alone. It appears that the Bishop of London, when applied to for his sanction to the proposed removal of the old church, stipulated that a new church should be erected in the neighbourhood, and the internal fittings and decorations having been preserved, and apparently some of the stonework too, Mr. Cockerell, to whom the commission was given, has made the church as nearly like the old one as possible: the main difference inside is, that it has no clerestory, which the original church had, and has galleries, which the old one had not. It is nearly ready for consecration.

Returning, we looked into Mr. Sydney Smirke's new coffee-room at the Carlton Club, Pall Mall, which was opened to the members last week. It is a handsome apartment, 93 feet long, 37 feet wide, and 21 feet 3 inches high, formed into three compartments by Corinthian columns on pedestals (four pairs), which project into the room. The fire-place is in the middle of the long side of the room, and the entrance door is opposite to it. The dressings of the latter include columns of French marble.† There are three windows at each end, and a large octagon light over the centre compartment. The ceiling is formed with deeply recessed panels highly enriched, with a handsome frieze beneath, and is polychromatised by Mr. Sang, in a more artist-like manner than any thing he has before done. The walls are lined with satin-wood to a certain height, and above that are painted in panels of faint greens. The columns are green scagliola with white capitals, gilt, and black and gold pedestals. The effect of the whole is very satisfactory. Some elegant candelabra by Whitfield and Hughes deserve commendation.

The British Gallery, nearly opposite, was opened to the public that day, and we paid a visit to it on leaving the Carlton. The mismanagement of this institution is so well known, the abuses which prevail there are so universally and so loudly talked of, that repetition seems unavailing. As might be expected under such circumstances, the exhibition is but of indifferent character as a whole, although it contains a number of very nice pictures. Danby, Linnell, Ansdell, Lance, Linton, Cooke, Lee, Goodall, Branwhite, Hildebrandt, Sidney Cooper, Parris, Inskipp, Marshall, and Sir G. Hayter, are amongst the most successful exhibitors: we must give the collection, however, separate consideration hereafter.

* An engraving of the proposed building is given in vol. v., p. 566.

† Mr. Stothard read a paper on the subject; and Mr. C. H. Smith, Mr. W. P. Griffith, Mr. G. Godwin, and others, gave additional information. We are compelled to postpone our ordinary report of the meeting, as we are of the last meeting of the Institute of Architects, till next week.

* The discovery of wells lined with chalk is not unusual in the City: one was found in 1844, in Maiden-lane, now Gresham-street. At the meeting of the Freemasons of the Church, Mr. Papineau suggested that the well being formed to receive the water which percolated from the Thames, chalk might have been used in the shape of a lining to the well for the purpose of purifying it.

† It would be well if we were better acquainted with the extent and variety of marbles obtainable from France.

PROFESSOR HOSKING ON THE LATE FAILURE AT THE EUSTON-SQUARE STATION.

When Mr. Hosking handed to the coroner his opinion in brief, on the cause of the failure at the Euston-square station, printed in our last,* the professor said that he had drawn up a general statement of the occurrence, with a fuller development of his views than he thought necessary to trouble the jury with, unless they called for it. The jury did not call for the statement, and therefore it was not read; but as this accident has naturally excited very considerable interest, the public will doubtless be glad to see Mr. Hosking's review of the occurrence in full, notwithstanding that it recapitulates matter which we placed before our readers last week.

We may notice *en passant* that it will be found to bear witness to the correctness of our own summary, and strengthens the opinion we expressed on the danger of trusting to columns so constructed,—which opinion, by the way, was in type before the adjourned meeting was held. We understand that, in order to prevent any fear on the part of the public, it is proposed to take down the south end of the vestibule, which presents similar columns to those which fell, although they are there backed up by a wall.

It appears from the evidence, that the fallen structure consisted of eight circular and slightly diminishing shafts, disposed as columns, in two parallel rows, with an architrave extending in breadth over both rows of columns, and in length over all the columns and the spaces between them, and between the columns and the side walls of the hall, of which the fallen structure formed the upper compartments of the north end; and a superstructure consisting of the upper portions of an entablature, a wall, or rather a series of piers and spaces arched over, and terminating as a continued wall; such upper parts of the entablature, and the wall above it, having been placed immediately over one of the two rows of columns below; that is to say, over the southern row, whilst York stone landings bridged over the space, between the several pairs of columns, of which the two parallel rows consisted, so as to make the columns of the northern row take part with those of the southern row in bearing the weight of the upper parts of the entablature and of the attic wall. It appears further, that the fallen structure stood upon a massive basement wall, which remains wholly undisturbed, except as to four pedestals which were raised upon it, and upon which the several pairs of columns of the fallen structure respectively stood, one before another upon the solid pedestals, transversely of the basement wall below, and which pedestals are more or less broken up and deranged, as to their upper courses over all, and throughout a great part of their height where they received the inner or southern row of columns. The basement wall is of brickwork in mortar, about 60 feet in length, or from side wall to side wall of the hall, of which it forms the north end, and in the lower compartment, 28 feet in height from the top of the footings to the level at which the insulated pedestals begin, and 7 feet, or thereabouts, in thickness, and the pedestals are also of brickwork in mortar, each about 3 feet 6 inches in length, from east to west, or in the direction of the length of the wall under them, of the full width or thickness of the wall immediately under them—that is to say, about 7 feet, and about 5 feet in height, from the top of the basement wall to the level at which they received the columns.

The columns are stated to have been built of bricks in cement, and to have been each 2 feet 2½ inches in diameter at the base, diminished in right lines about their vertical axes to 1 foot 10½ inches at the top, and 20 feet high, standing 1 foot 4 inches apart upon the tops of the pedestals—that is to say, transversely of the basement wall,—and 9 feet 4 inches apart, pair from pair, in the direction of the length of the basement wall, and of the superimposed entablature and attic wall; and the mode of structure of the columns was by disposing bricks edgewise in courses, and laid in every course radiating from the centre, the bricks being mostly cut to a wedge shape to adapt them to this mode of arrangement, and to bring the outer end of the bricks so laid nearer together than they could be brought if not so cut,—the heart of the cylinder being filled in with bricks cut to fill the void which the radiating bricks would necessarily fail to fill, as the diameter of the cylinder exceeded in every course twice the length of a brick. Over the heads of the columns, and upon the bridging stones which bound the several pairs together, springing blocks were formed of brickwork in cement, with skew-backs cut for the abutment of arches, which were turned in four half-bricks, and extended from pair to pair of the columns as an architrave, such arches being formed, also, of bricks in cement, and each arch spanning 10 feet, and rising about a foot, upon a core laid on stout wrought-iron bars, shackled together over the heads of the columns, and extending to the side walls of the hall, to tie in the arches throughout the whole extent of their range, and, in their turn, hung up to the arches, whereby the arches should carry the weight of the core, which rested upon their own ties, and compensate in some degree for the absence of any direct weight upon the backs of the arches above. The arches and the core they suspended thus formed the architrave of the entablature, and, extending transversely over both the rows of columns and over the space between them, a massive iron-tied brick-built beam connected the columned compartment with the side walls of the hall, and promised a rigid and durable structure capable of carrying any weight that could be placed upon it.

The upper part of the entablature was of brickwork and stone combined, as a means of projecting a cornice or preparation for a cornice on the side towards the hall, and above this preparation the attic wall was built of brickwork, in mortar 2 feet 8 inches thick, and 18 feet high, the wall being somewhat lightened by openings for windows over the void spaces between the columns lengthwise, or in the direction of the transverse section of the hall, but extending, like the beam of the entablature below, from side wall to side wall, and uniting itself with the side walls so as to yield support to, as well as to derive assistance from them.

It further appears that the massive basement wall, which remains undisturbed, was founded and built within the months of August and September last, and that the pedestals upon them were built between the 21st and 30th of October following; that the columns were built between the 10th and 22nd of November, and that, after a rest of nearly three weeks, on the 11th December, the superimposed works were commenced, and followed on to the completion, or near completion, of the attic wall, when, on the 6th of January, the columns and every thing depending upon them fell to the ground; some portions of the ruins, and among them the bridging-stones which had lain over the several pairs of the columns, falling to the north of the basement wall, or *from* the side of the impending attic wall, and some portions on the north side, or upon the floor of the hall, of which the structure had formed the north end. The evidence sets forth, moreover,—and the appearance of the work that remains, and of the corresponding work at the south end of the hall, justifies the evidence—that the materials used in the works which fell were of excellent quality, and that they had been executed by able and experienced workmen; the only departure from the usual practice in the execution of such works being in the disposition of the bricks in the composition of the columns. It appears also that the scaffold, which had been used to assist in executing the works which fell, extended along both faces of the work, and was formed in stages as the advance of the work required, and extended in height as the works advanced by adding pole to pole, and by forming stage above stage for the convenience of the workmen; the ends of the horizontal poles, or ledgers, which formed the bases of the several stages being tailed at each end into the side walls of the hall; whilst poles were laid across transversely of the scaffold and of the work, and tailed, in like manner, into a wall north of the passage or gallery, of which the double rows of columns would have formed the south side, and lashed to the poles and ledgers, to prevent the scaffold from rocking from north to south; and these cross-poles or transoms coming in contact, however, either directly or through a frame, with the shafts or columns as they passed from the inner or northern scaffold-poles to the wall north of the gallery, into which their ends were wedged. A still further height of scaffold being required to enable the masons to get up the materials of a cornice which was intended to cope the attic wall, labourers were engaged in raising it accordingly, whilst bricklayers and their labourers were still at work, laying some of the yet remaining courses of bricks to complete the attic wall; but there is no evidence to show that any more than the usual effect produced by men moving about upon the stages of a scaffold at their work, and in the equally familiar progress of heightening a scaffold, was perceived by any of the people who were so employed upon and about the scaffold at the time of, or immediately preceding, the accident.

It appeared also that the fall took place suddenly and without warning, no previous rocking of the work or of the scaffold having been noticed by any of the people upon or about it, the columns and their superstructure having dropped down together upon, and on both sides of, the basement wall, and not falling out on one or the other side much beyond the scaffold poles; those portions only of the scaffold which rested upon the falling structure, that is to say, the stages of which the put-logs, or cross-bearers, of the scaffold rested upon the wall, going down with it.

Having thus recited the circumstances as they appeared in evidence and from observation of what remains, and of the corresponding works in another part of the same building, I proceed to develope the causes which may have induced the failure of the work.

The power of brickwork to resist pressure depends upon the manner in which the bricks are laid as to their beds, and disposed with regard to one another, and to the direction in which the pressure is imposed upon them when combined in a structure. Bricks laid upon their broadest faces,—which faces are technically called their beds,—are less liable to be overturned and less liable to be forced into a yielding body below them than they are when laid upon their narrower sides, or edges; and bricks laid on their beds, or flat, will cover and bridge over a joint, and throw the bearing upon the bricks below more certainly and more effectually than if laid on their edges; and in the arrangement of bricks on their beds, flat, and so as to cover, and break joint, course above course, consists what is termed bond; and it is by means of bond that bricks can be piled upon bricks, and be extended both in length and in breadth, so as to form a compact mass capable of withstanding any pressure that will not crush the materials when applied at right angles to the beds of the bricks; the setting material, or mortar, in the joints between the beds being in layers thin with relation to the bricks, in proportion to its greater yieldingness, and being of such consistence, or having attained such a degree of induration, as to be capable of withstanding pressure to the same extent as the bricks themselves. But if bricks are not so laid and so disposed in any structure that every brick in any course above is supported by bricks below on both sides of every joint, the brick is liable to be broken across, or to be pressed down into the softer setting material, and thereby to induce the failure of the work of which it forms a part; and as bricks laid on their edges cannot bridge over a joint below so as to break joint with the same effect that bricks laid on their beds can, bricks on edge do not bond with the effect necessary to give the full strength of which brickwork is capable. Brickwork is, therefore, in common practice, built with bricks laid flat, and not on edge.

In building round bodies, however, as columns, with bricks, the proper disposition of the bricks to bond truly cannot be maintained, and consequently the strength of which brickwork is capable cannot be attained with bricks applied to produce such a form; and as bricks employed for such a purpose must be cut, and so be applied in fragments, the result

* See page 62 *ante*.

can only be a concretion of brick-material more or less skilfully packed, and depending in a greater or less degree, according to the bed given to the bricks, or fragments of bricks, upon the consistence of the setting material. But setting material, by whatever name known, must be plastic to be worked, and the power of a concretion of bricks and mortar or cement to resist pressure can hardly be greater than that of the setting material, which being plastic, is in a yielding condition, although it may be capable of becoming indurated to a degree equal to that of the harder material which it is intended to combine.

Now, in the case in question, the basement-wall and the pedestals upon it are built of bricks set in mortar, and bonded in the usual manner, and the weight of the superstructure came upon the pedestals and upon the walls at right angles to the beds of the bricks in the work; that is to say, the work was in the strongest condition, and it received the pressure in the manner which exposed it in the least degree to derangement, so long as the pressure remained steady and direct. But the columns were round bodies, and the bricks used in building them were not laid flat or on their broad beds, but on edge on their narrow sides, and they were cut and packed to produce the required form, involving the use of many shattered fragments in every course, to fill the body with solid matter. This process necessarily called into operation the adhesive properties of the setting material to combine the fragments, and the strength of the structure was, consequently, no greater than that which the cement, used as a setting material, had attained by induration. But it is admitted on all hands, that cement, that is to say, cement of the kind used in the columns which fell, requires time to indurate fully, or to attain a degree of hardness in any degree approaching to that of good bricks, in which state alone it could hold together the bricks and fragments of bricks, which the absence of bond required it to hold together with any think like the effect of bonded brickwork.

There are, moreover, circumstances in the composition of the structure which make it necessary to inquire, whether the unequal pressure of the upper part of the entablature and of the attic wall over the columns, may not have induced compression of the setting material in the joints of the work in any part? The weight of the superstructure fell somewhat unduly upon the inner or southern row of the columns; and if the joints of the work in the columns had been compressible, the superstructure would have taken a leaning southward, which, if it had taken place, must have been observed, as the men were still at work upon it. Roman cement—the cement in question—sets, however, in a very short time; and all the cement in the columns must have taken a set very long before the attic-wall was raised, and having once set, it is no longer plastic, and therefore not compressible but by crushing, which wholly destroys it; and if the cement be crushed, the work depending upon it necessarily fails. Nor can it be supposed that the mortar in the pedestals yielded unequally, if it yielded at all; for although the weight came upon it more by the southern than by the northern row of columns, the difference could not have been so great as to act unequally upon the mortar in the pedestals; if, indeed, the superstructure had been heavy at all in proportion to the power of supporting weight, which the pedestals possessed, seeing that they were built of brickwork in its strongest form,—that is to say, with the bricks on their beds, and truly bonded.

And it is also necessary to inquire whether, having regard to the weight of the superstructure, and to the assumed power of resisting pressure of the substructure, and particularly of the columns, the columns could have given way under the dead weight put upon them? This does not appear probable, having regard to the good quality of the materials used, and to the undoubted skill and tact of the workmen employed, and to the time that had elapsed from the completion of the columns to the fall of the structure, for although complete induration of the cement could not have taken place, the ordinary practice of building would have justified the proceeding with the work. It is, therefore, my confident belief that if the cement had been fully indurated, the columns would have carried safely all the weight which they were required to carry, and, under all contingencies to which they could have been exposed; nor is it likely that the columns, as they were, would break up under a merely dead weight such as that of entablature and attic wall, but as they certainly did break, it seems very certain that the movement of the scaffold, induced by the exertions of the men who were engaged in increasing the height of its already lofty poles, together with that derived from the men who were at work upon its stages, gave the impulse which induced the fall.

February 2, 1848.

THE PRACTICE OF ARTISTS OF THE MIDDLE AGES.

FOUNDED ON THEOPHILUS.*

In reconsidering the writings of the early fathers of the church, or of the more humble professors of the Christian religion, who, priests themselves, worked in silence and in prayer for the advancement of the true faith, which had not only survived the war with paganism, but had issued triumphantly from the conflict, one eminent fact is to be observed: the alliance of religion with science and the arts was confirmed, and these were fostered to an extent before unattainable; for the floodgates which had hitherto confined knowledge within a mystic boundary had been opened, and while admiring the arts of antiquity in all their splendour, industrious civilization was enabled to profit by the lessons which an increased and increasing knowledge were enabling them to receive.

In order to appreciate the arts of antiquity in all their beauty or magnificence, therefore, objects which have been inspired by religious faith must be consulted: the transformations of Brahmah the hero-worship of Egypt, or the metamorphoses of Jupiter and Polytheism, have certainly exerted an influence upon art, in proportion to the state of advancement of the nations among which these different faiths prevailed, and have favoured, rather than repressed, the search for the useful and the good. Among the Hebrews, who borrowed, from the Egyptians and Phœnicians, the practice of those arts which appeared the most useful to them, the refinement of Egyptian taste was introduced into the temple, and the ornaments of the high priest demanded the aid of the artificers of Tyre and Sidon. Although Moses is little communicative upon the arts of his period, he yet makes honourable mention of artists and artisans.—(Exod. xxi. and xxv.)

Goldsmiths, sculptors, smiths, all artisans in general, were free-men, as among the Egyptians, not slaves, as among the Romans. Christianity, which has for its foundation the love and welfare of the human race, had no sooner become secure, than its efforts were directed to the teaching of the great mass of mankind; and from the third century, the light of universal toleration arose, which dispersed the clouds in the systems of Pythagoras and Aristotle. Jamblicus and Proclus, with Porphyrus, initiated into the mysteries of the Neo-Platonician school, and opposed to the dogmatic spirit of the first theologians of the church, plunged into the mysteries of Egypt for weapons of attack, and it is certain that at an early period of the Christian era, we find the traces of an apparently new science, calculated materially to influence the future history of the arts and sciences, viz.—the "sacred science" (*ἐπίστημα ἱερά*) of the Neo-Platonicians.

The book from which this sacred art was taught was called "Chema" (*χῆμα*)†—from this the word "Chemia," in the fourth or fifth century arose, and Julius Firmicus, in the fifth century, uses the phrase "*scientia alchemiæ*," in a work "On the Influence of the Stars upon the Fate of Man." From this period the study of chemistry was openly followed.

The Christian theologians of this early period, who were seeking the means of confuting their antagonists at all points, drew largely even from the writings of the Greek philosophers; profane history was laid under contribution, and the great characters of the old pagan philosophy were summoned to aid in the overthrow of the opponents of Christianity. These philosophers of Greece became celebrated in the early iconography of the church, as those "*who had spoken of the incarnation of our Lord.*"

Apollonius was represented as an old man, bearded, reciting the following words:—"I announce, in a trinity, one God reigning over all things. His incorruptible word shall be conceived in the bosom of a young virgin. Like unto a bow, which darts forth fire, it shall rapidly traverse space; it shall seize the entire living universe, and shall offer it as a present to its father."

Solon, the Athenian, an old man, is made to say:—"When he shall overrun this changeable earth, he shall set up his throne without fail. The ceaseless aim of Divinity is to destroy incurable passions. He shall be an object of hatred to an incredulous people. He shall be suspended upon a mountain, and shall suffer all these things voluntarily and with sweetness."

Thucydides, as an old man:—"God is an evident light, glory to him; from his intelligence all things proceed, and reform themselves into a single unity. There is no other God, nor angel, nor mind, nor wisdom, nor substance; but he is the only God, the creator of all existing things; the true Word, fecundity itself, which, descending upon a fertile nature, has produced water from chaos."

Plutarch, as a bearded sage, recites:—"Nothing can be imagined beyond him who surpasses all things: it is from him and none other that the Word proceeds."

Plato, represented as an imposing old man, says:—"The old is new and the new old. The Father is in the Son and the Son in the Father; the unity is divided into three, and the trinity is reunited in unity."

Aristotle proclaims:—"The generation of God is unwearied by its nature, for the word itself receives its essence from him."

Philo-Philologus says:—"Behold him who has walked over the immensity of the heavens, which surpasses infinite flame and imperishable fire. All tremble in his presence; the heavens, the earth, the sea, the abyss, hell and its demons. Without father himself, he is his own father."

Sophocles, as a bald-headed old man, recites:—"There exists an eternal God, simple in his nature, who has created the heavens and the earth."

Thoulis, king of Egypt:—"The Father is the Son, the Son is Father, incarnate, an all-powerful God.

The holy Balaam, as an old man veiled, says:—"A star of Jacob shall arise; a man of Israel shall arise, who shall crush the chiefs of Moab."

The wise sibyl:—"An eternal God shall come from heaven, who shall judge all flesh and all the universe. Of a virgin, spouse without stain, shall come the only Son of God." (*Ἑρμηνεία τῆς ζωγραφικῆς.*)—*Greek MS. from Mount Athos.*

These sages (writes M. Didron), Plato, Socrates, and the rest, gave nearly these responses which the Guide for Painters (the MS. from Mount Athos, of the twelfth century) has here prescribed. The Greeks were gratified by representing their great men thus rendering homage and witness to Christianity. One of the most remarkable examples of this class of proofs is painted in the monastery of Ivirôn, at Mount Athos. The exterior porch of the small church of the Virgin (*Παναγία Πορταϊτίσσα*—bearing-virgin) is covered with great figures, representing Plutarch, Thucydides, Sophocles, Plato, Aristotle, Chilo, and Solon, each carrying a banderole, in which the Christian belief is inscribed. Thucydides bears the title of "the PHILOSOPHER" (*ὁ φιλόσοφος*); Sophocles, of "SAGE" (*ὁ σοφὸς*); Solon, of "Athenian," (*ὁ Αθηναῖος*); Chilo, of "Learned" (*ὁ φιλόλογος*): the rest have not epithets attached. The inscriptions borne by these

* Read at a meeting of the Freemasons of the Church, by Mr. R. Hendrie, Jun.

† Some authors have supposed from "Cham," who gave his name to ancient Egypt.

figures differ from those given by the Guide; but neither of these appear derived from the works of the sages and philosophers, but are rather drawn from the *tendency* of their conduct or their writings.

The artist, George Syrlin, has perpetuated this custom, and sculptured upon the stalls in the Cathedral of Ulm (A.D. 1469 to 1474), Socrates, Plato, Aristotle, and Pythagoras. Germany was early impressed with these Byzantine tastes and customs, which she had thus preserved.*

If the Latin church neglected this branch of iconography, borrowed from the profane history, the Sibyls, those pagan prophetesses who predict the birth, the life, death, and resurrection of Christ, are there found, side by side, with the Jewish prophets, as were the philosophers of the Greeks. The Sibyl of Persia, of Libya, of the Red Sea, of Cumes, of Samos, of the Euxine, of Europe, of the Tibur, the Sibyl Agrippa, of Delphos, of the Hellespont, and of Phrygia, figure not only in representation, but in the processions of the Roman church. At Seville, the twelve Sibyls form part of the pageant upon Good Friday; each carries the emblem characteristic of her prediction.

The Greek church gave likewise an equal place of importance to the characters, as well as the events, of the Old Testament, as to those of the gospel, which the Latins yielded in favour of Christianity and the saints.

The marvels of the ancient law, in which were represented the orders of the heavenly powers, as classed by Denys, the Areopagite, and the fall of Lucifer, comprised the history of the personages of the Old Testament, from the creation of Adam to the death of Holophernes. The Greeks also gave a place to the figures of the holy patriarchs from Adam to Jacob; to the twelve sons of Jacob; to the prophets and the judges; to the holy women, from Eve, through Sarah and Rebecca, to the righteous Anna, the mother of the Virgin: they represent particular prophecies, and conclude with the delineation of the "Tree of Jesse."

The Alexandrian school of Alchemists, the Neo-Platonician philosophers, principally sought three things—the philosopher's stone, or material riches; the universal panacea, which would afford long life; and the soul of the universe, or happiness from the commerce with good, or subjection of bad, spirits; but their theories are clothed in such mystic language, that it is always difficult, generally impossible, to unravel them. Ammonius, Plotinus, Porphyrus, Iamblichus, — Egyptian philosophers, — Proclus of Constantinople, studied the Alexandrian philosophy, and carried their theurgic systems to Athens. Athens and Alexandria became the great arena of the last efforts of paganism against the establishment of Christianity. Zozimus the Panopolitan, of the fourth century, the describer of the distilling apparatus, Marie, the Jewess, Synesius, Olympiodorus of Alexandria, Marcus Græcus, the inventor of gunpowder and other combustible and explosive compounds, Cleopatra, Stephanus, and a crowd of alchemists of this period, have passed hitherto scarcely noticed by the historians of science. From the fifth to the eighth centuries the priesthood appear to have collected the wisdom of the past, and to have contributed to the progress of the sciences and of letters; and from the time when St. Isidore, bishop of Seville, at the commencement of the seventh century, condensed the knowledge of his predecessors in his "*Origines*," an encyclopedia of science, in twenty books, ecclesiastics have, from time to time, embodied the results of their studies or other labours, occupied as they still were in propagating the faith, and converting the infidels by exhortation or example.

Schools were established by Charlemagne on the Continent, in forming which, he sought the aid of Alcuin, the celebrated English monk, who, we are told, instructed him not only in history, but in rhetoric, dialectics, arithmetic, and in "astronomy," to the study of which he particularly directed himself. This learned Englishman had been sent to Italy by the Archbishop of York; and there met Charles, who, having by his beneficence drawn him to France, there placed him with Peter of Pisa, at the head of the schools in France, of which the first was established in the palace of the emperor.

The arts, which had been brought by the Romans into Britain, appear to have been sustained through the vicissitudes which followed the withdrawal of Maximus from our shores. "The most destructive of the northern conquerors, the Anglo-Saxons, did not long continue to despise the pleasing arts, particularly that of painting, which was practised by them with considerable success." (*Henry's History of England.*) If Charlemagne possessed the ruder and sterling qualities of his age to a remarkable extent, he yet was unquestionably indebted to the Anglo-Saxons for the enlightened views which led him to instruct the barbarous nations of his extended empire. The arts had been encouraged at York; the renown of the painted chamber in which Edward the Confessor afterwards died; the remains of the Saxon chased and enameled work, which was esteemed upon the Continent as early as the seventh century; the illuminated manuscripts of the seventh to the ninth centuries, which still exist, prove that the arts, as introduced by the Romans, were never wholly lost amongst us.

Another cause was in action at the close of the eighth, and during the two following centuries, which, although perhaps of secondary importance, as contributing to the progress of science by means of discovery, yet was operating to spread the atmosphere of letters and the arts, by means of laborious compilation and commentation.

The plain, intelligible language in which Geber and many of the Arab chemists began to clothe their thoughts, indisputably advanced the cause of the arts and sciences; we cannot withhold from these the praise of having gathered the seed which had remained upon the withering tree of ancient knowledge, and of winnowing from it the husk of that mystic symbolism designed by Egypt for the purpose of monopolising the sciences. They did even more,—they planted the seed; the young plant was nurtured by them, which, under the hands of the fostering monks of a few succeeding centuries, grew into a sturdy tree, the boughs of which sheltered the tradition and experience of the past.

From the tenth to the fourteenth century little progress was made; the arts were busily pursued, for religion was not solely occupied in preparing men for the future, but was introducing experience into the sanctuaries, and predisposing men for the general scientific movement of a later period, destined to present, under a new aspect of society, one of the phases through which human intelligence proceeds, in its development under eternal laws.

From the eighth and ninth centuries we are fortunate in possessing several manuscripts which have long lain dormant, treating upon the arts, and which form valuable evidence of the condition of the arts during the period to which they belong.

The earliest of these appears to be that existing at Lucca; it is of the eighth century, and of Byzantine origin, probably of the period of the persecution of the Greek artists under Leo the Isaurian, A.D. 726; it contains the necessary directions for dyeing skins, making coloured glass, the preparation of oil, colours, and varnishes for painting, and a description of various substances used in the arts.—(*Muratori Antiq. Ital. Medii Ævi.*, v. 2, p. 269.)

The next author who has written upon the processes of art is the artist-monk Eraclius, who probably wrote about the middle of the ninth century. That Eraclius wrote later than the seventh century, his quotation from St. Isidore, who died A.D. 636, proves.

After a long period of depression, a new impulse had been given to the arts and sciences at an early period of the eleventh century.

"Emulation was first directed to the sciences and literature, which, at that period, the services of the church and political quarrels rendered the most necessary, towards theology, jurisprudence, geometry, logic, rhetoric, music or psalmody, architecture, and painting. Dunstan, Aldred, and Lanfranc in England, Robert in France, Hildebrand at Rome, had been encouraging the arts, raising and decorating churches which the reverence for relics caused to be ornamented by sumptuous shrines and costly gates of bronze or silver. In England, France, and Italy, a great number of manuscripts, ornamented with miniatures and otherwise illuminated, were executed. The ornaments for the altars, desks of gilt bronze, and objects which ornamented the choirs, much favoured the arts of casting metals, modelling, enameling, niello, damascene work, and often produced works of surpassing execution.

It is to this period, the early half of the eleventh century, that the treatise of Theophilus upon the 'Divers Arts' is to be ascribed.

While Greece was the painter of the continent, Tuscany the enameller, Arabia the worker in metals, Italy the jeweller, France the worker in glass, Spain the chemist, Germany anxious in acquiring knowledge and dexterity in all; when all these artists were adorning the church of St. Mark at Venice, and were elsewhere occupied in writing or painting,—the terms were synonymous,—the sacred histories in the churches, so that the illiterate might read the examples set before them, the 'Treatise upon Divers Arts' came forth." *

The treatise of Theophilus is divided into three books. The first is devoted to painting as practised by the Greeks, upon walls, panels, skins, canvasses, and books, with either a tempera or oil medium; of the composition of a varnish of sandarach and linseed oil: the colours used by Theophilus are,—orpiment, ceruse, massicot, cinnabar or vermilion, vegetable reds and blues, mineral blue (the lazurstein of the Germans), minium or red lead, carbonaceous blacks, greens from acetates of copper, terra-verde, and vegetable greens, and sinoper or red earths; of the preparation and laying on of gold, of transparent oil painting, called "Aureola" by the Greeks, of the preparation of colours and of ink.

The second book of Theophilus comprises the nature of "working in glass," and the "costly variety of window work" for which France was renowned. Of sapphire-glass, which was probably coloured with the "sapphire" of the Greeks,—our "lapis lazuli,"—as well as by cobalt; of red glass coloured with iron or copper; of green glass; of the formation and decoration of vases of glass or earthenware with colours or with gold; of Greek glass with a golden ground which ornaments mosaic work, and of a flux for glass.

The third book has evidently been treated by Theophilus with more care and attachment than the others; the eloquent preface, the labour expended in description, and the great volume of the work upon metals attest this. The chapters upon the production of electra or enamels, which art has been supposed of later invention, will be read with interest. Theophilus tells us in his introductory preface that he shall proceed to describe, amongst other things, whatever Tuscany knows of in enamels, or in variety of mosaic or niello. The Tuscans borrowed this art from the Egyptians, the fragment of the case of a mummy, in the Egyptian collection at Turin, of which the ornaments are in a beautiful glass-mosaic, warrant this conclusion.

The Harleian MS. contains much that the other known MSS. of Theophilus want, the description of the organ is rendered complete, the manufacture of bells and cymbals described, of variety of ironwork, of *brasses*, "*interrasilis opus*,"—which is of the nature of our English monumental brasses; of Damascus work in steel. A description of the Italian work promised in the introductory chapter, and never yet fulfilled, follows in this work: the arts of sculpturing, gilding and staining ivory, of gems, pearls, and electra or enamels.

Railway Rating.—An award has just been made by Mr. Frederick Pollock in an appeal by the Great Western Railway Company against the assessment of their terminus and railway in the parish of Paddington; the line of railway in the parish is rather more than a mile in length. The witnesses examined on the part of the parish were Mr. A. Giles and Mr. W. Tress, who claimed, as the rateable value, 11,361*l.*; for the Great Western Railway Company the sums given by Mr. G. Driver and another surveyor amounted only to 4,615*l.* The award, for the terminus and the railway, was 7,378*l.*

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* An interesting search might be made for proofs of a similar practice in England, which was, at an early period, influenced by Byzantine art.

* Treatise of Theophilus, translated by R. Hendrie, Esq. London, 1847. John Murray.—P. xv.

MAGISTRATES AND THE OFFICIAL REFEREES.

Mr. Ashby, builder, having made a projection to a house before the general line of fronts, an information was filed by Mr. D. Roper, the district surveyor, before the referees, who in due time gave their award and certificate that the projection was a nuisance, and should be removed. Mr. Ashby refusing to comply, the district-surveyor went to Mr. Norton, the magistrate at the Lambeth office, to obtain the enforcement of the award; but the magistrate refused to take the award as evidence, and called on Mr. Roper to prove the nuisance, which he very properly refused to do. Mr. Clarkson, on the part of the builder, maintained that the award was not good, and the following conversation took place:—

Mr. Clarkson—If the referees, without having both parties before them, and on the information and evidence supplied by the surveyor, decided upon what is a nuisance, they will very soon be a nuisance themselves.* Besides the production of the certificate of the referees, it is the duty of Mr. Roper to produce to you satisfactory evidence of the fact that the erection complained of is in violation of the Act of Parliament, and not within the exceptions.

Mr. Norton—I apprehend it would be no answer to an action, in the event of my sending the defendant to prison, that I had acted on the certificate. You, Mr. Roper, must therefore prove the nuisance, and I must hear what answer the defendant has to offer before I come to any decision on the case.

Mr. Clarkson—Magistrate after magistrate have declared that they could not understand the Act; and if Mr. Roper will give me the name of one magistrate who has sent a man to gaol under its provisions, I will give up my case.

Mr. Norton—In this case the Act calls on me, in the event of the building he has erected being proved a nuisance, first to call on the defendant to put in sureties to remove the nuisance; and in default of his putting in the required sureties, to commit him to prison. Surely, before I do this, I should have the most satisfactory evidence of the existence of the nuisance.

Mr. Roper—The certificate of the referees is a *prima facie* evidence of the fact, and I presume it rests with the other side to show the contrary.

Mr. Clarkson—I could do so by the testimony of several gentlemen present, if necessary, but I shall not do so, nor will the defendant, if called on, offer any bail to take down the building; on the contrary, he would refuse to do so, and it will be for the magistrate to commit him to prison, if he should think proper, but I feel convinced he will not under an Act of Parliament which all mankind has agreed to be one of the most unintelligible Acts that has ever passed the British legislature. Indeed, the present case abundantly proves its impracticability, for if enforced, the defendant would be placed in this position, that he would have to run the risk of three actions, or go to prison for an indefinite period. The simple facts are these,—the defendant was employed to put a new front to the Stags public-house, and instead of two bow-windows, as formerly, the building was carried straight across on the freehold. The defendant has long finished the job, and therefore, if he presumed to go back now to disturb the erection, he would be liable to three actions, one by the freeholder, another by the lessor, and a third by the sub-lessee, as well as a fourth for trespass, and it would be no justification for him to say that what he had done was in consequence of Mr. Norton having threatened to send him to prison.

After a lengthened discussion, Mr. Norton asked Mr. Roper whether he would go on to prove his complaint by evidence? The latter replied in the negative, and added that he conceived he had complied with all the law required of him; he therefore conceived he was entitled to call on his worship to enforce the law.

Mr. Norton replied that he certainly could not think of acting without sufficient evidence of the existence of the nuisance; and if evidence was not produced, he should not proceed further. He expressed his surprise that in a question of such importance, the surveyors of the different districts of the metropolis did not join and take it into the Queen's Bench for its decision and interpretation of the Act of Parliament.

Mr. Norton's refusal to receive the award as evidence appears to be in direct contravention of the act, the 86th section of which, headed, "Effect of Awards as Evidence," says,—"And be it enacted, with regard to such award, so far as relates to the effect thereof, as evidence of the matter thereof, that if on the trial or hearing of any cause or matter in any court of law or equity or elsewhere, any copy of an award signed and sealed with the seal of the said registrar be produced, then it shall be the duty of all judges, justices, and others, and they are hereby required to receive the same as *primâ facie* evidence of the matter therein contained." If the referees' awards cannot be enforced, nay, are to be wholly disregarded, it is quite useless and wasteful for the public to appeal to them. So long, however, as we find their own legal officer taking crotchets into his head, and asserting the *illegality* of their proceedings, in the face of the public, (maintaining, for example, that though they have power to prevent a building owner from making a projection from his front wall, they cannot hinder him from bringing his *whole house forward*, if he please) so long we may avoid being surprised at disregard of them out of doors.

* The district-surveyor proved that Mr. Ashby and his architect attended the first hearing, and that his solicitor attended the second.

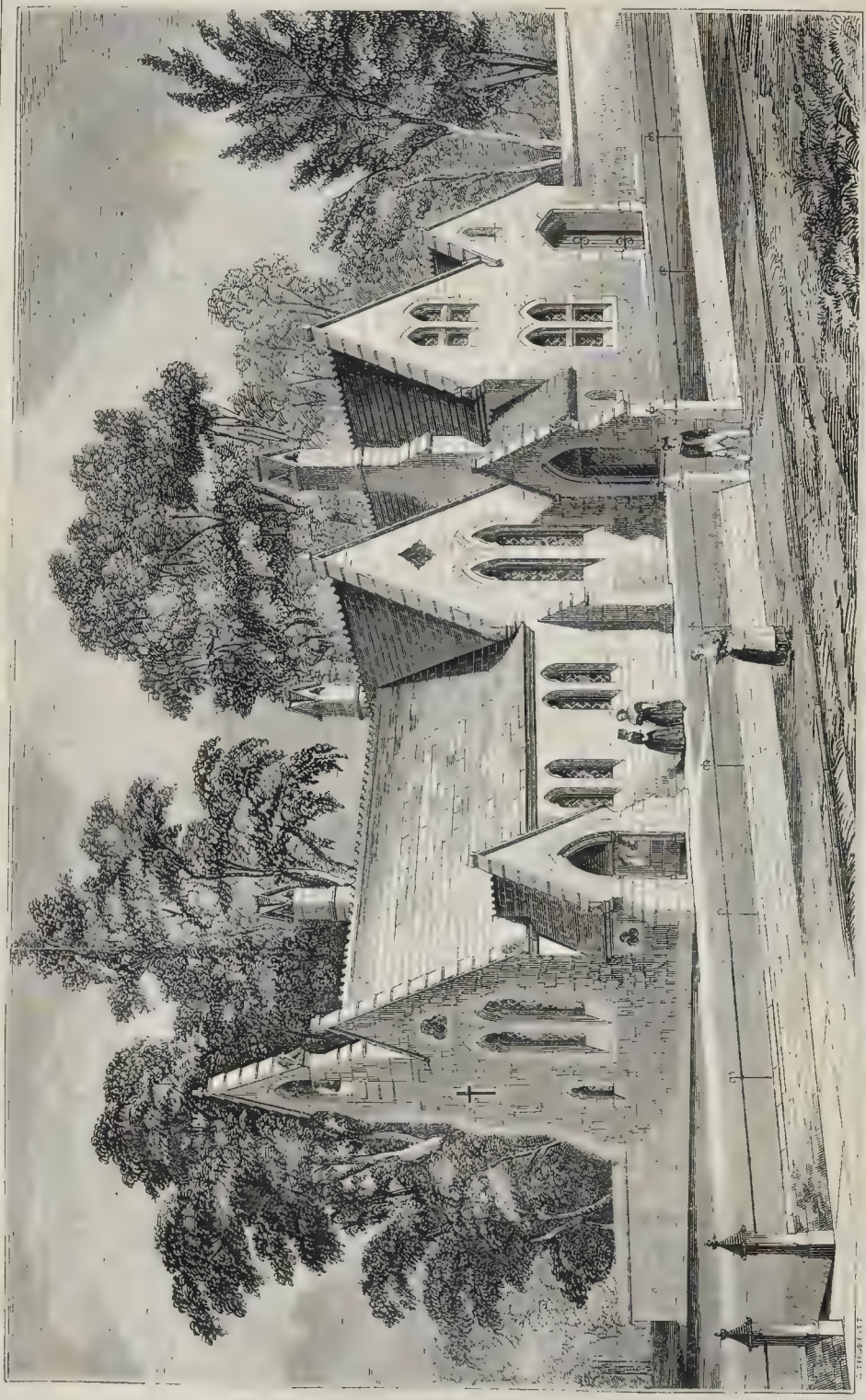
RAILWAY JOTTINGS.

In a case at law as to the boring of the tunnel under a street in Liverpool, for the Manchester, South Junction, and Altrincham line, it has been decided by the Barons of Exchequer, that it is not sufficient to offer compensation to the owner of land on boring under his property, unless the offer be made previous to the trespass. The defendants had argued, that the owner's only redress was under the provisions of the Lands' Clauses Consolidation Act, the 8 & 9 Vict. c. 18, ss. 18 and 84; by summoning a jury to assess the compensation due. For the plaintiff it was responded, that the Railway Clauses Consolidation Act, and the 8 Vict. c. 20, also affected the question, in conjunction with the Act referred to by the defendants.——The sheriff-substitute of Edinburgh has decided that passengers whom companies, by the usual ticket, have contracted to forward by train, are entitled either to damages for delay if not so forwarded, or to forward themselves, at the company's expense, by any available conveyance, failing the train contracted for.——We lately began to give railway directors some little credit for an earnest desire, at length, to respond to the public outcry for means of safety in railway transit; but we now fear it betokened little else than a mere sagacious desire to sail with the current only through the rapids, and to whisk out of its eddy at the earliest opportunity; for little or nothing further seems to have been done to obviate the continual peril in which the public find themselves involved so soon as they put their foot into a railway carriage. Yet it so happens, in the new occasion which calls forth our present remarks, that the Company on whose line the danger manifested itself is one of those very few who have really done any thing to obviate such dangers. That little which they have done, however, is proved in this very instance to have been as insufficient as it was anticipated that it would be. The 'travelling porter' on the Great Western, whose duty it is expressly to look out for accidents, was lately found to be deaf, blind, and insensible (from the power of cold in his sedentary state it might be), to the hence futile and useless signals of distress made by the equally sedentary and probably almost equally benumbed and incapable guard, in circumstances of most imminent peril to an express train, arising from the fracture of a wheel tire (a frequent source of accident); thus affording another negative proof, if other proof there need be, of the efficacy, under almost all imaginable circumstances, of our own simple suggestion to convert one side or both of the footboards along a train, or even the centre of the carriages opening through one another, into a safe and ready walk or beat for the guards, who could thus effectually communicate at all times with each other and with the driver, while their physical and mental faculties would thus, too, be kept by constant movement, especially in very cold or even in very hot weather, in a state of active watchfulness and alacrity, becoming a vigilant guard, such as this 'travelling *porter*,'—stupidly so called—clearly and especially ought to be. In the case in question every endeavour to make signals of use was unavailable, and the train sped on for miles, until it stopped, as it most fortunately required to do, at a station ten miles from the spot where the accident occurred.——The Conway tubular bridge has been so far tested by its weight which it is said to support with a defection of seven-eighths of an inch out of the level along the bottom. To effect this two temporary pillars were constructed under its extremities, and the wooden supports, to the length of 400 feet, removed. We wait to hear from our own correspondent on the subject.——A Devonshire correspondent again forces our attention on the working of the atmospheric line, of which, however, we have ourselves been by no means unobservant, especially during the continuance of winter and frost. That great speed with comparative safety and smoothness of transit, may be attained, as indeed it has been, and *is being* attained, by the atmospheric, we do not doubt, and the evidence presented by our correspondent supports us in our belief of these advantages, but the very same evidence also supports us in our fear of its disadvantages during the occurrence of frost, which, even in the present winter, temporarily stopped proceedings so soon as the frost set in, and which, we observe, is still occasioning the like inconvenience. We are glad to perceive, however, that the substitution of a sufficient quantity of steam passed through the interior of the tube for a length of time early in the morning, in place of the inventor's contrivance of passing a heater over the valve in travelling, is promotive of greater regularity than heretofore, unless when not sufficiently attended to at an early enough hour before the morning trains set off. These irregularities, however, which have even very recently led to the South Devon being dubbed 'the asthmatic railway,' must now be comparatively few, as a correspondent of the *Devonport Telegraph*, who writes from Newton, says that the trains are despatched and arrive with the greatest regularity, and from the great traffic on the line there are now sixteen or seventeen trains daily. The locomotive, he adds, is entirely off the line between Exeter and Newton. The arrival of the trains is looked at with much wonder by the sightseer, and the old locomotive is beginning to be looked at as an extinct race of by-gone generations. Our own correspondent remarks, that so easy is the atmospheric in comparison with the old mode, that but for the testimony of his watch he should not have believed that he had been occasionally conveyed at the rate of seventy miles an hour. The permanent way is laid continuously from Totness through the Marley tunnel, and the viaduct at Erme is being altered for additional security. The station arrangements at Laira, near Plymouth, are in rapid progress, and the opening of the line throughout depends entirely on the completion of the viaducts.——The engineers and workmen on the Chester and Shrewsbury line have met with a slough at Barchurch, into which they have been 'heaping Pelion on Ossa,' in the hope of filling it up, or for the purpose of fathoming its depth perhaps, though rather an expensive way of doing what a little previous boring might have sooner and more cheaply convinced all interested either of the hopelessness of doing, or at least of the quantity of the more bulky material likely to be requisite. As it was, above fifty yards of the substratum disappeared, and, after all, the method so often in former cases recommended by us, and successfully adopted, in all but shallow swamps, has been resorted to, in the construction of a conglomerate surface of faggot and furze on which to lay the more immediate substratum of the line.

Blind Builders.—Sir: I beg leave to hand you a list of tenders delivered for repairs to two houses in Baldwyn's-gardens, Islington, which where opened by the surveyor (Mr. Charles Foster), in the presence of the contractors. One of Them.

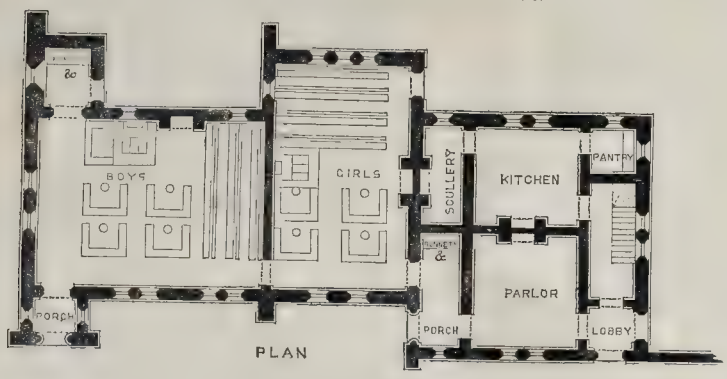
Pickford	£ 273	0
Bugg	268	0
Brake	255	10
Newman	136	0
Lloyd	120	0
Hodges	93	0
Bowley	89	0

*** Blind builders indeed? It ought to be "*mad* builders."



DESIGN FOR PAROCHIAL SCHOOLS AND RESIDENCE.—Mr. KENDALL, Jun., Architect.

PLAN OF SCHOOLS AND RESIDENCE.



SCHOOLS AND SCHOOL-HOUSES.

Mr. H. E. KENDALL, jun., has recently published a very pretty volume of designs, for parochial and national schools, which is ushered into the world with all the advantages of nice drawing, showy effects, and tasteful borders.* It comprises plans, elevations, and perspective views of seven schools which have been erected (namely, the Childerditch School; Poor Boys' School, Bury St. Edmund's; Commercial School at same place; Poor Girls' School also at same place; the Battle and Langton Schools; Willesden School; and Stanmore School); and five designs similarly set forth, but not carried out. They are medieval and Elizabethan in design, some in stone, and some half timbered; and though two or three of them may be open to cavil, on the ground that they present a mixed character, they all display much skill in arrangement and considerable fancy.

With Mr. Kendall's concurrence, we have copied what we consider the best design in the book, an unexecuted project of Early English character, uniting the schools and master's house. It purports to give accommodation to 130 boys and 110 girls, and to be constructed of Kentish rag, with tooled ashlar dressings: the cost is estimated at 720*l.*, exclusive of seats and desks.

We look upon this book as a well-timed volume, and trust it will have the effect of leading other architects to publish designs, to counteract the effects of the melancholy exemplars put forth by a former "Committee of Privy Council on Education."

Our author says, in his introduction,—"With the present zeal on the part not only of the Government and the clergy, but also of the enlightened public, in promoting the great cause of education, it must be evident that a noble opportunity for the exhibition of national architecture, and for contributing to its general diffusion, now presents itself; and it is especially incumbent on all members of the profession, by the exercise of taste and judgment, to give character to school buildings of all descriptions. Much may be done by reference to old works, by picturesqueness of outlines, by harmony of composition, and by the judicious application of various materials, however common in themselves. Something of external comeliness should be assigned as a matter of course to the humblest of such erections: under the direction of good taste, usefulness of purpose, and beauty of design, may be made mutually to subserve each other, even when the latter is but a secondary consideration.

It is a common error, and one not confined to the uneducated classes, to suppose that beauty of design must necessarily be more expensive than deformity or plainness, and the error is lamentably obvious in the number of mean structures abounding throughout the country, alike deficient in design and execution; it is quantity of material, and not the form of its application, judicious or otherwise, that induces expense."

The aforesaid committee of Privy Council, and a certain off-hand gentleman, who seemed to rule them, and made architects chop about their designs to suit his notions of taste, and may do so now, for what we know to the contrary, have much to answer for in this respect.

* Designs for Schools and School-houses, parochial and national. By H. E. Kendall, jun., F.S.A. John Williams and Co., 141, Strand.

GAS IN GUERNSEY.

AN INSTRUCTIVE INSTANCE.

EXTREME causes may be expected to display such extreme effects as will betray their own covert specific operation, even in other circumstances less extreme. We have always maintained, and indeed it is but common sense to maintain, that the excessive price which an overweening sense of self-interest too often tempts or impels a monopolist to demand for his goods, in general constitutes the most inimical obstacle to the promotion of his own best interests; and that, on the contrary, the lowest figure at which a profit can be turned at all on articles adapted to an extensive and universal consumpt, is that very figure which will not only immeasurably expand a comparatively limited demand, but as immensely increase the gross amount of profit, and promote the sterling interest of the enterprising manufacturer. It unfortunately happens, however, that the eyes of self-interest are but too often blind to the *possibility* of a lower price paying while a higher barely pays, or fails to pay at all. But in the history of the gas movement we have actually seen a Company, such as the Sunderland, declaring that a reduction of the charge for a street lamp from 45s. to 35s. "could not possibly pay," while competition subsequently proved that even 15s. could and did pay! It is not our object at present, however, to enlarge on this particular topic. We merely desire to point attention to one of the inevitable *consequences* of a *high* price, consequences which, after such exposures as those at Sunderland, Liverpool, and elsewhere, we hope no longer to find subverted into *occasions* for resisting immense reductions beneficial to all, as those at Sunderland, Liverpool, and elsewhere have been.

The gas made in Guernsey is charged at the enormous and unsaleable rate of 12s. per 1,000 cubic feet, and what is the *consequence?* That in a locality possessing a town-parish population of 16,000 to 17,000, gas is so expensive a luxury that not even the streets are lighted! and that the shopkeepers even, with pipes and apparatus for it up in their premises, can only afford to light their shops with it on a Saturday evening! To be without a gas-work in these days of enlightenment is to be in a very primitive state indeed—but to have a gas-work, and still to be in the same primitive state, shews there must be something radically wrong. The only matter of astonishment here, however, is the utter blindness of the gas proprietor to his own interest. Doubtless his argument is this—why, even 12s. scarcely *pay* me, how then can I reduce, without a positive loss, especially with a population who only use it of a Saturday night, or not at all, even in their streets? a topsy-turvy argument indeed! Who doubts, but him who is thus blinded by an overweening sense of selfish interest, that the denizens of the Guernsey gas dominions have enough of taste for the luxury which their administration taxes so unconscionably, and sufficient inclination to make use of it even to profusion? Now that other great sovereigns have come to see the increased advantage, to the revenue itself no less than to the comfort and contentment of the people, in reducing arbitrary and indefinite taxage on articles suitable for popular or universal luxury or every day necessity and use, we certainly are astonished to find this enlightner (?) of an otherwise untaxed isle in the very vortex of surrounding civilization, thus standing in his own light no less than in the light of his constituents—injuring his own interests, in short, and the interests and convenience of others, no less assuredly than if he were to order the guardians of the stop-cock of his own main pipe to turn the article of consumption *all but off* every evening, at the very time while every shopkeeper or householder *waited* with his lighted match *ready to begin* that consumpt which the establishment of his own works might have otherwise induced the belief that he too desired to see in full and unrestricted progress.

Let our own metropolitan companies and many others take warning, and be enlightened by an instructive case like this. True, few now charge such a monstrous price for gas as 12s. per 1,000 feet; and as to our own companies, they are at length giving way a little to the influence of the pressure from without, but let all remember, that gas is a light that can well and easily be adapted for truly universal use, *that as yet not a tithe of that universality has been any where reached*, and that it can and will be effected only by a tempting reduction of the expense of it, which will not only place it within the reach, but force it, as it were, into the very hands, of ALL—even of the poorest and most humble. And besides, they ought to know, or at all events now let them learn from the greater and more extreme and positive folly of one of their class, that the lesser or more negative folly of their own, when multiplied by their own immensely greater field of diffusion, amounts to a folly in the aggregate, vastly greater than even the instructive one in question.

As to the Guernsey gas proprietor himself,—a resident in our own metropolis, as we happen to know,—it is hoped that ere long, if not now, he will open his eyes, at least, to his own pecuniary interest. And if not, we are well assured by the Guernsey *Sun*, while calling the

attention of the Guernsey gas consumers—or would-be gas consumers rather—to our own disinterested efforts in the cause of the gas movement, "that if he do not reduce the price to something nearer the standard price in England, some other company will. We are personally acquainted," adds the *Sun*, significantly, "with a gentleman who has exchanged several letters on this subject with one of the most wealthy companies in London, and it will only require the support of the gas-consumers here to establish a branch company in Guernsey, that will engage to supply the article at 7*s*."

On our own part, we too have occasion to know, from appeals to our future efforts in their cause, that the Guernsey people only await such a reduction, with which, it would appear, they would be, at least for the present, perfectly contented; but that otherwise they are determined to "agitate for the gas movement," in which we shall certainly support them to the utmost.

CHLORINE AS A DEODORIZER OR DETOXICANT.

Though jealously setting our faces against the substitution of even the most consummate deodorizer in place of a system of regular and periodical cleansing, whether of cesspools or drains, we deem it a matter of scarcely less moment, now that there may be said to be the commencement made of what we hope will prove to be a general and thorough scouring of our towns and cities, to insist, impressively, upon the safety, nay, the extreme desirableness, of mollifying and sweetening that general 'commotion' which *Punch* so graphically describes, by aid of the best and cheapest or most plentiful deodorizers; otherwise, the stirring up of so much rank corruption all at once and at this critical moment, may prove to be an evil worse than even that deadly one, the virulence of which it is the main and more immediate object of all to obviate. And in one form or other, let us here observe, that wonderful agent, chlorine, has been proved to be as pre-eminent a deodorizer, as it has long been known to be a bleacher. Somehow or other, its very office seems to be to root out corruption and all uncleanness. It is to this agent alone that the power of common salt to preserve animal matter from corruption must be attributed. It is to this agent under the form of chloride of lime that bleachers are so much indebted. It is to this agent under the form of chloride of lime itself, or chloride of zinc, or of some other more or less suitable metallic or other base, that medical men and others mainly trust for the prevention of infection in fevers, &c., and it is not a little remarkable that the next best agency perhaps in the latter case, viz., camphor, is a substance extremely analogous to one of those peculiarly vegetable substances which chlorine itself has been found to be capable of forming. In short, if an *enlightened* heathen devotee, if such there could be, were anxious to select a suitable incense to Æsculapius, he would unquestionably cause this sunny spirit, morning, noon, and evening, to ascend, in its pale but warm tinted cloud or vapour, as a *sweet-smelling* savour to the god of health. And in truth even sweet-smelling we uphold it to be, although its pungency has led it to be classed with stinking odours, and its analogue bromine, with an odour very much the same, to be even stigmatized with the *name* of stench (bromine) to which both it and chlorine are antagonists so inveterate and *extreme* as thus to *meet* them, as it were, upon their own vile ground.

A new form under which chlorine has recently appeared as a deodorizer seems to merit notice. We will here present the *Manchester Guardian's* account of it:—

"A discovery, which promises to be of great value, has just been announced by Mr. Young, a chemist in Manchester, who has generously imparted it to the public. Many substances have been used for the purpose of removing the offensive odour of night-soil and other decomposing matter, but to all those commonly in use some objection may be urged. Some, such as chlorine and sulphurous acid, along with the unpleasant smell, destroy the fertilizing properties; others, such as nitrate of lead and chloride of zinc, are expensive; but the one now proposed is free from either objection. The new deodorizer is an abundant waste product from the manufacture of chlorine; it consists principally of a solution of chloride of manganese, with a variable quantity of chloride of iron, and generally a little hydrochloric acid and free chlorine. Cesspools, and other places, giving out the most offensive odours, have been immediately sweetened by it."

From this account it will be perceived that chlorine is still the deodorizer even in the new and cheaper form suggested, and even though the latter be contrasted with the former. That a substance such as chlorine in any form will "destroy the fertilizing properties" of night-soil, we very much doubt. Indeed, when it is considered that one *remarkable* property of chlorine consists in its capability of absorbing the actinic ray of the solar light which so powerfully promotes vegetation, and that salt is now admitted to possess fertilizing powers to a singular extent, the probability is that in any form of combination (for except in some such form, a gas like it can scarcely ever be applied to such a purpose) it will in itself turn out to be a most important fertilizing agent. And the probability of this will perhaps appear more clearly still when we keep in view the peculiar tendency of chlorine, in its usual form of acid agency, the muriatic, to dissolve—peculiarly and emphatically to dissolve—such stony, earthy, or oxygenous substances as lime, red ochre, clay, &c., and in its elementary form to subtilize and even to volatilize such fixed and persistent bases as that of iron, or even of flint or silex, namely, silicon. Indeed, to form solvent and even deliquescent substances out of the most insoluble, and subtle and even volatile substances out of the grossest and most fixed, are striking and general peculiarities of chlorine and the other halogens. And the knowledge of its wonderful properties is even yet but in its infancy. Witness the extraordinary joint influence of it on the animal life itself, so recently discovered, viz., in the form of chloroform or terchloride of formyle, as used by Dr. Simpson, Professor of Medicine in the University of Edinburgh, and who has successfully employed it in the obviation of the most grievous ills to which human flesh, and especially its more delicate moiety, has hitherto been heir. Its use in the cure of cholera itself and other diseases need not be despaired of. But we admit that we are probably deviating a little out of the straight path of our own more limited and proper province. We were only anxious to insure the favourable attention of our readers and the public in general towards chlorine as a sanitary agent, and if we have succeeded in doing that, our purpose is accomplished.

USE OF PLASTER OF PARIS IN ENGLAND.

The stone which is used in England, and brought from the north, is sulphate of lime, and has scarcely any acid qualities in it; it is, in fact, an imperfect alabaster; and the bad quality of this stone, and the high price, prevent its being used in building matters so much as it otherwise might be, and cause little interest to be taken in the improvement of its manufacture.

In France, on the contrary—where the stone is in great quantity and of the best quality—the consumption in Paris is more than 1,000 tons per diem, and yet other materials abound and can be had as cheap.

The analysed parts of this stone are, after Mr. Darcet—

Sulphate of lime	78·5
Carbonate	15·7
Water of chrystalization	5·8
	100·

A short time ago Mr. J. Delasseux, of Rouen, by his perseverance gained a great step towards its improvement, inasmuch, as by his process he does not alter the nature of the stone nor the chemical qualities: he manufactures at the cheapest rate a material that, though it has the appearance of English plaster, has moreover the qualities of strength and durability, which I shall beg to call your attention to presently.

If I were to erect a kiln at Greenwich, I could sell, *with a large profit*, plaster of the best quality at 30*s*. to 35*s*. per ton; and I think that a material of good quality, sold at this price—which permits to build quickly, solidly, and at a cheap rate, and also combines healthiness, elegance, and comfort — cannot fail to meet the most sanguine expectations of the public: in fact, this plaster, which sets in a few hours, may be employed for constructing and cementing a wall of bricks, partitions for apartments *solid*, iron floors, ceilings, rendering on walls, forming chimney-flues *in blocks*, bedding stones, and exterior and interior decorations. These statements are not theoretical, as for a long time the plaster has been generally employed in France, and the enormous quantity that the trade exports proves that the material is much appreciated.

Professor Hosking, in his new publication, "Guide for the Regulation of Buildings," &c., has suffieiently dwelt upon the value of the material to prove, that in England its introduction should be considered as a useful thing, and would be of great utility in construction.

In practice, the following are the quantities of plaster (as used in Paris) requisite for different works, and, calculating that the plaster sold at 30*s*. per ton, it will be easily seen that my statement is correct, when I say that nothing can oppose its general use.

One ton and a third of plaster to a rod of brickwork, in powder, will cost 2*l*.

	Of plaster yer yard super.
Rendering on walls, requires	36lb.
On ceilings	42lb.
On quarter partitions	40lb.
Filling up (or pugging) between joists	60lb.
Outside decorations (elaborate mouldings, &c.)	70lb.

The window openings not to be deducted.

Besides this, I must observe, that mixing plaster with sand, in equal parts, makes a good mortar, which sets quickly, and is not dearer than common mortar.

In a country like England, and especially in London, where the ground does not belong to the party building, I have considered it important to introduce a material which embraces economy as well as incombustibility (so important in a city as London), and, moreover, excludes exterior humidity, and preserves interior warmth, and its hardness precludes the possibility of vermin penetrating—a great advantage over the plaster in which hair is mixed. Another advantage is, that, from the rapidity with which the plaster sets, the house may be inhabited immediately, thereby at once receiving interest for the outlay, instead of waiting three or four months, or longer, as is necessary with common mortar.

I have had some objections made as to the difference of climate, but without any cause. At Rouen, the dampest town of France, and where it rains seven months in the year, all the buildings are in plaster, and I am sure that, in using hard stone for making dry plaster in England, it will resist the variations of the atmosphere as well as Roman cement.—I am, Sir, &c.,

Victor Delassaux, Architect.

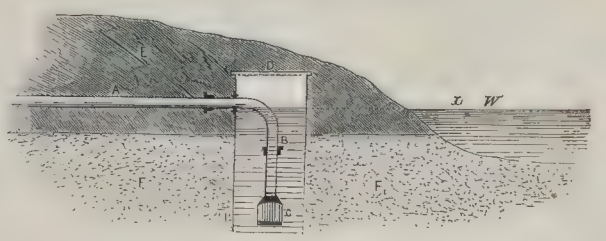
January, 1848, No. 1, Norfolk-street, Strand.

Workmen at the Houses of Parliament.—There are at present 1,399 men engaged upon the works of the New Palace, of which number 776 are employed at the building, 120 at the quarries, 335 at the Government works at Thames-bank, upon the joiner's works and wood carvings, and 168 upon miscellaneous works, both at the building and elsewhere. The aggregate amount now expended on the new Houses of Parliament, inclusive of lands, houses, rents, &c., and razing as well as building, temporary erections as well as permanent, is 1,066,561*l*.: the original estimate in 1837 was 707,104*l*.

Green Slates.—Sir: You mentioned in The Builder of February 5 (Notices to Correspondents), that the green slates came from Westmoreland. Many of those now used come from the Bryn Hafod-y-wern Quarry, which is worked by the Royal Bangor Slate Company, and is situate midway between the Pennant Quarries and the little village of Abor, near to Bangor. That procured in Westmoreland is more of the nature of shale, very heavy, and is more like thick laminated grey stone. Nevertheless, for want of better, many of the government buildings were formerly covered with this Westmoreland shale, or slate, as the expense of the necessary timber to support the weight was not a consideration.

Bankside. M. Stuteley.

FILTER FOR THAMES WATER.



PLAN FOR FILTERING THAMES WATER.

WE are indebted for the following communication to Mr. Thomas Wicksteed, the engineer, to whom it was originally addressed. The plan is simple, and would of course be applicable to other streams.

Sir,—I beg to inclose a sketch of the plan I have adopted to obtain a supply of clear or filtered water, at all times of the tide, for the use of a steam-engine on the bank of the river Thames, and which I hope will be sufficiently explanatory.

A is the suction-pipe leading to the engine, about 600 feet in length.

B is a cylinder, sunk within about 25 feet of low-water mark.

C is a common rose head on the end of suction-pipe.

D is a close cover on the top of the cylinder.

E. Mud and gravel.

F. Clean sand and gravel, which forms the filtering medium.

After clearing out about 4 feet of mud, peat, &c., we got into loose shingle, and at the depth shewn it is sand and gravel, which admits a very great quantity of *perfectly clear or filtered water*, and which I think scarcely possible to exhaust by ordinary means; at all events we had two engines at work on the suction of Messrs. Blackett's saw-mills, Bankside, with hand pumps also, and could not lower the water in the cylinder at low-water. I had the same result at Sir John Rennie's, and I have no doubt an unlimited quantity of water may be obtained by having a greater surface in the cylinder or well.

JOHN AIRD.

Thames-street, Greenwich, Jan. 24, 1848.

PREVENTION OF ROT.

SIR,—The recommendations in the late number of THE BUILDER are very good, as they go to the total removal of the cause: but the following plan succeeded with the smallest cost, by insulating the house from the wet below.

It was devised above twenty years back, by a gentleman who possessed two houses in Stamford-street, where the wet crept up the walls and destroyed every thing against them to a considerable height.

He provided a sufficient number of parallel slates to extend all round the two houses; they were longer than the thickness of the walls, and square-edged to fit close together; then below the floor, but higher than any water could ever reach, he passed a thick saw into the mortar and quite through the wall, and as this advanced he inserted the slates with cement all round the two houses and their parting walls; literally sawing the houses from their foundations, and inserting a layer of slates, through which it is known water or damp cannot pass.

This sufficiently cured the mischief, and the walls kept dry ever after.

In another case, forty years ago, in a house at Paddington, where there was not sufficient means of drainage, the land-springs frequently flooded the kitchen floors. My friend had a well dug under the wall between the two kitchens, and put a pump there, and removed the soft water pipe and cistern into the yard at the back of the house, purposely to render access to the pump the most convenient, consequently it was so much used as to keep the house and floors quite dry. He always found the surface in the well much lower than the kitchen floors, even in the worst weather.

I will mention a third plan, used in a house where the stone floor was not flooded, but always damp.

The stones were taken up, and the earth made level and covered with sand. Over this, and close up to the walls, two layers of strong *brown paper dipped in tar* were laid so as to overlap and break joint; this was well covered with sand, and the stones relaid, and they kept dry.—I am, Sir, &c.,

CORNELIUS VARLEY.

Charles-street, Clarendon-square,
January 26, 1848.

SCULPTURED *versus* PAINTED DECORATIONS.

THE discussions at the Decorative Art Society, which followed the paper on theatrical decoration, mentioned in our last number but one, turned on the respective properties of relievo forms and ornamental painting. Mr. Whitelaw, a member, said painting could exhibit landscapes and similar effects, which do not come within the scope of sculptured limits, but sculpture would be found superior to painting in many cases, from its admitting of being distinctly seen from every point of view; and, further, as it is capable of producing stronger impressions on the mind. He noticed objections which had been offered respecting the thickness sometimes evident in the composition of relievo forms, and which he argued are ill-founded, for it should be remembered that, while objects in nature have a transparent medium, ornament is ordinarily required to act reflectingly, by so exaggerating light, and reducing shadow within itself, as to produce an intended effect. An anecdote from Pliny, respecting the Athenian Minerva, was related in illustration of this view, and the modern application of stamped brass, was named as being usually objectionable in effect, owing to the thinness of the metal, although it is not thinner than leaves, and many natural objects imitated therein. He concluded by observing, that painting and sculpture have each their appropriate localities, but he considered ornamental painting to be subordinate in importance and grandeur to sculpture.

Other members contended that relievo has more of reality in its effect, and, at all times, stronger illusive properties than painting. The practice of painting relievo and sculpture white, was disapproved of by some, but sculpture composed of differently coloured marbles, was not to be recommended, although it was suggested that sculpture coloured after nature, would produce effects which painting on the flat could never equal. References were made upon this point to the Nimroud marbles, on which a kind of enamel remains upon the eyes of horses and men, as shewing an ancient practice.

Mr. Laugher observed, that the result alluded to respecting the use and effect of stamped brass, is entirely caused by the condition of light in which it is usually placed, as is evident from the pleasing effect of artificial flowers which are generally seen in a diffused light. Mr. Dwyer contended, that in spacious rooms massive forms are essential, and that, therefore, in Whitehall Chapel, relievo would have been in better taste than Rubens' painted ceiling; that in the Chapel Royal, St. James's, Holbein's ceiling is importantly assisted by the projecting ribwork and bosses, and that a painted imitation of such structural relievo-forms would be especially objectionable upon ceilings. It was ultimately agreed that sculpture and painting ought to be used more frequently together, having a regard to a proper relation of subordinate parts.

THE LATE WESTMINSTER COMMISSION OF SEWERS.

SIR,—I should not wish to take any notice of the attack made upon my character by Mr. Donaldson, in your paper of the week before last, as any man of ordinary feeling can imagine, that it refers to a subject which I would not willingly enter upon. But as a surveyor of the Metropolitan Commissioners of Sewers, I feel that some explanation is due to the public; and I will now only inclose three letters, without note or comment, leaving your readers to draw their own inference as to the attack made upon me by one who attended the court at which the last letter was read.—I am, &c.

Feb. 3, 1848. JOHN PHILLIPS.

(*Copies.*)

25th November, 1846.

"SIR,—Understanding that it is your intention to employ a near relative of mine upon the works to the sewers in Grosvenor-square and neighbourhood, I think it right to inform you that, in my opinion, such a course is scarcely consistent with my position at this office.

You may suppose that by so doing, you are conferring a favour upon me, and I thank you for good intentions; but my impression is that you may thus afford opportunity to ill-disposed persons to make invidious and ill-natured remarks equally undeserved by you as by myself.

Do not suppose that I am attempting unduly to interfere with, or control your arrangements, but I offer you these remarks in the most friendly spirit: you, of course, can act as you think proper.

I am, &c.,

(Signed) JOHN PHILLIPS, Surveyor.

Mr. James Starkey."

"14th December, 1846.

"SIR,—I have repeatedly requested you not to employ my relatives on the works of the Westminster sewers; and I have just been informed by a commissioner that it has been reported to him that you are, at my request, employing them, and that in consequence I am allowing improper work to be done.

Such reports and statements are extremely annoying to me, and I feel it to be my duty, as the surveyor to this court, again to urge upon you, to the fullest extent of my authority, the absolute necessity of your *immediately ceasing to employ them on any works connected with this office.*

(Signed) J. P.

Mr. James Starkey."

Extract from the Orders of Court, 18th December, 1846, vol. 47, p. 428.

A letter, as follows, was read:—

"28, Vincent-street, Westminster,
15th December, 1846.

"Gentlemen,—Having an extensive contract under your commission, which I am now executing, I have in my employ a bricklayer who is related to your surveyor. I have upon two occasions received a note from him desiring me to discharge him, and not employ him upon any works connected with this commission; but I have not done so, for I cannot conceive what right or authority any one has to interfere with those I employ as long as they execute the works to the satisfaction of those who may please to employ me; if any thing can be proved where he has not done so, I will immediately dismiss him. I must beg of your honourable court to bear in mind that I employed this person long before I knew there was such an individual as Mr. John Phillips (your surveyor) in existence. On whatever works I may have the honour of being employed by you, my object always has been, and ever will be, to execute them in a sound and efficient manner, but I must, at the same time, most respectfully reserve to myself the right of employing whom I please.—I am, &c.,

(Signed) JAMES STARKEY.

Ordered that the said letter do lie on the table.

A NEW WORKHOUSE FOR ST. PANCRAS is to be erected at a proposed cost of 6,000*l.*, to be defrayed by a rate for the purpose.

ARTIFICIAL STONE.

INSTITUTION OF CIVIL ENGINEERS.

At a meeting of the institution on the 1st instant, Mr. Joshua Field, the new president, took the chair, and congratulating himself as being the first president elected from among the mechanical engineers, delivered a very interesting address, which the meeting requested might be printed.

The discussion was then resumed upon a paper recently read on the manufacture of artificial stone; the Dean of Westminster, Sir Henry De la Beche, Mr. Barry, and other visitors, taking part in it, with the principal members of the institution.

The remarks turned chiefly upon the chemical and physical properties of the material, and the cost of its production in the moulded form as compared with that of carved stone. In its chemical properties it was asserted to be at least equal in purity to the productions of nature, for on the statements of the eminent chemists who had subjected it to severe tests, it was said to be totally insoluble in boiling water, however long immersed, and also to be capable of resisting the action of mineral acids. In this respect it differed from glass, which always yielded a portion of its alkali to the action of water. It was further stated, that it had perfectly resisted the action of frost, vases filled with water having been repeatedly frozen without their sustaining any injury. Statements were adduced as to its strength, and other physical properties, and some very interesting remarks were made on the subject, comparing the substance produced artificially with certain sandstones found in this country, which, by the action of compression and heat, had attained a degree of hardness equal to quartz. It was said that experiments made on the strength of the artificial stone proved it to be superior to those natural stones with which it had been tested, viz., Caen, Bath, York, or Portland stone; but of these we should require to know more before expressing our opinion. The price of the material was stated to be such as to render it available for all useful and ornamental purposes.

New Books.

A Practical Treatise on Ventilation. By Morrill Wyman. John Chapman, Strand; Munroe and Dennett, Boston.

"*Plures occidit aer quam gladius,*" says Mr. Wyman truly on his title-page, as we have said again and again for years, with many earnest fellow-labourers; and, gathered facts having every where confirmed it, a respectable minority of the community are fully satisfied that the air we breathe *does* kill more than the sword, and are anxiously looking for the means of obtaining it in our houses, schools, churches, and meeting-halls, in a purer state, and in more abundant quantity than it has been heretofore found. The book before us will help them in the important search, shewing the principles of ventilation that are established, and offering many suggestions towards the desired end worthy of consideration. In America Mr. Wyman's treatise is well known, and we have before now quoted portions of it: we think it due to the work, however, to aid in further extending a knowledge of the treatise in England by a distinct recommendation of it to our readers.

In respect of public buildings, our author justly points out that it is as important the plan for warming and ventilating should be determined upon before the construction is commenced, as for lighting and entrances.

"Architects seem entirely to forget that any such arrangements beyond an ordinary fireplace, are required. It is but a short time since an advertisement appeared for proposals for warming and ventilating the new Custom-house at Boston, not only after the plans were adopted, but after the building was completed. Any plan which can be devised for such a building, and which can be introduced without any considerable expense, must be far from satisfactory in its operation. The architect should design and build not only with regard to beauty and convenience, but to health and comfort also. This he cannot do unless he possesses a clear conception from the beginning of the means by which these several objects are to be accomplished."

Those who question the importance of ventilation because our forefathers lived to a good old age without even understanding the meaning of the term, he bids call to mind their fire-places, the kind of houses they occupied, and the quantity of air which must have passed through them. "In some of the old houses in New England the chimneys are still standing, having fireplaces 8 feet in length by 3 feet deep, and a height to the mantel of nearly 4 feet. With these chimneys the draught occasioned by the large quantity of wood consumed was such that, without the *settle* to protect the back from the strong current of cold air pouring in at the doors and windows, and retain the radiant heat, it was impossible to keep comfortably warm.

From these large, open-throated chimneys there has been a gradual diminution, until the space for the escape of smoke, as now formed for anthracite coal grates, is seldom more than 12 or 14 inches long by 3 inches wide. By these improvements the escape of heat by the chimney has been constantly diminishing, and the amount of radiant heat, which in such fire-places is mainly depended upon for warming, remains as great, if it is not increased; but the ventilation has been greatly diminished."

Mr. Wyman's work contains a large amount of information, conveyed in a clear and intelligible manner.

An Essay on the Air-pump and Atmospheric Railway. By W. Turnbull. Williams and Co., Strand.

There are some men who work all their lives to make the reputation of others, and, from circumstances which we will not venture to examine (in many cases, doubtless, their own fault), derive little personal advantage or advancement from their labours. William Turnbull appears to be one of these: he is known by a "Treatise on the Strength of Cast-iron," and some other minor productions; but the greater part of his life has been spent in mathematical investigations, which pass current as the work of others.

The object of the little book before us, just now published in his own name, is the investigation of the principles of the air-pump, and their application to the propulsion of trains on a railway, suggested, it would seem, by Mr. Robert Stephenson's report on the atmospheric system. It gives formulæ and rules for calculating the various quantities contained in that report, and, shewing some trifling errors in Mr. Stephenson's figures, which tell against the system, takes a more favourable view of it, and claims for it impartial and patient investigation. The writer describes the improvements made by Clarke and Varley, and speaks favourably of the result. We recommend the work to the attention of those who are interested in the question of propulsion on railways.

Correspondence.

SELF-ACTING EFFLUVIA TRAP.

Sir,—The statement of Mr. Rettie in your last number, under this head, is so grossly false and calumnious, that I must beg of you at once to give it my most unqualified denial; and as I cannot expect you to find room for particulars, I will not attempt to bandy words with so unscrupulous an opponent. I have, therefore, at some expense, procured an official copy of the drawing and specification of his patent (for "Artificial Fuel") on which he founds his claim, which I have placed in my office at No. 26, Lombard-street, with all the correspondence and particulars relating to the subject, for the inspection of any person who may feel sufficiently interested in the matter. The trap in question is neither the invention of Mr. Newman nor Mr. Rettie, but was patented by a Mr. Hawkins in 1821, and has been in use by him and his successor, Mr. R. Wiss, of Charing Cross, ever since.—I am, Sir, &c.,

J. Bunnett.

*** We have, on strong representations, yielded our determination to admit no further letters on this subject in favour of the above, but will not again depart from it.

Miscellanea.

Masons' Provident Institution.—The second annual meeting of the above excellent institution was held on Tuesday evening, February 1st, at the City of Westminster Mechanics' Institution, Mr. Wm. Haysom in the chair, for the purpose of receiving the committee and auditors' report for the past year, which left a balance in the hands of the treasurer (Mr. Wm. Freeman) of 209*l.* 17*s.* 5*d.*, including handsome donations from Mr. John Foot, Messrs. H. and J. Lee, Sir De Lacy Evans, M.P., and others. Thanks having been voted to the late direction, a committee of twenty-five was appointed for the ensuing year, with instructions to take into consideration the propriety of announcing an election for one or more candidates for aid from the funds at the next half-yearly meeting.

Provincial.—The Priory Church Committee at Christchurch have authorised Mr. Ferrey to obtain a tender for the restoration of the stone rood-screen, &c.; also for its removal, objections to which were stated by Mr. Ferrey. ——A large conical chimney at Ravenhead Flint Glassworks has fallen.——Preparations are being made at Manchester Cathedral for the bishop's installation.——The works at Grimsby new docks are so far advanced that the water will be shut out over an extent of 1½ miles in length by the end of March.——The Hull Railway Dock has been finished for 55,159*l.* odd, in place of 60,397*l.*, the engineer's estimate. The Victoria Docks have made considerable progress during the past year.——On Friday, last week, the foundation stone of the Sunderland Docks was laid with great *éclat*. Mr. Murray is the engineer, and Mr. Craven the contractor.——The Gateshead Town Improvement Committee of the Council have memorialised the Woods and Forests for a repeal of the duty on bricks used in draining towns.——Plans for the new Corn-market at Edinburgh have been prepared by Mr. Cousin. The council there have had a discussion on the propriety of letting Nelson's Monument at a lower rent than usual, to a tenant who wishes to "give the public the command of the western heavens, as he intended for that purpose erecting astronomical instruments in the monument."

Wesleyan Chapel, East-India-road.—On Monday, the 7th inst., the Building Committee, with the architect, Mr. Wilson, and Messrs. R. and E. Curtis, the builders, met for the purpose of testing one of the framed principals of the roof of this chapel, by hydraulic pressure. The bolts of the truss, at the suggestion of one of the Committee, having been galvanized, which was not intended by the original specification, while driving some of them during the frosty weather, six or eight of the heads broke off like cast-iron, and Messrs. Curtis refused to take upon themselves the responsibility, fearing that the process had had the effect of injuring the ductile properties of the iron. A correspondent informs us that the principals and iron withstood the test of nearly 20 tons in the centre, with a deflection of less than half of an inch, the span of the principals being 50 feet, thereby satisfying those who were present of the strength of them, and that galvanizing does not injure wrought iron.

Glass Trade. — Disobedience. — A workman lately brought before the Handsworth petty sessions for wilful disobedience of orders, and consequent damage to the extent of 5*l.*, was found liable to imprisonment with hard labour, for three months, though under the circumstance of his agreement with his employers, the abatement of 13*s.* 10*d.* alleged wages due, and the payment of costs, was deemed sufficient as a caution.

Builders' Benevolent Institution.—A meeting of the committee of the above institution was held on Monday last, at the Freemasons' Tavern, when the secretary read a very favourable report as to the progress of the subscription list, and a letter, accompanied with a design for an asylum, was sent in by Mr. J. E. Ebbs, architect. The committee, with thanks, regretted that, until they were furnished with a very large addition to the building fund, they were not in a position to entertain any proposal for the erection of an asylum.

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of a new hospital in Endell-street, Long Acre; a lecture-room, chemical laboratory, and other alterations at the Queen's College, Birmingham; for the construction of certain under-ground and other works at the Wellington station, Leeds, comprising arching, retaining walls, cast-iron girder, flagging, road paving, &c.; also for the construction of 2,000 yards lineal and upwards of sewers for the Liverpool Health Committee; for a supply of best Guernsey granite, pit ballast, and flints, at per cubic yard, in St. James's, Clerkenwell; and for a survey, plan, and valuation of the township of Courch, in the parish of Snaith, Yorkshire, and a similar plan, &c., for Snaith township.

GREEK VASES.— On the occasion of a paper being read at the Society of Arts, on the 19th ult., by Dr. Harding, "On some ancient Vases excavated by him from Tombs near Hexamili, on the Isthmus of Corinth, Mr. Birch, of the British Museum, said it was only of late years that the conclusion had been come to that large manufactories of vases existed in Greece; they had always been supposed to be of Etruscan produce. The fictile art had been supposed to be confined almost exclusively to Italy, although numerous excavations had been made at Athens, and a few at Corinth, which had produced specimens similar to those exhibited, and which he divided into classes. The most ancient vases (and which are distinguished from all others by the material of which they are composed) are of a light yellow clay, and have figures and animals painted on them in a morone colour: their date is supposed to be 616 years before Christ. A second class of vases is of a pale red clay, and the figures, instead of being of a morone colour, were traced in black, in order to shew the details more distinctly. This style appears to date from the fifth to the middle of the fourth century before Christ. The third class is one in which the colour was laid on by means of a reed. But, perhaps, the highest style, and one peculiar to the vases found at Athens, is that in which the outline of the figures, &c., is traced on the body of the vase, in white paint, or a sort of carbonate of lime. The specimens exhibited he thought peculiarly interesting, as deciding that the vases of Italy may be considered to be the manufacture of Greeks settled there, and not as having been imported from Greece into that country.

BRECON CATHEDRAL.—Mr. Jesse, in an edition of Hofland's "Angler's Guide," recently edited by him, makes an appeal in favour of the old cathedral at Brecon, now fast mouldering away, neglected, forsaken, and almost unknown. "Who can see it," says Mr. Jesse, "without feelings of the deepest regret? No solemn anthem now ascends to heaven—no choral praise is heard. The insidious ivy creeps through the roof, the floor is damp, and the old oak stalls, with their curiously carved Misereres, are fast falling into decay." We hope that the expostulation will not be in vain. If, as there is reason to believe, the Bishop of St. David's be conscious of the decay of this sacred building, so peculiarly committed to his charge, some attempt at restoration may be expected.

COCHRANE'S CURVILINEAR SAW-MILLS, just erected at Woolwich dockyard, bevil the framework timbers and cut all manner of crooked trees along the grain, so that, by aid of subsequent steaming, useful planks are said to be made from what once were useless lumber.

WARMINGTON CHURCH, NORTHAMPTONSHIRE.—Mr. Caveler is preparing for publication architectural illustrations of this beautiful church, misprinted in our last week's notice of Northamptonshire churches as 'Wannington.' A correspondent points attention to Titchmarsh Church in this county, as one of the richest in it.

KENSINGTON.—The whole of the guardians of this parish have resigned, in consequence of the refusal of the Poor-law Commissioners to modify an order, sent to the guardians, to test all applications for relief by offering labour. The suspension of building operations in the parish has driven so many applicants to them, that they found they could not in all cases adhere to the order without cruelty.

THE NEW MUSEUM AT BERLIN, commenced in 1841, from Stüler's designs, at the back of the museum designed by Schinkel, is now completed. The *Athenæum* gives the following particulars of it:—The ground floor will be occupied by ethnographical antiquities and such as illustrate the costume of various nations and races, disposed in rooms whose architecture itself is so *costumed* as to be in accordance with the objects contained in them. In this respect the rooms allotted to the Egyptian antiquities that originally formed the the Minutoli and Passalacqua collections are remarkably striking and characteristic—their walls and ceilings being faithful imitations of genuine examples of Egyptian decoration, copied on the spot. The general *vraisemblance* so produced enhances the interest as well as the effect of the antiquities themselves. In this part of the museum is a cortile or hypæthral atrium with colonnades on its sides, which conveys an equally satisfactory and impressive idea of Egyptian architecture. The degree of illusion which it is calculated to produce will be materially strengthened when the antique colossal ram shall have been placed in its centre. The upper rooms on the first floor of the building are intended to receive the valuable and extensive collection of casts, among which are several colossal groups and figures, including those of Monte Cavallo and the two Farnese. For the rooms themselves decoration has been employed very liberally; they having coloured marble columns—and the walls being incrusted in the lower part with marble or scagliola in which *bas-reliefs* and friezes are inserted as pannels, while the upper space is left for compartments in fresco. The rooms on the second floor are for the collections of engravings and drawings; and are, like the others, made to display much variety of embellishment, but in a lighter and comparatively playful style. The principal staircase is only in progress, but it will ultimately become something superlative of its kind, adorned as it will be with a series of colossal statues and one of frescoes, on which latter Kaulbach is now engaged. Not the least striking feature in this staircase is the magnificent roof (similar in character and construction to the open timber roofs in Gothic architecture), in which Stüler is said to have imitated, if not exactly copied, the idea of that introduced by his master, Schinkel, into his design for King Otho's Palace at Athens.

SOCIETY OF BRITISH ARTISTS.—Professor Ansted's lectures have been numerously attended, and will prove useful.

CURRENT COMPETITIONS.—Mr. Editor: If you have a corner to spare next week, perhaps you will not object to insert a few lines respecting some of the competitions now before the profession. What I wish is, merely to draw your attention to the matter, so that you may keep your eye on the proceedings of a few committees; for instance, those for erecting the "Training College at Cheltenham," the "Brighton College," and the "Fulham Workhouse." With respect to the Cheltenham College, has any one, who applied for the particulars, been favoured with the views of the committee (if there be one) with respect to the amount of premium to be given? or if the architect whose plans are selected will be employed to carry out the work? or if they will keep his designs without remunerating him for them? Just look to the advertisements issued by them, and have a peep at their "stipulations," and see what you can make of them; it seems to me as though the parties who have concocted the affair, have determined not to give the proper instructions to competitors, so that the favoured one may slip into the "job" all the more quietly. Report does *not* speak well of the other two mentioned, so be so good Mr. Editor as give them all a little of your sage advice, something that may come home to their "gutta percha" consciences—a few words as a P.S. to this, with your three stars shining so brilliantly before them.—A COMPETITOR FOR THE WORKHOUSE.

*** All in good time. We know that some, at all events, of the guardians of the Fulham Union are most honourable men, and will strive to act fairly. Let them insist on having professional assistance in the selection.

AN IRON 'HORSE' of 100 tons weight, reared in a blast furnace at the Plymouth Iron-Works, for the last five and forty years, has just been uncovered, preparatory to its removal from the stable, but now inconveniently limited, position in which it has so long stood. This sturdy growth of almost half a century has been found far too unmanageable for removal by mere 'blasting,' the brunt of which it has withstood for the last fortnight, with out flinching, so that it has been determined to adopt the scheme whereby our solitary Yankee brethren in the far west often throw such overgrown pebbles clean out of sight, with a single pair of hands, whenever they are found to cumber the ground. In other words, a trench is to be dug for it on the brink of its present position, into which they will pitch it, clear of all further annoyance.

ART IN THE STREETS? YES: ART EVERY WHERE.—A correspondent, referring to our remarks last week on the subject of sentry-boxes, says the *Athenæum*, expresses his desire that Art should be induced to adopt, also, into the family of those for whom she cares, the lamp-posts in our streets and the wooden posts about our parks. On the same principle that is wooing Art amongst us to the service of our domestic utensils, there is no reason why all such things should not have the advantage of her influence, too. It is just as easy to give a tasteful form to these matters as to perpetuate the ancient barbarities. Our correspondent speaks of the lamp-posts opposite Carnarvon-terrace in the Regent's-park as the only really ornamental ones within his recollection; but as we do not ourselves remember the example, we do not recommend it further than by repeating his notice.

TENDERS.

The following are the amounts of four tenders delivered for the proposed additions and alterations to the Devon County Gaol:—

Harvey Torquay)	£13,900
Mason (Exeter)	13,500
Ware (Exeter)	12,940
Hooper (Exeter), accepted	10,700

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, FEBRUARY 15.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 16.—Society of Arts, 8 P.M.

THURSDAY, 17.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

SATURDAY 19.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"*The Accident at Euston-square.*"—Bare opinions from *anonymous* correspondents are valueless. Communications affecting the character of others should be accompanied by the name of the writer, not necessarily for publication, but as a guarantee of good faith. These two remarks will explain why no notice is taken of several letters on the above occurrence.

"*D.*"—We find no pleasure in giving pain. If our power be as great as our correspondent is good enough to say it is, there is more reason for us to use it carefully. As we grow in power so increase our responsibilities.

"*Brick v. Stucco.*"—A pile of letters on this text shall be considered together.

"*D. H.*"—We are unable to advise.

"*G. R. W.*"—Under the 28th of Henry VIII., Commissioners of Sewers are entitled to 4s. per day. What arrangement will be made in respect of the new commission we cannot say.

"*R. S.*"—Shall we print his name to the letter, or not?

"*H. M. B.*"—Declined with thanks.

"*A Builder.*"—Give notice to the solicitors of the line of your intention.

"*R. D.*"—The time is past.

"*Young Architect.*"—The instructions of the Poor-Law Commissioners are published: apply at Somerset House.

"*T.*"—The truth of the statement in question is guaranteed by a respectable party.

"*Rev. C. M.*"—To what statue (in what "Catalogue"), do the remarks apply.

"*Curve of pointed Arches,*" next week.

"*Professor Cockerell's Lectures,*" ditto.

Received.—"W. T." (we will endeavour to call, but cannot promise), "G. J.," "W. B." (Theobald's-road), "W. N." (comes scarcely within our province), "J. P." (Broxbourne), "H. H.," "J. W. A.," (compelled to postpone), "S. G." (thanks), "A Subscriber," "E. N." (London), "W. and J. F.," "E. P." (Kenmington), "Bricks," "J. S. M.," "A. M. R.," "J. T. W.," "Mr. T." (Norfolk-street), "J. H. W.," "A Year's Subscriber," "H. A. M.," "Dr. M'C.," "Mr. S." (Lancaster), "G. R. F.," "A. J. G.," "A Novice," "S. B."

Books received.—"The Baronial and Ecclesiastical Antiquities of Scotland," by R. W. Billings and W. Burn; Parts III. to XI. (Blackwood). "Transactions of the Society of Arts for 1847;" Part I. "Church Needlework," by Miss Lambert. (Murray, Albemarle-street). Howard's "Patent Apparatus for moving Windows." "Sanitary Reform and Agricultural Improvement;" by Mr. Charles Elderman. (Pierce and Hyde, Strand.) "Sacred Harmonic Society: A Letter to the President," (Hoby, Mount-street.) "The Port and Docks of Birkenhead, with Maps, Plans, &c.;" by Thomas Webster, M.A. F.R.S. (Chapman and Hall).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

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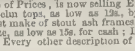


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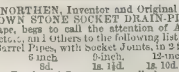
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4-inch.	6-inch	9-inch.	12-inch bore.
6d.	8d.	1s. 1d.	1s. 10d. per foot.

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N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LANG, No. 1, King-street, Baker-street, Portman-square. Cash only.

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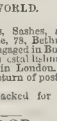
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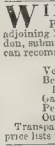
SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE. ALFRED GOSLETT, Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass, begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

THE BIRMINGHAM PLATE-GLASS COMPANY beg to call the attention of the Trade to their manufacture of superior Polished and Rough Plate Glass. Having recently enlarged their works, and erected an additional horse power engine, they are now enabled to produce a much larger quantity. The prices will be found to compete with any establishment in the trade. A large stock of Polished and Rough Plate always on hand. LONDON WAREHOUSE, 14, Fleet-street; WORKS, Smethwick, Birmingham.

CHAS. WM. WATERLOW, MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-cruck Millings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.







TO THE BUILDING WORLD. H. BANKS, Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 73, Bethnal-Green Road, London. Parties engaged in Building will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

WINDOW BLINDS.—TYLOR and PACE, Window-Blind Manufacturers, 313, Oxford-street, adjoining Hanover-square, and 1, Queen-street, Cheapside, London, submit the following prices of Window-Blinds, which they can recommend as being made in the best manner:—

	s.	d.
Venetian Blinds, per square foot	0	8
Best Hollan 1 Blinds, on rollers	0	6
Ditto ditto on cords and rollers	0	8
Gauze Wire Blinds, in mahogany frames	1	10
Perforated Zinc Blinds, in ditto	1	8
Outside Blinds, of Canvas cloth, in cases	1	9

Transparent Blinds in great variety. Illustrated catalogues and price lists forwarded on application, post free

DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gasfitters, to the fact that the valuable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description. Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE. NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.



The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furniture, Top and Bottom Doors, Stoppers, Chimney-bars, Inside, Outside, and Sash-bars; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices. CAST-IRON UPSETS

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner. BURBIDGE and HEALY, 119, Fleet street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, baths, private family timber, &c. and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action on the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 195, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

2 ft.	2 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8d., and 9d. do.

Manufacturers of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 in., 42s.; 3 ft. 4 in., 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	1s.	1s. 10d. per 1,000.
3d.	4d.	6d.	8d.	10d.	2nd.

Best Sheet Floor Brads 1s. per cwt.
Best Town Glue 38s. per 56 pounds. 7s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	9s.	12s. per gross.
1	2	3	4	6	12

At R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 57, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black Registers, with Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per inch and upwards.
Bright ditto with Black and Bright Bars, 7½d. per inch and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO BUILDERS AND CARPENTERS.

BURT and POTTS, York-street, Westminster, Wholesale and Retail Ironmongers, Smiths and Stove Grate Manufacturers. Delivered free within five miles.

Cast Iron Rain-water Pipe:—

2 in.	2½ in.	3 in.	4 in.	6 in.
1s. 1d.	1s. 3d.	1s. 5d.	1s. 9d.	2s. 2d. per yard.

Sheet Floor Brads, 1s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.

A variety of Best Black Ground and Bright Register Stoves and Elliptic Stoves, with inside backs, 8d. per in.

Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£3. 3s.	£3. 10s.	£3. 15s.

Iron and Steel of every description.

IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading from Baker-street, Portman-square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the Prices of the undermentioned articles at the above Warehouse:—

Best Patent Cut Clasp

4d.	6d.	10d.	2nd. per 1,000.
6d.	8d.	1s. 4d.	1s. 10d. „

Cast Butts.

2 in.	2½ in.	3 in.	3½ in. per doz.
11d.	1s. 2d.	1s. 4d.	„

Best Patent Sash Line.

3	4	5	6 per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.

Every other article equally reasonable.

Catalogues of Prices can be had on pre-paid application, inclosing postage stamps.—Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or upon the usual quarterly reference in London.

JOHN and EDWIN YOUNG, Proprietors.

FENDERS, STOVES, and FIRE-IRONS.—The LARGEST ASSORTMENT of STOVES, KITCHEN RANGES, and FENDERS, as well as General Ironmongery in the world, is now on Sale at WILLIAM S. BURTON'S (late RIPPON and BURTON'S) extensive premises, where Purchasers to the amount of £2 and upwards can select from a splendid and unrivalled stock of fenders, viz.:—3 feet, 6s.; ditto ditto, with or-molu ornaments, from 60s.; rich bronzed scroll ditto, with steel bar, 10s. 6d.; iron fenders, 2 feet, 4s. 6d.; 2 feet 6in., ditto bronzed, and richly cut heads at proportionate prices. Any article in the furnishing ironmongery 30 per cent. under any other house. The money returned for every article not approved of. Detailed catalogues with engravings sent per post free.

WILLIAM S. BURTON'S late RIPPON and BURTON'S stock of general furnishing ironmongery is literally the largest in the world, and as no language can be employed to give a correct idea of its variety and extent, purchasers are invited to call and inspect it.—39, Oxford-street, corner of Newman-street. Established in Wells-street 1820.

The Builder.

No. CCLXIII.

SATURDAY, FEBRUARY 19, 1848.

POOR Fine Arts! Poor Barry! Or rather let us confine our exclamation to poor fine arts, since the badgering to which the latter is periodically exposed has served, up to this time, only to elicit eloquent tributes to his integrity and ability from men in power, who had otherwise, perhaps, been silent. Still, abuse is not agreeable or useful: condemnation, just or unjust, has its effect in lessening confidence, and gives a cry to a party; and wise men, who know what repetition of it has done in the case of others, will take all prudent means to combat it and make its injustice obvious. On Monday last, after much previous threatening, Mr. Osborne brought under the notice of the House the expenditure of money at the new Houses of Parliament, and the unnecessary length of time which has been occupied in their progress. "Since the days of the celebrated architect Amphion," he said, "who is reported to have moved the stones and raised the walls of Thebes at the sound of his lyre, there had not been a name more bruited about by the voice of Fame than that of Mr. Barry. But there was this remarkable difference between the heathen architect and the Christian, that whereas the works of the former were finished in an inconceivably short space of time, the works of the latter had been spread over a period which was not yet brought to a close, and he ventured to predict, unless the House took them into their own hands, never would be brought to a close in the lifetime of the present generation. What he was anxious to establish on the present occasion was, first, that there had been a most reckless expenditure of the public money, without a due exercise of public control, in the building of the new Houses of Parliament; and, secondly, that there had been a most unnecessary delay in carrying on the works." He failed, however, in doing either.

This "unnecessary delay" cry is a monstrous absurdity; it has been demonstrated to be such again and again, and would scarcely be listened to any where out of the House of Commons, where art is little thought of and less understood. Compare the progress which has been made with that of any of the cathedrals of the middle ages at home and abroad, painsfully built up during centuries; ask how long it took to complete St. Peter's, of the Vatican; how many architects and how many years passed away before this was achieved: and look to St. Paul's, raised by one man in about thirty years, an often-quoted contrast with the last example; and it must be at once admitted by those who know the extent and elaborate nature of the works at Westminster, that much more has been done there within the time than could reasonably have been anticipated. Mr. Barry made a great and unfortunate mistake when he named six years as the period for completing the building, but the Government would have made a much greater mistake if they had attempted to force the architect to verify his prediction,—it was quite out of the question, and wholly undesirable if it were practicable. Even the delay caused by the differences which occurred between the architect and Dr. Reid, as to the ventilation, might have been anticipated—such differences, in one shape or another, being consequent on extensive undertakings of this sort. Our opinions, however, on this head, have been so often repeated, and are so well known, having been quoted by our contemporaries from one end of the kingdom to the other, that we need scarcely say more upon it.

Mr. Osborne, in the course of his speech, seemed to shew great want of knowledge of the subject and of correct information. In respect of a charge for change of stone from that originally intended, he said, for example, when scrutinising the excess of expenditure, that "in 1839 a roving commission of geologists was appointed, who went through England and Wales to examine the different qualities of stone. On the 16th of March, 1839, that commission made its report. The expense of that tour of inspection, mixed up with some other items, was 4,902*l.* 3s. 10d. It was natural to suppose that, having the benefit of this commission, a stone would have been selected such as was applicable to all purposes. But this was not the case: the stone originally adopted was not at all suited to endure the weather, and, consequently, a charge of no less than 22,000*l.* had been incurred for changing stone." An entirely wrong statement. The honourable gentleman was also understood to condemn the appointment of the commission altogether,—an appointment which every scientific man in England rejoiced at.

Even Mr. Hume, however—the only strong supporter Mr. Osborne found—was obliged to point out his error in this respect. He said—

"With regard to the stone used for the building, he might observe that he (Mr. Hume) had recommended the building should not be begun until they were sure of finding a sufficient quantity of stone of the best quality, and all of one colour. A commission had been appointed for that purpose, and most ably had they performed their duty. A visit to the museum in Craig's-court, where there are specimens of all the kinds of stone in the country, would at once enable builders to compare the relative merits of each, and determine what kind they would use. That commission had been of great service to the country, and the Government deserved every credit for appointing it."

In respect of the expenditure, the broad statement that the amount of the original estimate was 707,104*l.*, and that 1,400,000*l.* had been already expended, produced an effect of course; but Lord Lincoln, who, in conjunction with Lord Morpeth and Sir Robert Peel came bravely to the rescue, put a different complexion upon it. His lordship said—

"He would now come to the statement of the hon. member for Middlesex with respect to the present expense of the building. If he understood him right he had again stated that evening what he had certainly stated before the recess, viz., that the original estimate for the building was 707,000*l.*, and that 1,400,000*l.* had been already expended upon it. Now he begged to assure the House that this statement was *entirely erroneous*. It was true that 1,400,000*l.* was the *estimate* now given of the total cost of the works executed and to be executed; but that was not the amount already expended on the works. The whole sum actually advanced upon the works of the building up to the present time as appeared by the return was 833,000*l.* [Lord Morpeth—808,000*l.*] The return he referred to made it 833,000*l.*; but there was no doubt some good reason for the discrepancy between the noble lord's statement and his own. But how stood the case as regarded the expenditure being an excess of the original expenditure?

The original estimate was....	£707,104	
Sum actually paid up to the present time	£808,864	808,864
For embankment and other extras.....		378,097
Leaving paid already for works in estimate		430,767

Now, surely, when discussing this case it was but fair to let the real state of the case be represented. He was not attempting to prove that there might not be an eventual excess—perhaps a considerable one. He was merely showing that whereas it had been said that 1,400,000*l.* had been already expended—the original estimate being 707,000*l.*—the real fact was that only 430,000*l.* had yet been expended on works included in the estimate. According to the statement of the hon. member for Middlesex, there had been already expended 693,000*l.* beyond the estimate; whereas in reality there remained to be expended of the original estimate 276,000*l.* He (Lord Lincoln) had taken the trouble to refer to a former report on this subject, and he begged to call the attention of the House to some of the works which the hon. gentleman had charged against the architect as being included in his original estimate, whereas they were additional works which had been subsequently sanctioned by the House. For example—

River wall	£55,902
Purchase of property.....	82,054
Extra foundations	35,063
Fire-proofing	21,000
Warming and ventilating	65,000
Change of stone.....	22,000
For House of Lords, grant last year	40,000
And iron roofing, nearly	50,000 "

Mr. Bernal objected, by inference, at all events, to the employment of the fine arts in the decoration of the houses, and of the appointment of a Committee in furtherance of them,—admitting, honestly enough, that he was not a man of taste, and incompetent to form an opinion on the subject.

In reply to this Lord Morpeth said,—"He would not, any more than his hon. friend, venture to pronounce any judgment upon the style of the building. That was a matter of bygone times, and as there were many members of the house, there might be many minds upon it. The style selected was a highly decorated style, which they knew was a highly expensive one. Neither would he now enter upon a discussion of the propriety of appointing a Commission of Fine Arts. Her Majesty's present Government were not responsible for that commission, but he must say that he did not think the country at large would at all sympathise with the attempt made by his hon. friend to cast discredit upon *the opening which had been made for giving encouragement to the rising talent of the country*. Of course he agreed with his hon. friend that substantial utility ought not to be postponed to decoration, but bare walls might properly be covered by pictures, and he could not help thinking that his hon. friend had been unduly severe upon the frescoes in the House of Lords. They were not, it was true, perfect, but they were creditable examples of a new mode of art, and he had no doubt that the most competent judges would confirm this verdict, which he ventured with diffidence to pronounce. Of course he did not mean to deny that this had been a most expensive building, and had considerably exceeded the sum estimated as the cost of its completion, but he put it to the House, whether it could fairly have been expected to be otherwise? The original design of a building of such vast magnitude and such various uses could only have embraced the general arrangement and character of the building. Many errors of the architect which must have been originally included in the design—many difficulties which he did not then foresee—could only be considered and corrected as the architect came to deal with the requirements made upon him. The modifications required from him had been endless, both from committees of that House and from the heads of departments connected with the public service. Since the first stone of the Houses of Parliament was laid, the growth of public business had been immense, and re-

quired increased accommodation, which the architect had to provide."

Lord Morpeth stoutly maintained that Mr. Barry might contrast the cost, speed, and effect of his building with the cost, and speed, and effect of any other, and was sure that he would come out of that contrast without disgrace. He had wished to make it an ornament to his country, and, derivately, to his own reputation. Mr. Osborne having stated that although the Government had said the architect's remuneration should be restricted to the sum of 25,000*l.*, with the view of taking away any inducement for excessive expenditure, Mr. Barry had never fully assented, Lord Morpeth replied,—he admitted that Mr. Barry had insisted that the remuneration for his labour was below the average rate of profit in his profession. But Government had stipulated with him that his commission should not exceed 25,000*l.* upon his commencing his original design; and Mr. Barry would therefore have no reason to complain if Parliament refused to go further in the way of remuneration. He concluded by paying an eloquent compliment to Mr. Barry, to whose genius he predicted that a high place would be assigned by posterity. He believed that the architect was actuated by the single desire to make the building a credit and glory to the country, and to rivet his own reputation. He believed that the devotion of Mr. Barry's time and talents to the work had been almost unparalleled; that the anxieties to which he had been subjected had much impaired his health and spirits; and that if the confidence of the country were now withdrawn from him, he would no longer be able to maintain the contest. He owned that our national experience in matters of architecture had not been the most happy; and he did not wish to deny but that some of the items laid down in the present case, might have been intended more for the credit of the building than for the credit of the Exchequer.

Sir Robert Peel thought it unfortunate that the Treasury allowed a single stone to be laid before laying down the condition as to payment. They should have said, "We have a sum to be paid to you, be it 25,000*l.* or 30,000*l.*, or any other sum. We discourage entirely all expectation on your part of payments to a higher amount or on another principle. At all events, we give you notice that it is a matter which will be settled before the commencement of the building." "I don't think," continued the speaker, "that the blame falls on the Government, on the Woods and Forests, or the Treasury. I think the House of Commons must rather bear the blame. The House of Commons has hot and cold fits in regard to public buildings: and if the results of the deliberations of the committee of 1835 had been to present us with a building according to the *beau ideal* of excellence which has been suggested by Mr. Hume, namely, a building corresponding with Somerset House, I believe there would have been a feeling of universal disgust. There are repeated instances which I recollect when the house was in a very economical humour, and specified a sum which was not to be exceeded. First, there was Buckingham Palace. The hon. gentleman got an assurance that 300,000*l.* should be the extent of the expenditure. If he walk through St. James's park, he will now see a very significant proof of the consequence. Then there is the Treasury. After some lapse of time, it had been resolved to alter its appearance; and to whose aid are you indebted for the great improvement which has been effected? To that of the very Mr. Barry whose qualities are so much called in question. I think it is a proof of his skill that Mr. Barry has been able to make out of the Treasury, as it was left twenty or thirty years ago, so beautiful an ornament to the metropolis. There are other instances of the consequence of your economy in regard to public buildings. First you limit the architect to such an amount that his skill is fettered, and then you become so dissatisfied with the effects of your limitation of expense, that you pull down the whole front of a building and employ another architect to supply a better one. At the National Gallery again, we are all anxious that Mr. Barry should be sent to improve that. A sum perfectly inadequate was awarded to erect a building on that magnificent site, and the result is a structure on which we cannot congratulate ourselves. In the case of the National Gallery, you stinted the architect to a certain sum, and the result is, a building quite unsuited to the character of the country."

Sir Robert then proceeded to defend the appointment of the Fine Arts Commission, and justly asserted that the Commission had been in the main successful:—

"I hear it said that English taste is not accustomed to those productions which have appeared under its auspices. There are gentlemen who contemplated oil paintings as fit decorations for the Houses of Parliament; but you are to consider that the works which have been selected are novel in this country; and you find that those who are acquainted with fresco are surprised at the success which has attended the efforts of our artists. At any rate, every exertion has been made by that commission to call out the latent talent of the country; and no man can see the exhibitions of successive years in Westminster-hall without rejoicing in the opportunities which have been afforded for its development. Many, whose powers were previously unknown, and who had not had the advantage of any connection with the Royal Academy, have shown a knowledge of art for which the country was quite unprepared. In that respect the Fine Arts Commission has accomplished one of the objects originally contemplated, it having been a matter for consideration whether the erection of the new Houses of Parliament could not be rendered conducive to the promotion of art."

As to the building, he believed it to be most honourable to the country and the architect. He thought that Mr. Barry, and indeed all the artists with whom he had come into communication, are inspired with as high a feeling of honour and principle as those which animate any other class of her Majesty's subjects; and that, in general, they prefer honour and distinction to pecuniary profit. He believed that by this motive exclusively Mr. Barry had been animated; and that the result of the inquiry would show that Mr. Barry is not responsible for any excess in the expenditure, and that it would be seen to have arisen from the nature of the works, from the number of persons for whom accommodation had to be provided, from the conflicting opinions of the Lords and Commons, from the varying views of separate and joint committees, and from the immense extent of accommodation required for committees, which was hardly contemplated when the building was designed.

The *Times* of Tuesday had an excellent article on the subject, at the conclusion of which the writer says justly,—

"In such undertakings, which are unavoidably progressive in their scale, their purposes, and their decoration, it is eminently unfair to revert too rigorously to the original estimate either of time or expense. The stringent rule of using one quarry, the addition of a vast embankment to the original plan, the increased accommodation for private business, the fireproof construction, the growing demand for internal and external decoration in every possible form, and the new and most elaborate plans of ventilation, have all created a delay, which, after all, is nothing compared with the tedious progress of other great buildings. The edifice, or rather the vast collection of edifices, ought to be regarded rather *as it is* than as it was to be. If it can be shewn to be actually excessive in any point, to be extravagant either in style or dimensions, let it be so stated; but it is evident that the Legislature was under no obligation to adhere to an insufficient or naked design. The excess on the original estimate has not, indeed, been so formidable as Mr. Osborne and his supporters would have us suppose; but, be it small or great, it is not the question. What we have to ask is, whether the building be proportioned to the wants of the Legislature, to the dignity of its purposes, and to the glory of this empire. If it does not exceed this proportion—if it does not transgress that standard of splendour which is fixed by the town and country residences of our wealthy nobility, and if it only gives the British constitution a palace and a home that can vie with the hotels de ville of the German burghers or the gorgeous halls of despotism, then we have no reason to grudge the expense, to chide the delay, or to censure an architect who has only shewn himself equal to the occasion."

The public, we venture to affirm, do not complain of the course which is being adopted at the building in question: they know very well that to spend money in producing a noble building is a very different thing to spending it in war, to say nothing of the dim notion now growing up in the universal mind, that such works have an important influence on the national character and national happiness; and that beauty is the highest form of usefulness. Further, they do not sympathise in the impatient cry of "get on at any risk," which is heard only in the House. They desire to see the work successfully and perfectly carried out, as it undoubtedly will be if the architect be allowed fair play; and we do strongly protest against such ebullitions of personal feeling and such unwise cavilling, as were exhibited in the House on Tuesday night, as tending most materially to obstruct this consummation. Let us have no undue waste, no unwise stint (at the same time, of course, no wasteful expenditure—no putting up of work and then knocking it down again), and we shall be able ultimately, and that before long, too, to point to a building unequalled by any contemporaneous structure in the world.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

In the fourth lecture of his course, on Thursday, the 27th ult., the professor further elucidated the principle of proportioning the parts of a Gothic church, as given in the work of Cæsarianus. He referred to the evidence which he has explained elsewhere, of the adoption of this principle in the chapel of New College, Oxford, a work of William of Wykeham, and shewed by that building, and from Mr. Billings's clever illustrations of the panelling in Carlisle Cathedral, that the same method of forming the design upon an arrangement of squares, was carried through all the details of a structure. He then illustrated the proportions of the human figure by the diagram described by Vitruvius, attaching some importance to this portion of that author's work, which he considered had not been sufficiently appreciated by architects—as, indeed, it had been omitted altogether in some of the best known translations. Whilst in iconographic distribution, equalities prevailed, in orthographic, the principles of design discovered in the works of nature, taught us to make use of inequalities. Thus we observed that, in nature those forms which were comparatively deficient in beauty, were those in which the parts were in some degree, equal one to another. He shewed this by drawings, in which were contrasted the figures of the baboon and the man and of the ass and the horse. In the baboon the arms were nearly the same length as the legs, and the body was also of equal length; whilst, in the human form, an entirely opposite principle was evident. The head, the ears and the neck of the ass, in which also there was an approach to equality, contrasted unfavourably with the same parts in the more beautiful figure of the horse. In two faces, in one of which, the length of the nose, height of the forehead, of the upper lip, and of the chin, were equal, and, in the second, the same parts proportioned to each other as we observe them in the most beautiful counte

nances,—there was a remarkable deformity in the first. The principle of nature was equally found to influence the beautiful, in the fronts of buildings, and shewed that an equal distribution of stories was not desirable, but that, by means of cornices or string courses, two stories should appear to group as one feature, or, in other respects, the appearance of unequal distribution be imparted to the composition.

In continuing his remarks upon Gothic architecture, he said that the towers of Gothic churches, and the portals, were indeed the subjects of elaborate design, but that the interior was the chief consideration. The arrangement adopted, required the use of flying buttresses, respecting which, and particularly where meeting at the cross, we understood the professor to express a doubt of their propriety, esthetically considered. He made some useful remarks upon the interesting subject of the comparative influence of the horizontal and vertical principles—between which he said, even in the thirteenth century, there was contention, and it was not till a later date that a complete victory of the perpendicular was consummated. The vertical principle was strikingly evident in the architecture of Sir Christopher Wren, in particular, in the great prominence of the clustered pilastres, and breaks in entablatures. He also noticed the skill of the Gothic architects, in giving a pyramidal outline to their structures, and he incidentally alluded to the discoveries of Mr. Penrose in the Acropolis of Athens, which showed that the lovers of Vitruvius in this century had not laboured in vain. He appeared to think that there was propriety in returning to the use of Gothic architecture, saying, that as in Italy the influence of classic association had never been extinct, until the Gothic style was at last rejected, so *we* seemed to return, in this country, to the style of our forefathers. as a child to the parent's breast. On the question of colour, he argued that polychromy was unfitted for this climate.

He considered that in all the works of architecture, there was a reason to be discovered, which would go, in some degree, to justify the treatment given to them by their authors, and that it merely required examination to discover this. In the prevalence of lofty spires in level districts, and in the regularity of outline in buildings associated with rocky scenery, there was that endeavour to produce contrast which was founded upon correct views of the art.—In comparing the continental and English Gothic churches, he ascribed great inferiority to the latter, principally on the score of size, and he exhibited elevations of English and continental cathedrals drawn to the same scale, which shewed this point of difference in a remarkable manner. Alluding to the changes, introduced in the nature of the Catholic church by the establishment of the order of Jesuits, he instanced the ecclesiastical structures which emanated from this body, as worthy of distinct study, and likely to afford much new matter of interest. The great scale of the continental churches was most strikingly shewn in a comparison of the sections of St. Paul's Cathedral and the Jesuit's Church at Munich. The latter building would almost span the whole nave and ailes of the English cathedral. It was covered by one noble vault, in imitation of the hall of the Roman baths, and there was but one building recently executed, which could boast a similar feature, St. George's Hall, at Liverpool, and he alluded feelingly to the death of the architect of that building.*

PUBLIC BUILDINGS IN CHELTENHAM.—There are six public buildings devoted to religious and educational purposes now going on in Cheltenham, or about to be commenced, viz.: the Cheltenham Old Charity School (a new building for it), to cost about 800*l.*; the district church of St. Peter's, to cost about 3,500*l.*; St. Paul's Infant School, estimated at 950*l.*; the Hospital recently mentioned by us; a Church of England Training School, estimated at about 10,000*l.*, and an institution for orphan boys. The last two buildings are not yet commenced, but will shortly be proceeded with.

* We hope to give next week the fifth and sixth lectures, concluding the course, at some length.

MODERN ARCHITECTURE SHOULD MEET MODERN REQUIREMENTS.

THE age of progress is the motto of the day, and the motto is earnest and well chosen. The chemist, the astronomer, the engineer, are each, day by day, throwing back the limits of science, and as they look back upon the past as a man may review his boyhood, can mark every era by some development in science, some advance in knowledge. The artist and the sculptor may plead that the limits of the animal world have proved impassable barriers for them, and that the ideal was as open to their forefathers as to themselves; but they have, at least, held their ground, and may bring Canova and Thorwaldsen as their witnesses. The architect alone, the great administrator to the comfort and splendour of the community—to whom painting and sculpture have served but as handmaidens—he alone, with the whole region of fancy open before him, and the changes in the world suggesting fresh changes to him, confesses that his age of progress is past. His station among men of science and art should be high, yet, for the last century, he has been little more than a copyist: reworking and remodelling old forms and bringing them again to light, to make them painfully suit new customs and altered habits. The uninitiated may, indeed, point to the splendid works but lately sprung up throughout the country, the mark of its piety and industry, and result of its wealth; but to the architect or amateur, there are few that will not tell the same tale; he can point to their prototypes here or abroad, and in examining them, must curiously inquire, as the chief objects of interest and the best mark of their designer's talent, whether, in an interval of some centuries, the copy may have improved on its original in the proportions of a window or the details of a cornice.

It is only within the last 100 years that this lethargy seems to have come over us. Till that time, from the earliest periods, the national architecture in England, as elsewhere, had faithfully kept pace with the national habits; and the antiquary, as he reviewed the various changes from the Norman to the Tudor, from the castle to the mansion, would, from their architecture alone, see plainly the progress the land had undergone, from an age of violence to one of peace, and trace any important change in style or detail to the progress of art, or a corresponding change in the habits of life.

This gradual development no doubt received a shock at the Reformation, and still further under the commonwealth: but there were giants in those days; and the new style which then arose, rose under the auspices of Jones and Wren, whose splendid erections almost make us forget that they supplanted the forms created by Jocelyn and Wykeham.

But, though the style was changed, the spirit was not, and the Italian introduced here, was modified and altered to suit our manners and wants. To the massive façade was added the graceful outline of the spire, nor can Jones or Wren be said with more justice to have copied from the Italians, than Palladio from Brunelleschi, or Sansovino from Raffaelle. Down to their time, from the earliest ages, each successive era had stamped its mark upon its architecture, but thence, onwards, the trace by which the age may be determined by its fabrics is lost, and the inquirer in after ages will scarce find a visible spot on which to mark the date of the nineteenth century.* I am wrong—as the future antiquary shall curiously explore our towns and villages, he will sometimes stumble on a new modern mansion, whose singularities may stop him in his way; and as he notices its gutters fortified by plaster battlements—its pinnacled gables, kept up by irons and guileless of a roof—its entrance badly copied from some bad sketch of an abbey porch—vague recollections of the gothic of 1800 will steal across his mind, and he will at length assign it to the reign of George the Third, the Augustan age of England.

As before observed, the Reformation and the Commonwealth seem to have been the prime agents in this change. The havoc then made by the popular fury amongst the finest monuments of antiquity, shews too plainly how deeply the general feeling was then changed towards all things ancient that appertained to the church. To the popular eye the splendour of the princely buildings which told of the priests' wealth was an abomination—their deep religious look and splendid sculptures savoured of idolatry—in the general proscription, the style itself became proscribed, and deep indeed must have been the general feeling which could so far bias that lover of the picturesque Jones, as to make him Italianize St. Paul's, or that great master of outline, Wren, to brand the pointed style itself as Gothic. I can find few things in the history of art so extraordinary as that, from Elizabeth to George the Third, the architect and churchman should have been so utterly insensible to the beauties of those ancient works so thickly scattered over the land; and that with them at their very threshold, they should have gone on spoiling church after church with their bad Italian, as poor in detail as incongruous in effect, while scarce an effort was made to harmonize in any way the innovations of their own times with the beauties of the old.

Within a few years, however, a new spirit has sprung up amongst us. There is a Young England in art as in politics, and it seeks to enlighten the gloom of the present day by invoking on it the spirit of the past. It hallows things old *because* they are old, and by that feeling throws around them a protection which has arrested their progress of decay, and may preserve them yet for centuries. It painfully investigates their principles and details, gleans from them their beauties, purifies them from the weeds of the last age, restores what is decayed.

But the architect should do more. With the buildings he should analyze the motives and the habits of those who formed them; and, as the search would surely disclose that the style was altered and modified to keep pace with the onward march of luxury and refinement, a suspicion might arise in his mind that the lapse of centuries since must necessitate a change still further,—that the style and arrangements which suited the fifteenth century must be modified indeed to harmonize with the nineteenth, and that to require the habits to be altered to suit the style would be a thought which the ancient architect would never have conceived,—would be a direct contradiction to his principles and a barrier to all progress.

Yet there can be no denying that the Revival has promoted a current of feeling very far the reverse of this. It says that the ancients were our masters, that all things modern must be cut down to their standard,—that if our habits cannot be adopted they must be altered, and that, in fact, the Protestant of the nineteenth century must have his church and his home built on the same plan, fashioned in the same likeness as the Catholic yeoman of the fifteenth. Let this be well carried out, and it is clear that the chief glory of our modern architects will consist in rearing structures which cannot be distinguished from their prototypes of ages back, and which will assuredly leave the present age a blank, buried by the resurrection of the old.

But let us take a commonplace view of the obstructions which naturally present themselves to these views being carried out. The architect sends his sketches, good specimens, let us imagine, of the late domestic, whose beauty is acknowledged, but whose details at once become the object of fierce dispute. "Those horrid posts (thus are the mullions profanely called) spoil the view of the country, and stop the way to the garden; the rooms *must* be papered, shutters are indispensable, and for the walls—such dreadful thick things make the house look like a dungeon, and waste the ground awfully." And so the mullions are taken out and shutters are put in, and the walls thinned and the chimney-breasts thickened, till the whole resolves itself into modern Gothic. Suppose the architect to have influence and persuasion enough to get his sketches carried out well,—it may last for a time, but assuredly in a few years he will find the march of innovation has reached it, and will have the satisfaction of seeing his mullions and his iron-work removed, French casements adopted in their places, and, perhaps, a "neat, light

* As our readers are aware, we differ somewhat from our correspondent on this.

Gothic" cast-iron verandah and conservatory added, by way of finish.

With a church it is worse. Who is not aware of the struggles that always happen between the architect, who looks only to his building, and the churchwarden, who looks only to the congregation it must hold; who finds, perhaps, that the thick piers, copied from a Romish church where the view is unimportant, will prevent one-half the congregation seeing the preacher, whose desk will prevent the other half seeing the altar, and that the long windows admit no galleries for those hundreds which the body of the church refuses to hold?

And are the objections of the owner of the mansion, the guardian of the church, unreasonable? That cannot be said; they are good *bonâ fide* objections, founded on the requirements of the building and the convenience of its habitants.

Yet with all this there must be no change,—the style must be preserved. It is the bed of Procrustes—all must be cut to its length. The motto is still "no change," and all things modern must be looked on as things heretical. Was this the feeling of those ancestors whose works, not spirit, we copy? If so, what name can be too vile, what detestation too strong for those who rashly dared to add to the early English the decorated tracery of York,—to cover the Hall of Rufus with the roof of a later age,—to rear the late towers of Canterbury when the Norman stood erect before them?

This rigid observance of all forms sanctioned by time,—this disavowal of all things of modern growth, would seem to indicate that present manners afford no elements of form worthy to last,—no characters which can be worthily carved upon its buildings. I humbly submit that the experiment has not been tried, and that the forms suggested by our Protestant service, by our altered habits, have been put aside, not because the forms themselves are bad, but because it is easier to follow in a track than to make one,—to copy than to invent,—to say that modern wants are frivolous than to work them into a style.

A church with galleries, an unmullioned window, are things heretical,—our ancestors saw them not. No; but all things with them still shewed the march of time; they made no merit of blindly following others, were no mere copyists of centuries before them, eschewed not things new because they were new, but fitted them well to their purpose. And the Norman castle was altered to the English hall; the Norman masonry, more ponderous than secure, gave place to the thinner wall and the elegant buttress; the pointed arches, formed for the church, but intractable in the mansion, were lowered to the four-centred and the meagre vaulting of the early roof expanded, in a more luxurious age, to the fan.

Little did the bold Wykeham think, as he newly modelled Winchester, that he was to be looked up to as a leader and a warrant by those who would forbid all change, and would limit all the requirements of art, and luxury, and convenience, to the standard of times gone by.

Wykeham and his ancestors built as Catholics. With the churches open every day, altars at the sides as well as the end, services as often performed there as at the high altar; a sermon, perhaps, but on state occasions, and the whole area of the church seldom required for one congregation; the bold columnar piers were useful auxiliaries to the architect whilst they were no obstruction to the priest. Compare this with our present wants, when, often, but one day is set apart for public devotion, when every one on that day has but one altar to see, one priest to hear.

I have seen nearly all that ancient art has created in Europe, and no one could be a more ardent admirer of those monuments of skill than I am, no one could more devoutly wish to see them faithfully preserved and their spirit truly followed. But I do most sincerely believe that the practice which, with them, produced the forms we venerate, was, *in toto*, different from ours. I believe, that when they planned a work they sought, beyond all, that it should befit its end; that it took its plan, its outline, and its details from the requirements of its purpose, and from them almost alone, and that that purpose was not marred because its necessities might suggest a change, a necessary feature rejected because it might be new. And, as the requirements of each successive age did produce this necessity for a change, so surely did each age stamp a lasting mark upon each edifice.

The passion of the day is for novelty. There is a cry throughout all Europe for new styles, and the words of Professor Donaldson are true, "that so great is the variety of styles demanded by the public taste, that it is essential to the architect and the builder to be masters of all." The Greek, the Byzantine, the Saracen, the Egyptian, each has his representative in modern times. But the Greek builds no temple, the Saracen no mosque, the Egyptian no tomb. The works of each are painfully adapted and enervated to suit the requirements of an age and country whose clime, and habits, and customs, are different from theirs; and the result is, that we have the modern palace of King Otho at Athens, Gartner's University at Munich, the Westminster Hospital at London, the Custom-house at Liverpool. Many a large factory at Manchester, with its long rows of honest windows, and one large simple cornice crowning its immense front, has more majesty than the palace, more grandeur than the university, more propriety than the hospital.

I know it will be said, that a national style is a thing much talked of but never seen—a thing whereof the glimpses are distant—all trial to reach it hopeless. Do they who say so think that we expect it should start up at once, a new Minerva, fully accoutred and adorned? Look at the progress of any style—the slow growth of the Italian, as an instance—you may trace back the germ of its forms and its details to the very time of Narses, when the still existing churches of Ravenna took the forms all since have followed,—you will see, as succeeding centuries come on, the brick campanili of Rome arise in their picturesque outline—the mediæval buildings of Venice and Sienna give the well-marked features of the Italian palace;—mark these features, made majestic indeed at Florence, and at last see the whole combined and heightened, and almost perfected by Brunelleschi, who left it as it was found by Bramante and Michael-angelo. Or analyze the art's progress in our own country, and see how long the distance from the rude early Norman to the finished elegance of the perpendicular. I have no hope, scarcely a wish, to see a general rush towards a sudden forming of some new style. I look upon it as a thing *to be*, but a thing which requires time for its development, and which time alone can develop well.

It is not each era that can boast a Brunelleschi; and a mind like his, whose powers can take centuries in their grasp, and give form to what was before unshapen,—must first arise to reject what is bad, to arrange and purify the good. Till then we can hope for no absolute and perfect change. But even such a mind must have materials to work with,—seed must be sown, and I do hope that among the young aspirants in the profession, many will be found who will dare to use those original ideas which the common practice of their profession suggests, and thus produce, however scantily, the first germs of future style. That this present age does not contain materials for it I utterly deny. We are advancing onward in power as a nation, because its several members are progressing in knowledge and activity; this small island of ours contains works erected in our day, of which, in magnitude, and cost, and speed of erection, scarce another spot of earth, at any time in history, could send forth the equals.

Let it not be said that industry had extinguished art, or leave the fame of England for originality and boldness in the nineteenth century solely in the hands of the mechanic and engineer.

H. L. T.

Covent Garden Opera House. — A considerable improvement is being made in the Italian Opera House, Covent Garden, for the accommodation of the public in the ensuing season. The second amphitheatre and gallery, formerly separate stories, are being thrown into one general incline, and, by an extension backwards beyond the present external wall, will be made capable of containing 600 persons.

BRITISH INSTITUTION FOR PROMOTING THE FINE ARTS.

The exhibition of this gallery evinces, on each succeeding anniversary, the growing disregard of the artists generally. Where are the names that formerly illuminated the pages of the catalogue? where the pictures to which these names were attached? The artists feel no interest in the exhibition, being well aware that the most meritorious works are likely to be overlooked for the perpetrations of some who adhere to certain *private* regulations. The figure painter more especially becomes the victim of ignorance and party interest. This fact being established, none but the favoured parties, and some few innocent and confiding members of the profession, venture to expose the fruits of their labour to the certainty of either being rejected or hung out of sight.

Mr. Stanfield's "Saw-mill at Saardam" (129), varies very much from his usual style, but, nevertheless, has extraordinary excellence.——Mr. Cooper's "River Scene" (120), is a truly beautiful production of its class, forcibly reminding one of Cuyp.——Mr. Ansdell's two forcible pictures must attract the attention of every one, both by their size and fine quality. The heads of the horse and stag in "The Bogged Pony" (18) are beautifully drawn and painted. The second entitled the "Wounded Hound" (440), is carefully manipulated throughout, and, in the animals, wonderfully characteristic.—— Mr. Lance's miracles of imitations meet with their due appreciation. He has two pictures of his fruits and vegetables, and also another, figure picture, entitled "Industrious Amusement" (224), in which, as usual with artists of his wonderful mechanical ability, he is less successful.——Mr. Danby has two small productions, a landscape twilight—"Death and the old Man" (12), and "A Calm after a heavy Gale:" these have all the peculiarities of the painter, more especially the latter, and are rather inexplicable as far as regards effect: the sky, in the marine subject, is exquisite.

Mr. Uwins exhibits one small picture, entitled "Suspicion;" the female figure is possessed of much sweetness and truth,—she seems wholly absorbed by the sounds of the minstrel's harp, and in strong contrast to the suspicious expression of the aged nun watching over her.——E. A. Goodall has two architectural subjects—"Interior of the Abbey of St. George de Bocherville, Normandy" (35) and "Pilgrims waiting to be received into the Domus Hospitium at Canterbury (154), painted in the usual style of this artist, careful drawn, but rather too conventional in general treatment. —— The four contributions of Goodall are small, and perhaps less carefully drawn than usual, the first one (3) original in thought and cleanly painted; there is a certain conventionality of colour about the works of this artist, a repetition of peculiar tints throughout all his pictures, which becomes rather tiresome, and should be guarded against. The "Irish Piper" (84), and the "Halt at the Well," are, to our taste, the best of the four. The figure of the Piper is exquisite to a degree—more careful drawing about the female figure standing, and the children is desirable.

"The Last Gleam before the Storm" (49), J. Linnell, abounds in excellencies of first-rate order. Parts could not be surpassed; the brilliancy of light of the white clouds is beautifully characteristic; and the foreground seems positively to invite you to dig a spade in its loamy soil: Mr. Linnell's fault is that he attempts too much.——"A Highland Lake" (69), F. R. Lee. A sombre, though interesting subject; a contrast to any thing we can remember associated with this well-known name: it is a narrow escape from being sublime.——A frost scene, by Branwhiti, called "The Bird-trap" (258), will attract no little attention for its truth.——A similar subject by E. Heldebrandt, is extremely clever, being full of colour, yet perfectly in keeping with the intended effect. We are rather inclined to doubt the possibility of the colour of the snow in the foreground under the influence of such a sky.——J. Inskipp has four of his usual brunette beauties, of the usual standard of excellence too well known to need eulogium.——We have unintentionally omitted to mention Sir George Hayter, who, though so seldom exhibiting, has no less than three contributions. The large

and first of these, "Moving the Address to the Crown on opening the first Reformed Parliament in the old House of Commons, on the 5th of February, 1833" (416), is most interesting, as containing the portraits of so many men of reputation, many of whom have joined their forefathers. Let the young painter look on this, if merely to take a lesson from its manifest patient labour and determination. The picture, however, is too well known to require comment. The next to be observed is "Joseph interpreting the Dreams of the Butler and Baker," which shews great power, but, at the same time, a kind of inability to make the best use of it. The treatment is original, and the expression of the three heads precludes any necessity of explanation.

Mr. O'Neil's three small half-length figures are painted in his usual manner, excepting, perhaps, "The Morning Walk" (48), which is admirable for its unassuming character, by its delicate handling and remarkably clear painting. It bears beside a striking resemblance to the fair Fornarina, from whom it was painted. —— "Isabella" (110), is also an agreeably painted picture, but wanting in drawing.——Mr. Watts' two Florentine-looking productions have pretensions of the highest class: the best of these beautiful works is—"Paolo and Francesca" (82); there is a grandeur about it seldom attained in this age, and a beautiful subdued effect that gives double value to exquisite drawing, evidently the chief aim. This is a dangerous track to follow in, and therefore seldom attempted, more especially as the slightest imitation becomes decided plagiarism. The other, Orlando pursuing the "Fata Morgana" (95), is also of first-rate character.——The "Senate Scene" from *Othello*, by Gilbert (141), is remarkable for the successful manner in which he has managed to arrange the senators, and the peculiarly warm Tintoretto-like tone pervading the whole picture, which subdues and softens the whole; the principal foreground figures want truth, being obviously painted without life. ——"Snowdon," from near Tremadoc, North Wales (183), T. Danby. A picture remarkable for its mellowness and careful execution, and decidedly one of the best works in the exhibition.——Mr. Cooke has several marine subjects, distinguished by his usual hard, clear outline, minuteness of detail, and clean execution; one of the best is "A Zuyder Zee Botta working off a Sand-bank" (54). ——"The Village Forge," by Brandard (205), is a very clever interior.——Holland has two Venetian sketches, beautiful in colour as usual, (19) "The Greek Church," and (27) "A Canal Scene."——Creswick has two or three pictures of standard excellence, the best of which is "A Glade in merrie Sherwood" (137). ——"The Captive," by W. Fisher (312), is full of artistic beauty, the story well told.——"Truth," by Le Jeune (402), another sweetly coloured composition; there seems to be, however, a want of drawing about the head.——Mr. Linton exhibits his usual breadth and freedom of finished execution, added to a truth and force of colour in conjunction with his peculiar style. His most successful picture is "The Palace of Ogni Anna, Capri in the distance, Bay of Naples" (394), particularly fresh in general tint and clear effect. "Flint Castle" (53), "A Scene in the New Forest" (100), and "Chiozza, an inland Town near the Mouth of the Po," are all capital examples of his style.

Amongst the many landscapes there are some that call for attention by Pyne, Percy, Williams, Cobbett, Wilson, Pitman, Bright, Johnson, &c.; as also a sweet little bit by Alexander Johnson, a clever picture by Marshall (deserving a better place), and another by Brooks. J.

New National Gallery.—A committee of the House of Commons has been appointed to consider the best mode of providing additional room for works of art given or purchased for the public. It consists of Lord John Russell, Sir Robert Peel, Mr. Hume, Viscount Morpeth, Mr. Goulburn, Mr. Baring Wall, Mr. Charteris, the Earl of Lincoln, Sir Benjamin Hall, the Marquis of Granby, Mr. Parker, Mr. Wakley, Mr. D'Israeli, Mr. Vernon Smith, and Mr. Banks.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

On Monday, the 7th inst., Mr. Angell, V.P., in the chair, a long list of important donations were announced, including Canina's work on ancient Etruria (an able exposition of the antiquities of that country, dating from one thousand years before Christ), which was sent in the name of the Queen of Sardinia; also eleven volumes of Herr Förster's "Architectural Journal," published at Vienna (the *Bauzeitung*), with folios of plates—a noble present, and Mr. Sharpe's fine work, "Architectural Parallels," which gives, in an admirable manner, all the principal abbey churches erected in the twelfth and thirteenth centuries.

The foreign secretary, in commenting on the presents received, said, in respect of the latter work, that a glance through it shewed that in two hundred and fifty years we had done more than Greece.

Several parts of the "Antiquities of Scotland," by R. W. Billings and William Burn, were also presented (a work which is increasing in interest), and Mr. Wright forwarded a series of careful drawings, illustrative of the ceiling of Carpenters' Hall, London-wall.

Herr Lange, at Fulda, and Herr Offermann, of Mayence, were elected corresponding members; Mr. Garling was elected fellow, and Mr. R. Warton an associate.

Mr. G. L. Taylor then read "Some Observations on Gas Works, and the details of the manufacture of gas, with the view of shewing that it is capable of being rendered so pure as to be introduced beneficially throughout houses, manufactories, and public buildings."

In reply to an inquiry on the part of the lecturer, Mr. Burn said when he resided in Edinburgh, although he had twice as many burners as he now has in London, and paid more per quantity for the gas (viz., 9s. per 1,000 cubic feet), the cost to him was only half what it is here, resulting from the greater illuminating power of the gas, which was made from cannel coal.

Allusion being made to the destruction of the book-bindings in the Athenæum Club by the bad London gas, Mr. Burn said it must not be supposed that the gas in Scotland was perfect: in the new club-house at Edinburgh all the books and leather furniture had been destroyed in the same way.

Mr. Palmer, the engineer to the Western Gas Company, who assisted Mr. Taylor in explaining the process to be employed in their new works (the purpose of the paper), shewed the importance of perfect purification, and its practicability.

A building, 166 feet in diameter, at Kensalgreen, incloses the whole of the works. Cannel coal is to be used, and if the gas be sold at 6s. per 1,000 cubic feet, the cost to the public would not be more than if they paid 4s. per 1,000 feet for the gas they are now using. According to Mr. Taylor, however, the new company have no intention of selling it so low as this,—the more silly they.

The next meeting will be held on the 21st, when a paper will be read "On some of the Geometrical Lines and Optical Corrections of the Greek Architects:" by Mr. Penrose.

Ancient Pulpit at Sudbury.—A carved oak pulpit has been brought to light in the church of All Saints, Sudbury. The *Essex Standard* says—This pulpit is octagon, of the perpendicular style, beautifully proportioned, richly carved in the higher parts of the panels, and terminating in a single pedestal, which is now made to rest upon an octagon stone plinth. The latest date which can be assigned to it is the early part of Henry VII.'s reign—the date of the church, if we except the northern arch of the church, which is as old as the reign of Edward IV. A staircase, slightly winding, has been attached to the south side of the pulpit, open at the treads, and carved in front, in keeping with the original design. The work of restoration in this instance has been effected by Mr. Ringham, of Ipswich. Pulpits of this description are exceedingly rare; the only one, we are informed, in these counties which may be compared with this is that in Southwold Church, which, if it should yield to it in antiquity and elegance, is even more elaborately carved.

FAILURE AT THE EUSTON-SQUARE STATION.

Sir,—I am much surprised to find that in the inquiry into the cause of the failure at the Euston station, no notice was taken of the expansive power of cement! In filling in the core of the columns (more particularly as they were worked brick on edge), the stretching or bat course, I have no doubt, was fractured. This, in ordinary cases, would be of little consequence, but where an extensive loading was brought upon them, mischief was likely to arise.

In casting ornaments in cement, the moulds expand; or where a cast-iron mould was prepared for a larger beam, it burst. Some years since I was requested to examine the failure in parts of cement stucco, the scotia always remaining sound, while the torus as uniformly failed; this, of course, wholly arises from the expansion just previous to setting.—I am, Sir, &c.,

Great Ormond-street. Robt. Sibley.

Another correspondent writes,—

"The proper way to carry up columns in cement would be to cut one course round, and then gauge no more cement and sand than would lay the same; instead of which, work being now so hurried, the men mix up a quantity, and not being able to use it all before it sets, the labourers water and work it about till it is of no more use than the dirt in the street. Quantity, not quality is now looked for: nearly all brickwork of late years being covered with compo, it is cared little by any one how it is done."

A third writes,—

"The public should be told that in building brick columns or pillars there should always be occasional *bond stones* introduced, the whole circumference of the column or size of the pillar. A drawing to scale of a column, shewing the bricks whether flat or on edge, convinces one of the difficulty of obtaining that tie and bond which are considered the *soul* (if I may use the expression) of sound brickwork.

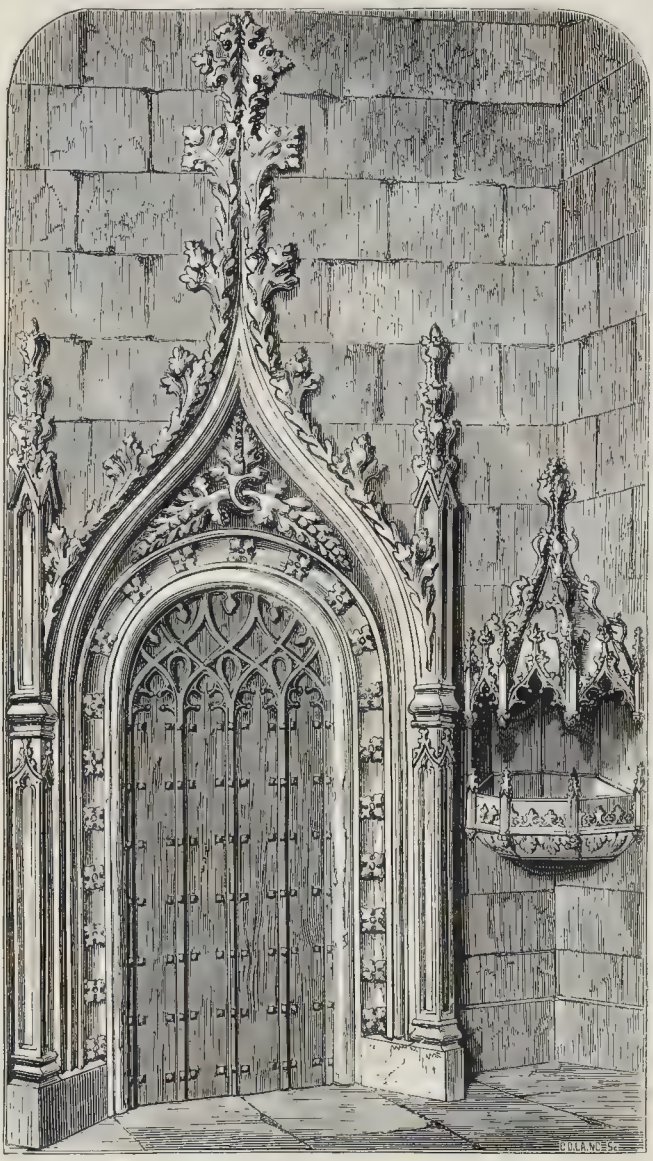
And a fourth,—

"No one says what will prevent a repetition under similar circumstances,—that is, in a bad season and requiring haste. Permit me, therefore, to suggest that the works may now be done with dispatch by observing the following precautions. Keep the scaffolding clear of the columns. At about 10 feet high connect the back and front columns by an iron cramp, 1½ × ¾, turned down into the centre of each column with 2½ caulking, to be cut out by a hack saw when required for the plasterer. As soon as the landings forming the architrave have sufficient weight of brickwork over them to stand against a pair of wedges, put transverse templets top and bottom, and temporary story-posts in the 7 feet openings on the wall, not the pedestals, whole timber 12 × 12; the axis of the story posts being vertically under the axis of the superincumbent wall. If the openings are required to be kept clear, split the story posts, placing the two halves as near the columns as circumstances suggest. Tighten the wedges just sufficient to keep the posts from falling, but not to lift the landing off its bed on the columns, and strike them carefully when requisite to allow the plasterers to proceed.

Double scaffold for the wall above the columns, or do not let any ladders be placed against the centre of the scaffolding, if inserted in the wall, but at the extremities of the 60 feet, and as nearly opposite a cross wall as possible; the rocking occasioned by the spring of a ladder acting on the scaffolding in the centre of such a building as this would be very liable to do serious injury, if it did not throw it down. A Superintendent.

A new White Paint is said to have been discovered by a Mr. Forrest, who intimates that it is neither based on lead, zinc, nor iron, but that it is nevertheless based on a metal. Probably antimony or bismuth bid fair for the honour to which neither zinc nor iron may aspire. A really good substitute for lead would certainly in many cases be a valuable desideratum.

CLEEVE COURT: ANCIENT DOORWAY AND STOUP.



ANCIENT DOORWAY AND STOUP,

FORMERLY AT THE
CHAPEL OF COURT DE WYCK.

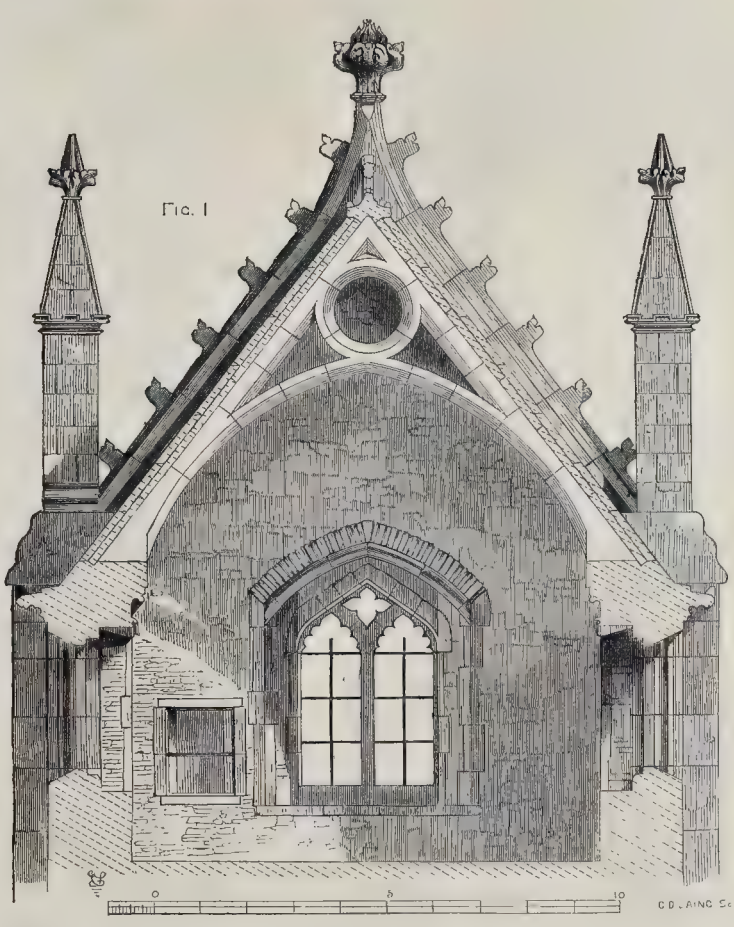
These interesting relics, formerly belonging to a domestic chapel attached to the residence of the ancient family of De Wyck, now form the entrance, protected by an exterior porch, of Cleeve Court, the mansion of the Rev. J. S. Biddulph. The execution of both the doorway and holy-water basin is extremely good, especially that of the latter, which is a rich specimen of late decorated work: there is an appearance of foreign style about the architecture of the doorway, which is an extremely elegant composition.

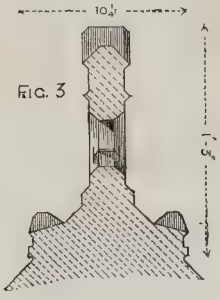
In the title-page of John Rutter's delineations of part of Somersetshire, there is a very correct representation of the doorway, drawn by the Rev. J. S. Biddulph; from this small volume the following account of the old chapel and mansion is extracted:—The ancient residence "of Court de Wyck, is so named from the family of De Wyck, its ancient founders and possessors, who obtained their name from their early settlement at Wyck St. Laurence. The ruins were extensive till very lately; a few aged yews and elms alone remained of a noble avenue of trees which led to a large gateway, formed by two Doric columns, on which were the arms of Paulett and Popham impaled, opening to the grand court; on the left of it, towards the garden, stood the great hall; beyond, on the same side, were ruins of the great parlour, with its ancient chimney-piece and its compartments of grotesque figures and scrolls. The chapel occupied the south-west angle of the court, the entrance to which was beneath a deep-pointed arch, and in the porch was the receptacle for consecrated water; the chapel was small, and had only one large and lofty window to light it from the court; over the entrance was a small apartment with a window looking into the chapel, for the purpose of hearing mass; on the north side was a gallery, and beneath it, in the wall, was an elliptic arch, on the back of which were the arms of Newton, impaled with a lion rampant, billetted, and at the north corner the arms of Chedder.

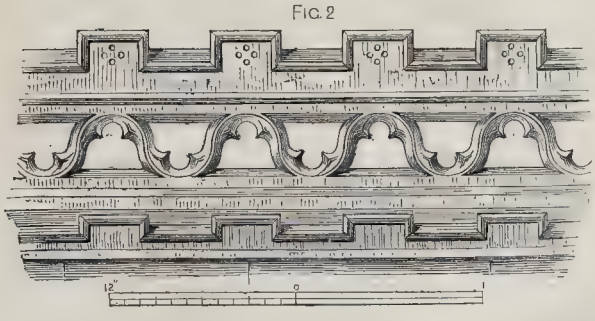
On this structure stood a small, quadrangular, open turret, which formerly contained a

LEVERINGTON CHURCH, SOMERSET.

STONE ROOF OF PARVISE.







bell: in the court was the foundation of a cross; and a little to the west stood a much older and more massive one, called Stallings Cross. On the 15th of October, 1333, this mansion was the scene of great festivity, in consequence of Agnes, the daughter of John de Wyck, being married in this chapel and oratory, by special licence of Ralph, Bishop of Shrewsbury, to Sir Theobald de Gorges, of the adjacent lordship of Wraxhall.

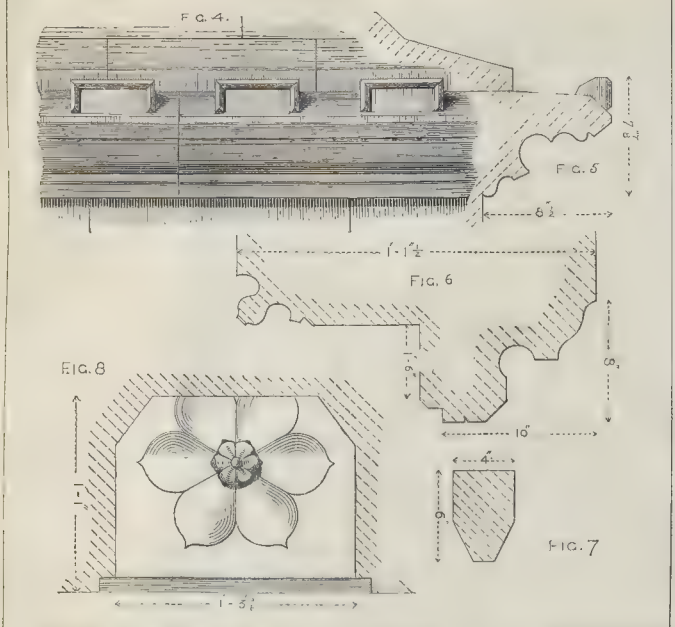
This estate has recently been purchased of the Paulett family, by Stephen Cox, Esq., who has entirely taken down the ancient mansion, and erected a modern edifice near its site—the noble barn alone remaining in its pristine state."

C. J. R.

LEVERINGTON CHURCH.

Leverington is a parish in the hundred of Wisbeach, Isle of Ely, county of Cambridge: population in 1831, 1,700. The church, dedicated to St. Leonard, stands in the village, two miles N.W. of Wisbeach, near an ancient Roman embankment or fosse-way, whence its

DETAILS,—LEVERINGTON CHURCH.



appearance is eminently picturesque and pleasing; it consists of a nave 95 feet long, and 23 feet 4 inches wide, with a tower at the west end, open to the nave, surmounted by a lofty spire; north and south aisles 16 feet 8 inches, and 17 feet wide respectively; a south porch; a chancel, 44 feet 10 inches in length, and 17 feet 7 inches in width: the south side, divided by three arches from a chapel 30 feet by 20 feet. The style is principally early decorated, with later insertions and additions; there are some remains of stained glass, and the font is highly ornamented and deserving attention. A large number of masons' marks, of two distinct kinds, are to be seen in various parts of the church, one bearing a strong resemblance to an axe or tomahawk, the other a complicated figure of straight lines.

In 1844-5, the church underwent extensive repairs: the south aisle and south side of the nave were rebuilt, some ugly incumbrances in the interior removed, several windows reopened and repaired, a new floor laid down, and the old pews swept away, and replaced by new in better taste, the doors and bench ends being of oak with carved poppy-heads. The total expenditure amounted to about 1,830*l.*, upwards of 1,000*l.* having been raised by rates. The rector, the Rev. J. H. Sparke, in addition to his contribution of 500*l.*, inserted a new east window in the chancel. The contractors for rebuilding the south side of the nave and the south aisle, &c., were Messrs. Royce and Co., of Peterborough; Mr. L. Tomson, of Wisbeach, contracted for the repewing; and to Mr. Swansborough, of the latter place, were intrusted the restoration of a fine decorated window in the chapel, and also the repair of the beautiful south porch.

This porch is lighted by four windows, and has a groined ceiling with sculptured bosses; over this is a parvise, which furnishes the subject of the accompanying illustrations. It is 14 feet 4 inches in length, and 10 feet 1 inch in width. The covering is supported by six arched ribs of stone, placed 2 feet 1 inch apart, and spanning 9 feet 5 inches. Near the south window is a piscina, with a rebate cut in the stonework around it: the shelf has disappeared. The ridge ornament has a light and beautiful effect, and is in a very perfect state,—an instance of the durability of the Barnack rag, which has been most extensively used in this and adjoining counties from a very early period; and to this circumstance may be attributed the excellent preservation in which most of the churches of this neighbourhood are found,—the tool-marks being still visible in many parts, even in exposed situations. E. S.

Reference.

Fig. 1.—Section of parvise looking south.
2.—Elevation of perforated stone ridge ornament.
3.—Section of ditto.
4.—Elevation of external cornice.
5.—Section of ditto.
6.—Section of south window arch.
7.—Section of stone rib.
8.—Horizontal section of piscina.

FREEMASONS OF THE CHURCH.

Feb. 8.—Sir Walter James, Bart., in the chair. The chairman read an elaborate and able address "On the Nature of Beauty and Province of Taste in the Fine Arts," reviewing the various theories which have been propounded, and offering his own ideas on the subject.

Mr. J. W. Archer exhibited a rubbing from an incised stone discovered in the foundation at the south-west angle of the tower of St. Pancras Church, Somers-town. According to tradition, a church was founded upon this spot at an early period after the introduction of Christianity; and the same indefinite authority rumours that the original edifice was built upon the site of a Roman temple, dedicated to Pan. The more authentic evidence of "Doomsday Book" indicates a church existing there at the time of its compilation; and it is further recorded, that William de Belmeis gave the tythes of its manor, containing four hides of land, and yielding a rent of 20*d.*, to the canons of St. Paul's, which conveyance was confirmed by Bishop Gilbert in 1133.

The edifice is at present undergoing the process of enlargement, for which purpose the tower has been taken down, and that part of the church being comparatively recent, it may be supposed that the stone in question obtained its place in the foundation at the time of the erection.

The discoverers of this stone supposed it to be the foundation-stone of the building; but on examining it the exhibitor was led to conceive that it was the altar-stone of the old church, from the circumstance that it is decorated in the usual manner of ancient Christian altars, viz., with five crosses,—one large cross in the centre and four of smaller dimensions at the corners,—these being typical of the five wounds of our Lord.

From the crosses not being Gothic, but having circular ends, this stone may be considered a relic of the Norman building, and it seems contemporary with some other fragments which have appeared among the masonry belonging to the Norman period, especially the key-stone of a semicircular arch, with torus moulding, which, from its situation, seems to have belonged to the south porch.

Some fine moulding of the early English character has likewise appeared, and, as if it were in dim allusion to the traditionary edifice dedicated to the deity Pan, a Roman tile, 10 inches in length, but fractured in the breadth, was found among the masonry, seeming to shew itself in order that the old church, while producing the progressive evidences of its antiquity, might not lack a vestige of its earliest period, although but in the manner of a brick, to shew how Rome was constructed.

The same gentleman also exhibited a rubbing from a monumental brass of his design and execution, intended to be placed in the family chapel at Landwade, in Cambridgeshire, to which we shall allude more at length next week. The chapel is an appendage to the fine old manor-house of the family of Cotton, now in process of restoration. The chapel was rebuilt by Walter Cotton, Esq., who died in 1445, and contains numerous tombs of the family from an early period.

Mr. Stothard then read a paper "On the Hypocaust and Roman remains recently discovered in Thames-street," concerning which our readers are already informed. The paper was fully illustrated by several views, and led to an interesting discussion. Hopes were expressed that the investigations would be continued, and that the remains discovered would be carefully preserved.

PRODUCTION OF BEAUTIFUL FORMS.

At a meeting of the Society of Arts, on the 26th ult., a letter from Mr. John Dwyer was read, in which he stated that, as the society was investigating the forms of ancient pottery, he begged to present for its acceptance a series of sketches, believing that they might prove of some utility in assisting its researches.

Having observed (he says), that ancient art generally originated through the imitation of natural objects, he was led to infer, as highly probable, that the beautiful outlines of Greek vases emanated from the forms of leaves and fruits (as before illustrated in The Builder). The second communication read was from Mr. W. P. Griffith, and accompanied a copy of his work on the Natural System of Architecture. The writer alluded to the work as pointing out the geometrical proportions of the temples of Greece, and as calling attention to the applicability of geometrical design to domestic architecture, and its also affording a ready means of obtaining beautiful patterns for oil-cloths, carpets, &c.

The author then proceeded to point out the improbability of the ancient Greek vases being constructed on any other than pure geometrical principles, as is proved by analysis, and concluded by alluding to the mistaken, but very prevalent notion, that to produce a beautiful building, it is necessary to overload it with meretricious ornament; instead of feeling that the more simple very often the more beautiful the design.

Mr. Varley pointed out a mode which might be used for producing agreeable forms, such as the bodies of the cups exhibited, viz., by taking one quarter of a hyperbola, parabola, or ellipse, according to the outline desired; and by rotating it on its axis at any given angle, it would be made to produce the figure desired; similar simple methods for obtaining the necks and stands for vases were also described.

The secretary, in the course of some remarks on the forms of vases, pointed out the following as ready and simple methods of describing the conic section of the parabola, hyperbola, and the ellipse, as applicable to designs for vases and pottery.

To describe the conic section of the parabola, he would first draw a circle of any given diameter, and under it a horizontal base line, from which a vertical line should be made to rise through the diameter of the circle. All that is then required to describe the parabola is, that a line equidistant in all its parts, between the circle and the horizontal base line on each side of the vertical base line should be described, when the parabola is obtained. For flat cups, such as the tazzas, he would describe the hyperbola which might be considered as bearing the relative proportions of two parts of a straight line to one of a circle, and is described in the following manner, viz:—by drawing a circle of the required diameter, and under it a base line; a vertical is then to be raised through the centre of the circle, after which, if a line be drawn at the distance of one-third from the base line, and two-thirds from the circle, the figure required is produced.

Elliptic figures are described in a similar manner, but bear a directly inverse ratio to the hyperbola. These simple methods of describing geometric figures, he considers must have been known to the ancients, as he has no doubt that the Greeks did apply the formation of the conic section to the structure of their pottery.

NOTES IN THE PROVINCES.

An obelisk, 64 feet high, has been erected as a monument to Newton by the Rev. Charles Turnor, in the parish of Stoke Rochford, Lincolnshire.——A new stained window for Ely Cathedral, the third donation of the Rev. E. B. Sparke, is about to be put in. It has been executed by a continental house.——A Corn Exchange, Post-office, Savings' Bank, and public Reading-room, in one design, are to be erected at Saffron Walden.——The works of the new steam basin at Portsmouth were lately in such imminent peril of destruction by an unusually high tide, that intimation was telegraphed to the Admiralty. The immense weight, however, was safely withstood.——A stained-glass window, by Messrs. Pemberton, of Newhall-hill, has been erected in the chapel of Queen's College, Birmingham. The design was provided by Mr. Brooke Smith, of the School of Design. The chapel is to be enlarged.——A writer in the *Liverpool Journal* reprehends the grotesque ornaments on Mr. Horsfall's new church in Great Homer-street as an imitation, in the Chinese tailor style, of what he calls the "patches of architecture" displayed in the "strange fancies of the artists of bygone ages." The builder, he remarks, "has been lavish in this kind of dubious sculpture."——The enlargement of Christ Church, Salford, is now completed, minus the painting. Mr. Shellard, the architect, has thus provided 430 additional sittings by the addition of a chancel 18 feet long and another pillar. Light has been introduced over the communion table entirely from the roof.——The Bradford workhouse is threatened to be remorselessly undermined by coal workings, unless 200*l.* be paid down directly to prevent the risk of its destruction; but the threat appears to have accidentally revealed the fact, that both the ground and the minerals beneath its surface belong to the workhouse itself! So that the biter is likely to be bit, if it be true that he has thus unwarily caught a tartar.

CAEN STONE.

Sir,—In your last report of the proceedings at the Royal Institute of Architects, you furnished a copy of a paper read "On Caen, its quarries and buildings."

Without offering any observations upon the material used in the buildings at Caen, though acquainted with the locality, we conclude that information respecting the properties and varieties of the Caen stone, which forms the basis of the paper referred to, will not be unacceptable.

The stone from the quarries at Ranville, which is first mentioned, has been used to a great extent in the public works at Honfleur, Havre, Fecamp, St. Valery, Dieppe, and Treport, also in the works at the mouth of the river at Caen. The hard, or dog bed, is considered very durable: about 70 tons of this stone, with a few blocks of the white bed (which is of softer quality), have lately been landed at Dover for the Government works under the direction of Messrs. Walker and Burgess, and a further quantity of about 1,000 tons is in course of delivery.

With reference to the quarries at Allemagne, it does not appear that they were worked to any extent until about the year 1808; the stone formerly sent to this country is known to have been much laminated, and of a harder texture. A stone called colombelle was formerly shipped in considerable quantities; it is considered very durable, and the blocks, on being sounded, ring like copper. We have directed the shipment of a cargo of this stone.

In the selection of Allemagne stone an experienced mason will decide, after a very short examination, though he may have no knowledge of the peculiar beds from which it is obtained, and the more free the stone is from the humidity of the quarry, the less difficulty will he feel in deciding upon the quality. If, however, an opinion should prevail that "the most experienced eye can hardly detect the quality of the stone in the block when once it has been removed from the quarry," it does not say much for practical experience, and some other method should be proposed to make the selection generally satisfactory.

We export considerable quantities every summer, and are, Sir, yours, &c.,

W. AND J. FREEMAN.

Millbank-street.

SEWERAGE OF BRISTOL.

INSTITUTION OF CIVIL ENGINEERS.

At a meeting on February 8th, 1848, Mr. Joshua Field, president, in the chair, the paper read was "An Account of the recent Improvements in the Drainage and Sewerage of Bristol," by Mr. James Green. From this account it appeared that for many years past great reformation had been requisite in the sewerage of Bristol, and more especially in the localities adjacent to the course of the river Froome, whose channel had become a large cesspool, spreading miasma and disease all around. This river formerly emptied itself in the river Avon in the city, and then all that was brought down by the stream was carried away by the tide; but when to form the floating harbour the old course of the Avon was dammed across by lock-gates, and a new cut was made for carrying off the contents of the sewers emptying themselves into the Froome, a nuisance of the most serious character was created, and the bed of the river became permanently affected. Mr. Mylne some years since constructed a lateral culvert from the embrochure of the Froome debouching in the new cut—this did partial good; but still the general state of the river remained unimproved, and in deference to the universal demand for sanitary reform, the authorities of Bristol employed Mr. Green to devise and execute plans for the improvement of the sewerage of the part of the city most demanding it. He laid out comprehensive plans, but the estimate of their cost exceeded the funds at the disposal of the council, so he modified them, and the result, it was said, had proved successful.

The proceedings were to bring the channel of the river into a uniform width, by building side walls, with gutters in the upper slopes; conveying the sewage into the stream, obliterating the shoals and cleaning up the bed, thus bringing it to a uniform inclination, removing the obstructions caused by the pier of the Castle Millstreet bridge, lowering the height and extending the length of the weir at the castle moat, with new flood-gates, &c., deepening the bed of the upper part of the stream, and thus making convenient arrangements for regularly cleaning out and flushing the channel, and passing off the products through Mylne's culvert into the new cut, whence it was conveyed away by the tide. The expense was 4,537*l.*

At a meeting on the 15th a discussion of the paper was commenced, but no new matter was brought forward. Some strong remarks were made against statements put forth by the Sanitary Commission.

METROPOLITAN COMMISSION OF SEWERS.

A meeting of the Metropolitan Commissioners of sewers was held on Thursday, the 10th instant, Lord Morpeth, M.P., in the chair.

The clerk read a recommendation from the General Purposes Committee, to the effect that an inquiry and report be made out as to the alterations necessary in the mode of conducting labour in the sewers under their jurisdiction, so as to diminish its injurious tendency.—Mr. Chadwick, in moving that the recommendation of the committee be adopted, said it was the duty of that court to take all possible care against any injurious effects being experienced by the labourers engaged in cleansing their sewers. It had been said from time to time that the work done by them was not injurious to health, as its effects were not visible, but when they came to compare them with other persons of a similar class not engaged in such employment, the traces of its pernicious effects were soon observed. In fact, many of the men had relinquished the work from their inability longer to continue it. Caution had also been wanting, for lately four men had been severely injured by an explosion of foul air from a sewer,—two of them being conveyed to the hospital, where, he believed, at present one remained.

Dr. Southwood Smith concurred in the recommendation of the committee, and instanced the care at present taken of the men in the police, where, as a matter of economy merely, it was found to work remarkably well. Adopted.

A further resolution of the committee was then read, recommending that proper lamps should be furnished to the men, and that their use should be enforced.—Mr. Leslie said the new lamps in use could not be opened. He regretted to see by that day's papers an account of the explosion of a mine near Birmingham, with all its dreadful consequences of loss of life. They ought by all means to prohibit the use of candles, and, by a stringent rule, discharge any men if the proper lamps were not used.

In reference to the subject of compelling persons to drain their houses into the public sewers, it was recommended by the committee, and agreed, "That no person be charged more than 10s. per foot frontage on laying a drain into any sewer built by a private person, except in squares or other open spaces."

Mr. Chadwick mentioned to the court that the reports of Mr. Austin and Mr. Phillips, as to relieving certain districts, by pumping out the sewage and otherwise, had been received, and he considered the details were highly satisfactory. He wished, however, that they should be printed and submitted for the consideration of each commissioner; and that a special sub-committee, consisting of Sir H. de la Beche, the Dean of Westminster, Mr. Chadwick, and Mr. R. L. Jones should be appointed to examine the plans in detail, and report on the views of amendment set forth therein. The motion was agreed to.

The Hon. F. Byng brought under the notice of the court the horrible state of Lascelles-court, near St. Giles's workhouse, which, he said, for the extent of filth, was really a curiosity in its way, but such a one, he hoped, as would not be allowed long to exist. There was but one cesspool for the use of the whole of the inhabitants, but so offensive was it, that several of them were compelled to decline its use altogether.

A long discussion ensued on this subject, and it was finally resolved that a plan be made of Lascelles-court, with the estimated cost of a water-tank, or of draining the same place to the nearest sewer.

The Dean of Westminster said some facts pertinent to this subject had come to his knowledge. In the precincts of the Dean and Chapter of Westminster, seventeen cesspools had been relieved, and the operation had been performed under the direction of Mr. Glass, the chemist, whose report he now handed in. The deodorising fluid had answered extremely well for the purpose intended, but yet there were several yards of solid residuum that could not be pumped out, consisting of rags, bricks, &c.; and he looked upon the filling in the cesspools altogether as the only real remedy for the evil.—Mr. Leslie said that eleven cesspools were attached to houses belonging to him in Conduit-street; but by filling them in, and laying down a small drain, every purpose was answered, for there was now no complaint whatever.—Dr. Southwood Smith was of opinion that they could not abolish cesspools unless they had an abundant supply of water.—Mr. R. L. Jones said every court and alley in the city of London was supplied with water to a large amount daily; and if a representation was to be made from this court to the Water Companies, insisting upon a good supply of water every day, he had no doubt whatever that it would be attended to.

Lord Morpeth inquired of Mr. Roe, the surveyor, whether there would be any difficulty in using a preparation of quick lime for disinfecting purposes?—Mr. Roe replied that there would not be the slightest difficulty in its use.—Mr. Leslie objected to the use of lime, as it produced sulphuretted hydrogen, and might be attended with the worst

results.—A resolution (with a slight addition to it by Lord Morpeth) was proposed by Mr. R. L. Jones, and carried:—"That a communication be made to the Water Companies, to ascertain how far they are willing to comply with the wish of this court to supply daily the whole of the courts and alleys in this district with water."

Lord Ebrington was sworn in as a Commissioner for Sewers south of the river Thames.

The surveyors then presented a report, shewing—

	Feet.	Cubic yards.
"Length of sewers flushed, and reported to the court	76,926	21,312
"Since then the sewers in 121 streets, courts, and places, have had the deposit flushed away in the Westminster, Surrey and Kent, and Tower Hamlets divisions, being a length of	59,461	9,858
"Total	136,387	31,170

"The cost of flushing this quantity of deposit from sewers has averaged rather less than one-third what it would have cost to raise it to the surface, and cart it away. The cleansing public cesspools and courts and alleys has, according to the directions of the commissioners, been carried on in those situations which appeared to require prompt attention; and both for this purpose, and for flushing the sewers, the various water companies have afforded the most liberal assistance of men and water."

Miscellanea.

Free Admission to Public Monuments.—It seems that the churchwardens of Manchester have lately set an example to other authorities, those at St. Paul's Cathedral especially, by throwing open their fine cathedral at all times, "without restriction," to those who are desirous to examine it. Certainly we do not recollect at Manchester, that species of licensed imposition, in the shape of a dodging verger, met with at almost every other church in England, which is so serious a tax upon all who are interested in examining the fine architectural works of the country. But in appointing an attendant to shew visitors through the building, although our information says "gratuitously," we fear the churchwardens have taken the very means to impose the tax which we may suppose it was their object to guard against. We do not see why the plan, partially carried out at Westminster Abbey, of having attendants perambulating the different parts of the building, and of inscribing the names of the monuments upon cards hung upon the walls in different parts, should not be found sufficient for the protection of the edifice, as it would certainly tend far more to the pleasure and advantage of the visitors. Any thing like the jealousy, and the imposition practised, at York Cathedral, which has not been of the slightest efficacy in preventing the most lamentable catastrophes, where some years since we could not look through an iron gate without being expected to pay for it, where, when we had shown our competency to do what was "handsome," we were hurried through the choir at a pace which made the inspection rather a pain than a pleasure, and where our respectful solicitation to the Dean for permission to examine more completely, was met with a gruff denial,—any thing like this, we say, is to be deprecated; but we should be amongst the first to urge the most careful arrangements for the preservation of structures, which have too often suffered from the spoliation of those whose tastes and pursuits should have led to a different mode of seeking their gratification. For example, at Beverley, where, the last time we were there, we were allowed to wander about in whatever direction it pleased us, although we found the advantage, we could not help noticing many a missing finial and crocket, which we heard, had disappeared at some time little antecedent to our visit. Perfect conservation of the remarkable works of architecture which the country possesses, should be provided for at all times, but perfect freedom of access to them should be demanded as a right, by the people of England. Whether this access is or is not to be had on the continent, we think it quite unnecessary to take into consideration.

Books and Periodicals may be sent by post after the 21st inst., in open covers, by pre-paying, if not exceeding one pound in weight, 6d.; exceeding one pound, and not exceeding two, 1s.; and for every additional pound, an additional 6d.

The State of Henry VIIth's Chapel.—Sir,—My attention was recently engaged by an article which appeared in your magazine a few weeks ago, in which notice was taken of the state of the exterior of Henry VIIth's chapel at Westminster. I had not visited the chapel since the commencement of the external repairs, completed, I think, about fifteen years ago, but interested by the article referred to, and being lately in the neighbourhood of the abbey, I resolved to see for myself how far the judgment of the writer might be borne out by the observations of an attentive (albeit, unscientific) observer. Truly grieved was I to find his remarks agree so truly as they do with the external aspect of this beautiful mausoleum. I do, indeed, believe with the writer, "that unless some means are taken to stay the progress of decay in the exterior stonework of the structure, in twenty years it will be a ruin." Casting our eye upwards from the basis of several of the buttresses on the side nearest St. Margaret's Church, with a favourable light, it will be seen that the whole of the stonework, in three large compartments, is one mass of decay, the surface of it, at least. The features of many of the images are completely effaced, and the fretwork of the windows is in so crumbling a condition that it appears as though the mere pressing a hand over it would remove it entirely. I hope the attention of all who are interested in the preservation of this fine national monument, architects, and particularly gentlemen versant in chemical combinations, will be directed to the subject of this premature decay in stonework. It is highly probable that, with the increased means and improved knowledge at the command of the scientific body of the present day, some combination of mineral substances may be invented which will amalgamate with the material of the stone, so as to render further action of the elements on its surface impossible, or nearly so.—Edward Penrice.

Improvements in Bell-hanging.—A patent has been obtained by Mr. W. P. Parker, of Lime-street, for an improved arrangement of bells in hotels, mansions, &c., by which, whatever number of rooms there may be, one bell will suffice: and the particular room is indicated by a corresponding number appearing on the face of the machine. A contemporary gives the following notion of the arrangement. A suitable bed, or foundation plate, is made of a size corresponding to the number of rooms, in which are grooves cut in a horizontal direction; in these grooves, bars, consisting of strips of metal properly secured by studs, slide; they are connected with suitable cranks and levers, in such manner, that when pulled backwards they immediately raise a hammer which strikes the bell; and they are, on the bell-pull being released, drawn back into their places by barrel springs. On the face of the foundation-plate, which is the part exhibited to view, numbers are painted, corresponding with the several rooms, cabins, &c., each covered with a semicircular piece of sheet metal, moving on a pivot in the centre of the cord of the arc in such a manner, that when the circular part is upward, the figure is covered; but when one of the bars is pulled back in the groove, it draws down the semicircular shield, and discloses the figure at the same instant the bell is struck: on being released, the bar is replaced in its original position, and the shield resumes its place over the number.

Monument to Washington in New York.—A plan for a monument to Washington being wanted, it has been suggested to erect a building of a spherical form, "say 500 feet in diameter, without external columns or any other support of the kind, for these would destroy its simplicity, but resting on a pedestal, in which the lower part should be so far imbedded as to give to the structure both the reality and appearance of complete and immovable firmness in its position." Some of our readers will remember a similar proposal at the competition for the Nelson monument. An American writer says,—"For its uses, it might be the receptacle of a colossal image of the great man to whose memory it is raised; the interior might be fashioned into the noblest amphitheatre which the world ever saw, with rows of seats rising on every side, overvaulted by a vast canopy, under which almost the entire population of the city might assemble on public occasions, with the statue of the father of his country looking down upon them. For the cost, the simplicity of its construction would make it cheaper than any other building of the same magnitude. It cannot cost more than it would to execute the complicated plan, loaded with ornaments and carvings, which the committee on the monument are said at one time to have made up their minds to adopt. The interior might be built of stone or iron, and the outside sheathed with copper to protect it from the injuries of the weather." The "spherical church," of which we gave a notice some time ago, will occur to our readers.

Time! Time!—Sir: I do not think you handle the matter of uniform time in your usual accurate manner. You seem to think the *true time* at a place a precious jewel that ought to be most carefully guarded. However, you ought to know that the professor at Edinburgh does not set his sidereal clocks by the town or station clock. He uses a measure of time quite different from that in use for the every day purposes of life; namely, sidereal. The length of a sidereal day is 23h. 56m. 4s. of mean time; that of the mean solar being of course 24h. In one case the day commences and ends with the transit of the first point of Aries over the meridian; in the other, it depends on the motion of an imaginary sun. So far as I am aware, no clock was ever constructed to shew true solar time. Have you never seen "clock too fast" or "clock too slow" in the almanacs? This refers to the equation of time, which is the difference between *true* and *mean* solar time. There are certain days when, in order to set your time-piece right, you must put it so much as fifteen or sixteen minutes before or behind the sun-dial. The necessity for this correction arises from the variable angular velocity of the earth about the sun, and to the obliquity of the ecliptic, as is well known. In fact, we have for years had our operations of dining, rising, and retiring guided by a measure of time varying very considerably from true time. We have done tolerably well, and I think the advantages of a little farther tinkering will not do much harm practically to any one. Great Britain is nicely placed for such an experiment. We will talk of uniform time for the colonies when we get a railway to them.—"Sheffield."

New House of Correction, City.—The plans for the new House of Correction, to be built at Holloway, under Mr. Bunning, have received the approval of the Secretary of State. The cost of the building is estimated at 80,000*l*. The following is the official description:—The main central building of the prison consists of four wings, radiating from a central hall, each wing being 115 feet in length by 48 feet in breadth. These four wings are constructed with 288 sleeping cells, with galleries of communication throughout. In the basement are arranged the kitchen department, store-rooms, baths, punishment-cells, and the arrangements for ventilating and warming. A wing on the right entrance is arranged with fifty-six sleeping cells for females, in three storys, with galleries of communication, and on the basement are the punishment-cells, reception-cells, and space for warming and ventilating this portion of the prison. On the left of the entrance is a wing corresponding with the above, for juveniles. A detached infirmary, with distinct and separate accommodation for males and females. The building includes a separate washing establishment, a dwelling for the governor, a dwelling for the chaplain, and will hold—males, 228; females, 56; juveniles, 56—total, 400.

Cambridge Architectural Society.—A meeting of this society was held on the 5th inst., to receive the report of the committee, &c., which set forth that the prospects of the society were good. A design by Mr. Wailes, for "The Bachelors' and Undergraduates' window," at Ely, was exhibited. The estimated expenses are 500*l*., of which little more than 200*l*. have been as yet subscribed.

Franklin's Gift to American Mechanics.—Dr. Franklin left a sum of money to the town of Boston, to be loaned to young married mechanics at a low interest. In December last it had accumulated to the sum of 40,465 dollars: also, 1,000 dollars, the interest on which is invested in silver medals, and distributed, at the annual examination of the schools, among the most deserving boys in the writing and grammar departments.

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of a church and schools near Leighton station, Linsdale; a Presbyterian church at Birmingham; an additional county Lunatic Asylum at Colney Hatch; the City of London workhouse; enlargement of St. Pancras workhouse; erection and completion of certain wards and buildings adjacent to the workhouse of St. Leonard's, Shoreditch; taking down the old house of St. Bartholomew's Charity in Newbury, and erection of a new house and school-room; additions and alterations to Aldbury-hall, Hertford; erection of a wall and balustrade, with vaults, &c., in front of All Saints Church, Worcester; a supply of pipes, &c., for the baths at St. Martin's-in-the-Fields; a supply of 300 to 500 yards of cast-iron water pipe, with branches, fire plugs, water-cocks, &c., for the Southampton waterworks.

A CIVIL ENGINEER IS WANTED for the Birkenhead, Lancashire, and Cheshire Junction Railway.

MEDAL DIE-SINKERS have been called on by the Art-Union for specimens of their art, with the view of giving commissions for a series of medals.

THE VALUE OF EVENING HOURS.—What have evening hours done for the mechanics who had only ten hours' toil? What in the moral, what in the religious, what in the scientific world? Hearken to these facts! One of the best editors the *Westminster Review* could ever boast, and one of the most brilliant writers of the passing hour, was a cooper in Aberdeen. One of the editors of a London daily journal was a baker in Elgin; perhaps the best reporter on the *Times* was a weaver in Edinburgh; the editor of the *Witness* was a stonemason. One of the ablest ministers in London was a blacksmith in Dundee; another was a watchmaker in Banff; the late Dr. Milne, of China, was a herd-boy in Rhynie; the Principal of the London Missionary Society's College at Hong Kong was a saddler at Huntley; and one of the best missionaries that ever went to India was a tailor in Keith. The leading machinist on the London and Birmingham Railway, with 700*l.* a year, was a mechanic in Glasgow; and perhaps the richest ironfounder in England was a working man in Moray. Sir James Clarke, her Majesty's physician, was a druggist in Banff; Joseph Hume was a sailor first, and then a labourer at the pestle and mortar in Montrose: Mr. Macgregor, the member for Glasgow, was a poor boy in Ross-shire; James Wilson, the member for Westbury, was a ploughman in Haddington; and Arthur Anderson, the member for Orkney, earned his bread by the sweat of his brow in the Ultima Thule.—*North of Scotland Gazette.*

LOOK TO YOUR BOILERS.—Another disastrous explosion of a steam-engine boiler (near London-road, Manchester) further illustrates the necessity for some public inspector of boilers. The loss of life was very great. The boiler, it seems, was greatly out of repair.

PRESERVATION OF PAINTINGS.—At a meeting of the Liverpool Polytechnic Society, in the course of a conversation on the qualities of gutta percha, it was suggested that if valuable pictures were backed with a thin coating of gutta percha, it would enable them, in a great measure, to resist the influence of the atmosphere, and render them all but imperishable.

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, FEBRUARY 21.—Institute of British Architects, 8 P.M.

TUESDAY, 22.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 23.—Society of Arts, 8 P.M.

THURSDAY, 24.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 25.—Archæological Association, 8½ P.M.; Architectural Association.

SATURDAY 26.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"*Jennings Buildings, Kensington.*"—A correspondent wishes to draw attention to the condition of this locality: out of sixty-five houses, four only are supplied with water.

"*R. R.*" (Manchester.)—The inquiry concerning masons' marks is curious. Our correspondent will find two letters on the subject, addressed to Sir Henry Ellis, by George Godwin, architect, in the *Archæologia*, vol. XXX., p. 113.

"*Seymour.*"—Ask Weale, High Holborn.

"*Z. Y. X.*"—Inquire at the office.

"*S. B.*"—We should be glad to see the sketches.

"*T. A.*"—We have not the information asked for.

"*J. H. O. D.*"—Write to the Secretary, Society of Arts, Adelphi.

"*J. S.*"—Time has passed.

"*Bricks v. Stucco.*"—Several communications on this subject, next week.

"*On Greek Architecture,*" by Mr. Kerr, next week.

Received.—"J. E." (Norfolk-street), "J. S. M." (shall appear), "H. H." (shall appear), "H. A. M." (we have not time to comply), "R. H." (Bermondsey), "S. A. G." (Dr. Ure's), "E. P." (thanks), "A Subscriber," "W. B. H.," "C. R. M.," "P. S., jun.," "H. M. B." (declined, with thanks), "G. W.," "A. J. S.," "Novice (shall have a reply), "D. D. and D. (we gave an engraving of such a cart a short time ago), "Rev. J. J.," "J. C." (Winchester), "R. T.," "J. E. H.," "R. C. P.," "D. B."

Books received.—"A Manual for the Study of Monumental Brasses; with Catalogue of 450 'Rubbings' in possession of Oxford Arthitectural Society." (Parker, Oxford.) "The Young Surveyor's Preceptor," a practical guide to architectural mensuration: by John Reid. (Baeyi, Drake-street, Red Lion-square.) "The Locomotive;" by Peter Progress. (York and Co., Gracechurch-street.) "The Mansions of England and Wales Illustrated:" by Edward Twycross, M.A. (Ackerman and Co., Strand)—Specimen number. "Church Leases: or the Subject of Church Leasehold Property Considered;" by W. H. Grey. (Ridgway.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

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R. I. LONGBOTTOM, Secretary.

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VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 1, 1847

	Amount Assured.	Annual Revenue.	Accumulated Fund.
At 1st March, 1835....	£425,611	£11,964	£34,961
Ditto 1841....	1,569,570	55,536	154,329
Ditto 1847....	2,763,381	99,270	400,503

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1 15 8	1 18 0	2 1 6	2 6 10	2 14 9	3 5 9	4 1 7	5 1 11

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LUARD, BEEDHAM, and Co., beg to inform Architects, Surveyors, Builders, and others, that they continue to carry on the Caen Stone business at the above extensive premises, where a large Stock will be kept up by continual arrivals from their quarries at Allemagne. Orders to receive at the Wharf and further particulars may be obtained of Mr. GEORGE COTES, 38 Southwark-square, Borough, London.

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CAEN STONE, of the last summer workings, from the most approved beds.

The importance attached to having this stone in a seasoned state, for buildings proceeding early in the spring, has induced Messrs. Ward and FREEMAN for several years past to provide a considerable stock previous to the termination of each quarrying season.

They still have in stock at their Sufferance Wharf, Deptford, about 25,000 cubic feet, in blocks of large dimensions, exclusively supplied from Allemagne, which is expected to equal if not excel in quality that delivered from the Ancient Quarries. Orders are invited. Apply on the premises, Grove-street, Deptford, or at 27, Millbank-street, Westminster.

MAGNUS'S ENAMELLED SLATE.—Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c. &c.—This beautiful material has been extensively used at Windsor Castle, Osborne, Isle of Wight, Buckingham Palace, &c. &c., and it is now introduced to the notice of the Nobility, Gentry, and Public, as a most valuable and economical substitute for the ordinary slate, and is extensively used on the principal railway stations, and other public buildings. It can only be distinguished from real marble by its superior brilliancy of polish, and it is manufactured in various colours, as black and gold, serpentine, veined, and other marbles, and can be had in any required size of the above patterns. Among the various manufactures that the Public have been introduced to, may be considered most valuable tops of all descriptions, pedestals, pilasters, columns, plinths, tazzas, vases, tables, chimney-pieces, &c. &c. Cisterns, baths, &c. &c. Cases to date dials, thermometers, and other instruments of science executed in this material. Sizes and prices may be had on application at the Office, price 3d. NB Plain and ornamental Roofing Slates, of small, regular, and uniform sizes, direct from the quarries—the lowest prices will be forwarded on application to the MANAGER, Dale Slate Works, Upper Belgrave-place, London.

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February, 1848.

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FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes and Tubing are made of the finest and purest India rubber, and as they do not become stiff in the coldest temperature, or require any application when out of use, are particularly well adapted for Fire-Engine, Vulcanized India-rubber Washers for steam and hydraulic joints, &c., of all sizes. Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

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They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and economical manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

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4d.	2s. 4d.	per 100
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2 in.	3½ in.	3 in. per doz.
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2 in.	2½ in.	3 in.	3½ in.	4 in
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Sheet Floor Brads, 1½d. per cwt. All other Nails in proportion. Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards

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Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

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£3.	£3. 8s.	£3. 15.

Iron and Steel of every description.

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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

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Solicits the attention of the Trade to his extensive Stock of PATTERNS for every DESCRIPTION of IRON CASTING, consisting of those for every purpose, either structural or ornamental Wheel Pinion and Steam Engine Patterns; Range Stove and Hot Plate Metal.

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A very superior description of Soot Door, particularly suitable for internal use, being perfectly secure, and not easily fitly

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As also their much improved Reversing and Panelled Iron Shutters, PATENT CASEMENT FASTENINGS, SPRINGS,

PATENT CASEMENT FASTENINGS AND SILL-BARS, Patent Copper and Iron Wire Sash Lines,

IMPROVED FLOORING CRAMPS, &c. &c.,

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest

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PORTLAND CEMENT. Testimonials received from all quarters prove this CEMENT to possess the rare property of resisting the severest frosts, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

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It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in the situation for which purposes it checks the progress of Fire and the attacks of Vermin.

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1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without pumicing, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Her Majesty the Queen, at Osborne, and other of her palaces.

Sold by the Proprietors, at the Manufactory, Nos. 1 and 2, Belvidere-road, Lambeth, and by all Merchants and Builders.

ROMAN CEMENT, PLASTER, and MASTIC, of the best quality, may be had at BLASHFIELDS' Wharf, Waterside, Commercial-road, Lambeth. Also TARRAS and Hydraulic Cement, which is used for Plastering or building Brickwork. It dries the colour of Bath stone, and does not vesticate, and from its not taking so rapidly as Roman Cement, or setting, about 1/3 per cent cheaper than Parker's, and other works having a tendency to settlement. Baths, tanks, and cisterns, of a cheap, light, and durable character, may be constructed with this Cement and plain tiles. The Tarras when dry exceeds in hardness any other cement now in use

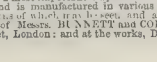
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UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape best to suit the situation of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket at one end, in 2ft Lengths.			
4-inch.	6-inch	9-inch.	12-inch bore.
6d.	8d.	1s. 1d.	1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSH and Co., at their Wharf, 3, Upper Thames-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Lamekiln, Limehouse.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAP For Sewers and Drains of all kinds.

Registered January 8th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self cleansing, can be set at any angle, and may be readily applied in all situations without altering the present arrangements.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

The Builder.

No. CCLXIV.

SATURDAY, FEBRUARY 26, 1848.

THAT miscellaneous record of the progress of the sanitary movement which lately would have merited some little detail, has in a short time grown so far beyond all bounds, that it has lost all special identity in the very universality of its prevalence; so that it now naturally resolves itself into little more than the mere announcement, that not only north and west, but east and south, through all the points of the compass, every one is up and stirring, not only in one and the same cause, but in one and the same way, for the obviation of the same train of evils, and the attainment of one and the same series of benefits. Yea, even the Lord Mayor and Aldermen of the city of London, have petitioned Parliament for sanitary reform, so that it now seems hopefully evident that the agitation, or fever, or inflammatory excitement, whatever it may be called, will not lie any longer smothering in cold fits till it carry itself and its subjects off, but that it is a good and wholesome excitement likely now to come to 'a head'—to attain a crisis—and to expel the poison which occasioned it—to clear away the impurities of the body corporate,—and to issue into a stronger, sturdier, healthier constitution, like that which so remarkably and frequently follows on a good smart fever, such as this pre-eminently and peculiarly is.

And our hopes are all the more sanguine, seeing that we have an able and earnest physician presiding over the patient. Lord Morpeth, already so energetically and so practically active as the chief commissioner of metropolitan health, the head of a young Hercules, with a worse stable to cleanse than he of mythologic times, is redeeming manfully his promise to the provinces, by the reintroduction of his former Bill of Health into the Commons. Yet it must be confessed that his colleagues have not hitherto afforded him that effective support which, by a generous determination on their part at once to abandon the obnoxious taxes on light and air, would have enabled him to speak out still more manfully and nobly, as it is his nature and his manifest anxiety to do; and, worse than that, have, by a most unwise and unjust proposal to increase the *income* tax, perilled this Bill as well as their own places.

As to the present bill, it is essentially THE measure previously brought forward and analyzed in THE BUILDER; and, as the *Times* remarks, "by contenting himself with the very same measure, a few minor variations excepted, he has reduced the discussion of the bill to a small compass. There are no new points to provoke the pugnacity of constitutional cavillers, the obstinacy of prejudice, or the steady opposition of vested interests. A measure for promoting the health of towns is thus placed before the Legislature with redoubled effect." It gives to the present ruling bodies the additional powers requisite for the due discharge of the new duties to be imposed upon them. A general Board of Health (consisting of five persons, two paid, three unpaid,) will be appointed in London, to superintend the working of the whole system, and to give advice and assistance to local Boards.

In enumerating the duties which it will be imperative on the local board to carry into effect, Lord Morpeth said, when introducing the Bill,—

"These will be—to hold meetings for transactions of business; to appoint a surveyor; an inspector of nuisances; to procure a map of their district; to make public sewers; to substitute sufficient sewers in case old ones be discontinued; to require owner or occupier to provide house-drains; to cleanse and water streets; to appoint or contract with scavengers; to cleanse, cover, or fill up offensive ditches; to keep a register of slaughter-houses; to keep a register of certain lodging-houses; to provide sufficient supply of water for drainage, public and private, and for domestic use. And among the permissive powers given to the local boards will be the following:—To enlarge, lessen, alter, arch over, and improve sewers; to re-make or alter unauthorised sewers; to make house-drains upon default of owner or occupier; to require that new buildings be altered, &c., in case of building upon improper levels; to alter drains, privies, water-closets, and cesspools, built contrary to the Act; to make bye-laws with respect to the removal of filth, and the emptying of privies, &c.; to whitewash and purify houses after notice; to require that certain furnaces be made to consume their own smoke; to provide buildings to be used as slaughter-houses; to make bye-laws with respect to the licensing, &c., of slaughter-houses; to inspect slaughter-houses and places used for the sale of meat; to alter public buildings improperly built with respect to ventilation; to inspect lodging-houses; to pave streets, &c.; to provide places for public recreation; to purchase and maintain water-works."

Lord Lincoln, in his speech, reviewed the subject in one of its principal bearings, in the following summary:—"Without following the noble lord through any details, he would simply state, that the measure now brought in appeared to him to be considerably improved upon that of last year. The local machinery was more likely to meet with the approbation of the country than that in former bills. It adopted a better natural area for drainage, and if it taxed those who were benefited by it, the bill gave them an opportunity of voting for the persons who were to expend their money. The noble lord was also inclined to confine within its legitimate bounds the central authority, and there was no more intermeddling with local authorities than was necessary. If it should be found that the measure in these respects was an improved one, he had no doubt it would meet with a more favourable reception than former bills on this subject, and that it would pass the house and prove highly beneficial to the country."

Great powers being given to the local boards, great care will be necessary in the exercise of them; the inspectors to be appointed should especially be discreet men, or the Act, if it become one, will speedily be brought into disrepute.

It must not be inferred that we think the measure a complete one, but we are willing to receive it thankfully as a commencement. It has been feasibly suggested that such measures as the abolition of the windows' tax, the suppression of intra-mural burial, and even the promotion of *metropolitan* sanitary reforms, are too heavy goods for this one bill to carry, and would have been very likely either to have been one by one thrown overboard during its by no means calm and placid passage through the Commons, or to have ultimately swamped the whole measure.

The 'vexed question' of intra-mural burial, although by no means left in *statu quo*, is very insufficiently dealt with. The proposed central board will have power to prohibit burial in any ground which can be shewn to be obnoxious to the public health, and moreover all new burying grounds must be licensed. Premises for the reception of the dead previous to burial, are also to be established, and the dead separated from the living, at least to this extent. It is further enacted, "that no corpse or coffin shall be buried in any grave, not being a vault or catacomb, unless there be at least *thirty* inches of soil between the upper side of the corpse or coffin and the ordinary surface of the burial-ground,"—a quantity of earth absurdly insufficient for safety, as has been demonstrated again and again. Public opinion should be strongly expressed upon this, and the distance would be altered in committee. Let the towns take an example from Gateshead, where, at a public meeting of the inhabitants, held on the 15th inst., it was unanimously resolved—

"That discomfort and demoralisation, disease, and death, arising from preventible causes—from impure air, and filth, and perpetual darkness, and kindred nuisances—afflict and destroy the people of this and other towns and districts, and fall with especial severity on the poorest and weakest portion of our population. That we approve in the main, without pledging ourselves to the details, of the Bill introduced into Parliament by her Majesty's Government for the partial removal of these evils, and resolve to petition the House of Lords and Commons in its favour; but if we question not the discretion which has left the subject of burial in towns almost untouched in the present measure, and also leaves the tax on light and air, commonly called the window-tax, to be separately dealt with by the Legislature, we desire to express our opinion that *no provision for the public health can be considered complete which does not prohibit the burial of the dead in the midst of the living, and abolish a tax which dooms the people to domestic darkness and impurity.*"

The object should be to make the present Bill perfect, to the extent it goes, but not to risk the loss of it by striving to obtain more. Should nothing occur to prevent it, the first of a series of measures for metropolitan reform is to be introduced in a few days, but as to the taxes on light and air, and that no less obnoxious tax on drainage in particular, and on health and safety, as well as comfort in general, the brick tax,* pressure from without must be brought to bear on them. AND NOW IS THE TIME, for, be it noted that the present debate on the health bill proves that powerful support and seconding inside the Commons will be given to such a pressure from without.

The agitation against the 'light tax' increases in extent every day, public meetings are being held to protest against it all over the country, lectures are being delivered shewing its inju-

* At the Gateshead meeting it was resolved that the petition should include "a prayer for the exemption from duty of bricks used in sewerage and drainage, just as bricks used in the drainage of lands and the building of churches are exempted from duty." We would go much further than this if the times were not "out of joint." Mr. Charles Knight, in the third volume of his "National Cyclopædia of Useful Knowledge," recently published, gives the history of the brick-duty. It was first proposed in 1756, but the Ministry could not carry it. In 1784, however, the nation being at war, Pitt succeeded in adding this to his other taxes. He was satisfied, at first, with half-a-crown per thousand. Ten years afterwards it got up to 4s. After a while it rose to 5s. 10d., which all say is equivalent to an addition of 9s. to the price. Of late years the productiveness of the tax has immensely increased, the railways consuming large quantities. The construction of the Box tunnel alone, on the Great Western Railway, consumed a number of bricks equal to the total annual manufacture of all Scotland. There are several viaducts which have taken as many as eleven millions each. It is a most impolitic tax on the industry of the country, a hindrance to improvement, and a promoter of discomfort

rious effects and unjust operation,* and local societies are in course of organization to obtain its repeal,—in accordance with a suggestion first made in our own pages.†

In one shape or other, sanitary reform is every where the subject of investigation and comment. Mention of all is out of the question, but it would be unjust if we were not to refer with praise to the activity now being shewn by the City of London Commissioners of Sewers for the benefit of their fellow-citizens.‡ For more than this at the present moment we have not space, although our table is literally groaning under the pile of communications, reports of meetings, pamphlets, and books, bearing on the question.§ Nor is this excitement to be wondered at, the fact being now established beyond a doubt that the preventible waste of life and health in England, shown in money, exceeds in amount ten millions a year, and that it costs more money to *create* disease than to prevent it, there being no one structural arrangement, chargeable with the production of disease, which is not also in itself an extravagance. Results, however, are now wanted. Let not the satirist still be able to say—

"Talk if you like about nuisance,
'Tis cheap to expend only breath;
But leave rule and empire to muck and to mire,
'Till King Dirt yields the throne to King Death."

This is a question which belongs to all parties—to all men; and we trust that every effort will be made out of doors to aid Lord Morpeth in carrying his measure, and that the only contention within the House will be as to who shall do most to improve its details.

* In a lecture on the subject last week at the Western Literary Institution, Lord Duncan in the chair, the lecturer, Mr. Malcolm, thus sketched the birth and parentage of the window taxes. They were born in the year 1696, in the reign of William III., and owed their existence to an excessive clipping of the coin of the realm. The general clipping of the coin having necessitated its recoinage, a great reduction of the revenue followed. That tax was essentially upon householders, and was to have existed only for seven years, but, strange as it might appear, those seven years had not yet expired. In the reign of Queen Anne the tax was made perpetual. During the reign of George II. the vigilance of the officers who collected the tax gave rise to a further enactment, that every kitchen, scullery, buttery, laundry, brewhouse, &c., belonging to any dwelling-house, should be taken as part of such dwelling-house, and charged accordingly. The matter was thus authoritatively settled, when in 1758 it became necessary to raise supplies to prosecute the war, and therefore every dwelling-house was made to pay an additional 1s. In the year 1762 another addition was made. In 1778 a separate duty was imposed upon houses alone. The rental of houses was the mode by which they were rated, and consequently they now had a house tax and a window tax. He believed it took this oppressive shape to prevent smuggling in tea. The duty was taken off that article and laid upon windows. He need not run through the diminution made since the time of Mr. Pitt, but in the year 1834 a great opportunity had been lost of getting entirely rid of the tax, when Lord Althorp's Bill passed through Parliament. If the people of this country were told that a tax had been laid upon light in some distant part of the world, they would certainly go and write very sapient treatises on the barbarity of such a thing. They would consider there was something wrong in the mental faculties of such a race, and yet in their own most civilised country the barbarity was allowed to exist.

At a public meeting held in Reading last week to petition for the repeal of the tax, Mr. W. Brown, an architect, made a very able address on the subject, to which we shall look on another occasion.

† The memorial against it, presented by the parish of Marylebone, contains the following amongst the grounds of objection to it:

"First—Its pestilential effect on the health and morals of the community by depriving their dwellings of the common blessing of light and air, and nullifying all attempts at social or sanitary improvement.

Second—Its extreme severity upon the productive classes, no other tax falling with so heavy and so direct a pressure. Its prohibition of labour and skill in the mechanical and architectural arts, and by taxing glazed and unglazed openings it not only prevents the admission of light and air, but precludes the use and consumption of cheap glass, now available for these purposes.

Third—Its gross inequality. The dwellings of small tradesmen and the poorer classes being, in many instances, taxed with a per centage on their rental eight or ten times greater than the mansions of their wealthy neighbours."

‡ The following are the most important heads of their new Sanitary Bill now before Parliament:—

"The commissioners are empowered to make sewers, to deepen and alter them as needful, to enforce, control, and inquire into private drainage, and, if necessary, to execute the work themselves.

Water companies are to supply water for all sanitary purposes, of flushing and cleansing sewers or surface pavements in courts and alleys, whenever required by the commissioners, and are to be paid for the same as may be agreed upon; and, in case of disagreement, two justices are to decide on the remuneration.

Houses to be built hereafter are to be supplied with drains, and built to such levels as may be decided by the commissioners.

The owners of all houses within fifty feet of a public sewer are to be compelled to drain such houses into the public sewer.

All gullies are to be trapped.

The powers now existing to inspect private cesspools, and other nuisances, under the temporary Act of 9 & 10 Vict., c. 96, (which expires this session), are given to the commissioners, who are to enforce the abatement of all such nuisances, upon medical certificate.

The commissioners are to appoint a medical officer of health, and an inspector of nuisances, who are to investigate all cases of a nature requiring the interference of the commissioners for sanitary purposes.

The commissioners are authorised to provide a place for the reception of dead bodies of the poor prior to interment, and the bodies to be received there under certificate of the medical officer of health.

The commissioners are to enforce the providing of cisterns in houses.

No interment in a grave to be permitted unless *five feet of earth* be left over the coffin.

Furnaces to be compelled, under regulations, to consume their own smoke.

No increase of the power of rating, as it now exists, is proposed to be vested in the commissioners."

§ The Metropolitan Sanitary Commission have issued their second Report, to which we shall look in due time.

PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

The fifth lecture of this course was devoted to the subject of ornament, and included remarks upon symbolism, considered in reference to its use at the present day. The professor characterized symbolism as natural or conventional, and said that, though not intelligible to all, it was not entirely to be excluded from the resources of architecture. It prevailed first, and most remarkably, in Egypt, where its language was familiar only to an oligarchy. Mystery also characterized the Chinese and Hindoos, for, as were knowledge and light on the one hand, mystery and darkness were synonymous on the other. Symbolism had flourished and declined in the world in exact proportion to ignorance and knowledge. The reformed church had set small store on mystery and symbols.

The prevalence of symbolism could be excused amongst the early Christians, obliged to practise the rites of their religion in concealment in the catacombs, and with them we understood the expression of their belief in a manner intelligible only to themselves. Subsequently, the use of symbolism declined, but was revived by the Church of Rome, and lately it had again been revived by what was called "ecclesiology." Much conceit might be concealed under its restitution, and it might have little real value to the architect, but when we considered its revival originated with the Cambridge Camden Society, we were justified in deeming it a fashion, and as one that would pass away. Durandus, who wrote in 1280, and whose "Rationale" had passed through twenty-seven editions, was the writer who gave the most complete information respecting the symbolism of the middle ages, and his work had great interest; but to invest it with the authority sought to be given, was to substitute the picture for the reality, and to be beset by a multitude of rules and directions, in the place of having mind and character, in our buildings. To ascribe symbolic meaning to every minute part of the building, was the opposite of the Calvinistic doctrine, which erred as much on the other side, and according to which the church should be a barn. By way of argument in favour of symbolism, the editors of the recent translation of Durandus had quoted from an old canticle, in which the different parts of a building were personified as the cardinal virtues, shewing that the medieval writers were deeply imbued with such ideas. Now, in this canticle, the practical architect finds nothing whatever applicable to his purpose.

But Durandus might, nevertheless, aid us in inquiring into the reasons for many features of Gothic architecture. When we design a large door to a Gothic church, we merely hash up the principles which we have derived from classical architecture. We know that in Grecian architecture, the door was made a main feature, because intended to contrast with the doors of habitations. But in Gothic architecture, the door was to symbolise the inferiority of him who entered through it. In Byzantine architecture, the monsters found crouching at the portals were held to symbolise the dangers which the soul had to pass through. But, further, the door was important in an artistic sense, because it was, like the human figure, the scale or *modicus* of dimension for the whole building. The Gothic architect makes the door small, and the remainder of the building thereby becomes large. Here, then, Durandus helped us, and there could be no doubt that this was a material element, and a chief rule in Gothic architecture. The error into which we fell had been like that of the architects of "the revival," who had restored the door of Vitruvius, in accordance with the notions with which they were imbued, from observing the small doorways of medieval buildings.

Having thus considered the subject of doors, we might turn to windows. The window in classical architecture was to the building what the door was in Gothic architecture, *videlicet*, the modicus of dimension. The window, therefore, was small, whilst in Gothic architecture, it was large. Sir Christopher Wren always used large windows; but Hawksmoor and Gibbs returned to the use of smaller apertures; as might be seen in St. Martin's Church, the work of the latter, the windows defeat the object of the Christian temple.

The professor then noticed the advantage of employing colour in windows, but strongly condemned the practice of imitating the faults of original design, and the effects of time upon glass. He characterised the windows of the thirteenth century as "patchwork," and likened them to the works of industrious glaziers which the parsimony of those who have had the care of our cathedrals, had allowed to be united in one window from the fragments of several. The advantages of glass-painting far exceeded every other description of painting, and he expressed a hope that it might be carried out in the new Houses of Parliament in such a manner as to develope all its resources, conjoined with good art. For instance, how much would the effect of St. Paul's Cathedral be improved by painted glass? All that coldness which was now complained of with reason, would disappear. At York, the aisle windows were chiefly of early date, and had no more design than dirty patchwork, or the figures of the kaleidescope, but nevertheless the effect was very beautiful; so that at York, on Sundays, crowds of people assembled in the nave admiring these beautiful windows; and how much more beautiful were the works in stained glass on the continent?

The professor also alluded to the system of Gothic masonry as connected with the effect of the medieval buildings, the beauty of which in great part, resided in the method of building with small stones. Indeed, so important were the markings of the stones, in the design that it was a common practice to redden them or treat them somewhat in the manner of tuck pointing, and these markings no doubt gave a scale for the building. Towards the close of the style, however, the practice became modified, until, in Henry the Seventh's Chapel, the masonry seemed to have outgrown the details —Ornament had thus its value in more than its obvious effect in architecture. A scale was given to the design by judicious ornament.

Sculpture was the voice of architecture, and its outlines contrasted with the severe lines of building. The word *zophorus*, a frieze, has been taken to be derived from words signifying *life* and *stillness*. Between the sculpture of the classical school and that of Gothic architecture, the professor shewed that there was an essential difference in the *moral* and effect sought to be conveyed to the beholder, and that Michaelangelo had failed to impart that character to his sculpture which was consistent with the purpose of a Christian church. Titian and even Raphael had also departed from the true principle. The buildings of the middle ages were sometimes to be considered quite as much works of sculpture as of architecture, and if *we* put up niches without the figures which they were intended to contain, we might, with as much propriety, hang up frames without pictures. The introduction of heraldic bearings was a departure from the good system which had prevailed at a previous date,—it was a tribute offered to the vanity of those who gave donations, and was like saying "Subscribers' names shall be printed." He then noticed the sculpture at Norwich, and Henry the Seventh's Chapel, and afterwards mentioned St. Paul's Cathedral as an example of the use of sculpture under an altered state of architecture, which was of the highest interest. The parish churches by Wren, and those buil

during the reign of Queen Anne, were also mentioned, and the growth of Puritanism in art, felt subsequently, was illustrated by a reference to the dispute upon the question of inserting the painted window in St. Margaret's Church, Westminster. The question of ornament had been discussed in the work entitled "The Ornaments of Churches considered;" and it was shewn that all the great reformers had advocated the propriety of enriching religious edifices with fitting decorations. Never was there an age which presented so many materials for consideration as the present.

In the concluding lecture, which we are compelled to postpone, the professor reviewed the progress of classical architecture, and its practice in this country of late years.

ON THE ARCHITECTURE OF THE GREEKS.*

AFTER the introductory discussion contained in my former paper on this subject, we come now to examine (although the nature and form of such a disquisition as the present cannot admit of that minuteness of research which otherwise would be well worthy of our attention)—to examine into the history of the regard and reverence for Greek architecture, and incidentally to remark upon the main features of the movement which the step in the world's advance taken by the ancient Greeks constituted.

I need not recapitulate how eighteen centuries ago the Government of the world was centred in old Rome, enthroned with a grandeur of power hitherto unapproximated, and revelling in a luxury of wealth and magnificence the wonder of all nations;—how amidst this splendour of their power the Romans nurtured the sciences, the arts, letters, and philosophy, self-refining and self-elevating with success complete and beautiful;—how the mark was overshot into voluptuousness and weakness, and rude savages from the wilderness overwhelmed the very ruins of their beauty and greatness in angry rapine and the wantonness of barbarian spoil;—how the world sank down deep and deeper into the darkness of superstition and the brute-tyranny and brute-servility of its worship, till half the long time towards the present age had passed gloomily and miserably by;—and how, from out of this dismal night there had been prepared a gradual dawn, long long in breaking, but at last most gladly and triumphantly brought on. A beautiful scene,—the powers of light softly appearing and softly gaining on the powers of darkness! The day has risen, till we at the present are its still extending noon,—a position of vast ennoblement and thankworthiness, when we look back upon the long track of the morning to the far-beginning glimmering in that horrible gloom.

There is a bad delusion at present growing up, whereby many seem to hold this very darkness as the day—this hideous waste as in reality the land of grateful retrospect. It is the fashion (and I need not conceal my opinion, that, as the fashion goes, it has little truly to sustain it long),—it is the fashion to admire and study the architectural works of the medieval times. And this being the fashion, although there is no lack of true principles and excellent precepts in those works, which might very well be culled and cherished for their merit while the mass of refuse should be cast away, yet, far from such rational discernment being the rule, the study is simply a search to discover all the authentic, and the admiration an exaltation of that unlimited all to the usual enthronement and supremacy of such dogmatic matter. Whereby, it being part and parcel of all such quackery to reject most utterly all pretensions but its own,—other architecture of the world is of course, *in toto*, and at once, rejected and denounced, and this in solitary exclusiveness set up alone to receive the homage of adoration due to the true and genuine faith. And that the holders of such creed should push it into the simple fallacy that the period which has left us these glorious memorials was a glorious period, the mind that produced those beautiful works a beautiful mind, is but the immediate and easy consequence — the natural result; and the dark ages become endowed with a sepulchral light which they will tell you is sunshine, and their misery, clothed in a fictitious estimation, mistaken for the beautiful and the good. It is the horrible fancy of a class of our archæologists to persuade us that the medieval time was almost a lovely thing—a thing of excellent beauties and rare interest; and there are serious men who verily regret its departure, and wish its return. The most expressive name which enlightened men have universally applied,—*the dark ages*,—is repudiated as a fallacy and a wrong; and terms savouring of endearment and merit are warmly adopted instead. And if it be worth the while of architecture to push forward a claim to some importance in the world, on the ground of the secret of this movement lying mainly, if not altogether, in itself, then I fancy the claim must be acknowledged, and our art exalted accordingly. But the facts of history are enough to found the estimate of that dark period upon; and the rational end to which a discriminating study of the arts of the time would lead us is simply this,—that in the darkness that so thickly overspread the earth, and so completely bewildered and misled the souls of men, there was a corresponding poverty and grossness and inelegancy which pervaded every work and every thought,—although in one department certainly, and that department, as it happens, architecture (by reason of church-building being so signally the province most likely to educe in such an age the utmost power and best refinement), there is to be observed attainments which are far from valueless (as in other departments their attainments generally most unquestionably were), and even in some respects—indeed in many excellent respects, it may be admitted — attainments which are well worthy of attentive study, and sometimes even deserving of the admiration of surprise.

Now it is not needless thus to insist upon the true character of the middle ages, for we have to mark well the depth of the abyss before we can appreciate aright the vastness of the rebound with which the human mind sprang up from its dark lethargy. The spectacle of the mind of Europe in the fifteenth century was the most remarkable scene in the whole drama of earth, when, upon the gloomy night deepening through so many ages, there arose, faintly breaking, the dawn. Men stood abashed in marvelling ignorance, gazing fascinated upon the incomprehensible light. Born in the wilderness, and nurtured there, the prime of life, and even its grey decline spent miserably among the barrenness, men in a sudden moment were carried into the midst of the bright great city, and in the amazement of the surprise were bewildered and lost. And when those children of night, gazing upon the dawn as it grew, beheld at last, broadly and astonishedly seen, the sun of old Rome in all his splendour and purity, how grand a thing! how vastly, beautifully new! How greedily and wonderingly the husk-fed starvelings of scholasticism drank of the generous old Roman wine!

So deeply had our nature become degraded under the tyrannous rule of that dismal period and its dismal faith-philosophy, that a true, or free, or generous search for wisdom existed only as the vagary of some neglected fanatic, forgotten when he died. There was no truth. Of learning there was plenty—subtle reconcilement of stubborn fact with canonic fiction, ingenious deduction of orthodoxy new from orthodoxy old; but there was no truth, no kindly good, no beauty. The discovery of the relics of antiquity was the discovery of a new world. We do not, now-a-days, count the old Romans a very angelic community, but to the benighted schoolmen the remains one by one dug up from their tomb were like messages from a superior sphere. There was a truthfulness in the old truth that made their truth dim, a genuine manliness about the very errors of the old time that threw their errors into tenfold shame, a beauty and refinement cast into every thing of old Rome, an elegance and grace into its every imagination, that only could be wondered at in contrast with their wretched travesty. The pitiful writers of legends of the saints and expositions of the canons looked upon the calm good thinkings of the poets, and philosophers, and historians of old; the explorers of alchemy and occult influences, demonology, witchcraft, and miracles, were confounded with the logician, the astronomer, the naturalist, the moralist; and the sorry stainers of glass and grinders of mosaics and carvers of hairy demons with tails, were introduced to the ten thousand relics of wondrous beauty that had lain buried for so many heedless centuries beneath their feet. And the more they searched in a greediness for beauty, the more they found to satisfy and amaze; every reader produced new beauty from the bookshelves, and every digger dug up new beauty from the mine of ruins where the old Rome slept beneath the new.

I hope it will not give too grave offence to say that, while the remains of antiquity in other provinces of mind were found so exquisitely superior, in the province of architecture too this superiority was also the source of pleasure and surprise. I have already granted to this one art in the medieval time its credit for a vast pre-eminence before other works of the mind of the period; but even at the best there was an ever-present crudeness, and perversion, and lack of grace which, beside the architecture of the Romans, shewed a refinement pervading the classic model which the other could never claim.

We all know of this appreciation of ancient superiority having overgrown itself at last, and resulted in the servile dogmatism of rules and regulations; this may be simply alluded to, but need not be more lengthily spoken of at present.

For our business is more with the Greeks than the Romans. And now we reach them. In process of time, as a matter of course, the merit of the Romans came to be traced back simply to its source—the merits of the Greeks. The Romans were, in every respect, in all departments of knowledge and skill, little else than the successors and protractors of the Greeks as originators—the pupils of the Greeks as masters. Before their acquisition of Greece and its mind-treasures they were barbarians: the Roman arts, sciences, letters, and philosophy were the mere continuation and protraction of the Greek. So the study of the Roman works became the study of the Greek. But more than this, there is a truthfulness and vigour in an original, which imitation perhaps never comes up to;—in the Roman continuation there was a manifest falling short of the Greek model in its essence. Upon the basis of their model they had built originalities of their own, displaying all the freshness and precision of originalities; but in their carrying out of their Greek pattern,—under which term may be included all their fundamentals of style, and all their generalities of detail,—there were minute principles which had been mistaken, minute graces which had been lost, whereby the excellence of classic design became now more excellent still. Add to this that there was a severe elegance and precision of thought in the Greek mind, in respect of which the more voluptuous and flexible Roman was altogether a different being, and the reason becomes stronger still why, when the model of Rome was traced back to the model of Greece, and the taste of the revivers had become accustomed to the peculiarities, and initiated into the beauties, of the severity and simpleness of thought, the interest became deeper than ever, and the regard for Greek design an increase and augmentation of the reverence which had already been bestowed so very largely on the Roman.

A glance at the movement in the world's progression which the Greeks made will close our inquiry for the present, and lay the top-stone on our estimate of their proud eminence. And here we look at a movement which the history of the human race has never equalled, so great was the stride taken and so signal the exquisiteness attained. The Romans were pupils of the Greeks,—the Greeks were masters self-taught, self-taking the first step. It is of course true that in the Egyptians and Phœnicians the Greeks had a sort of instructors; but in the mightiness of the step they advanced, the previous position of those nations is thrown into the merest insignificance, like the hieroglyphics of Thebes beside the sculptures of Athens. The step becomes a *first* step—an origination as if absolutely; and that wonderful people take the rank of the first founders of man's progress. Before the Greeks we may say there was nothing—chaos,

* Read at a meeting of the Architectural Association, at Lyon's-inn Hall, on Friday, the 11th inst. For preceding portion, see p. 15, *ante*.

—themselves the beginning, after them the Romans continued them, till they were lost in the changes of the world,—and when, at the end of the long interregnum, Rome was resuscitated again, it was only ultimately to introduce the master Greece, to be a renovator of the world once more, and to claim the fatherhood of a steady progress to this day,—a proud position to the Greeks. This in all science and letters; but in our peculiar art specially the narrative is just the same, and the same proud position of the Greeks obtains the same acknowledgment.

Of the rise of the dogmatic reverence for Greek models, and its influence and merits, I come to speak in the next. The task which I set myself in this I hope I have accomplished. We rightly blame the Greek worshipper for credulity, and his dogmatic faith in its enthusiasm we rightly smile at, as the weakness of a simple man; but we must award to the Greeks a rank, whose foremost eminence I have endeavoured without qualification to glorify, and to their architecture a merit too great to be readily judged. Robert Kerr.

HAVE THE REFEREES POWER TO DETERMINE THE LINE OF FRONTS?

The mention made by us in the week before last, of the difference of opinion existing between the official referees and the registrar, in respect of the power of the former to determine the line of fronts, having interested a number of our readers, and being important to many more, we will give the particulars of a case in the settlement of which the question seems likely to be determined.

A building owner, Mr. Harvey, had commenced the erection of a detached house in the Lewisham-road far before the fronts of the adjoining houses on one side, on a line laid down by the district surveyor, who had been previously employed by the owner to make a plan of the land for building purposes.

The owners of the house next adjoining, thus materially injured, laid an information through their architect before the referees; meetings were held, at which all the parties attended; it was evident that in laying down the line the houses on both sides had not been considered; and the referees (Messrs. Hosking and Shaw), made an award, the effect of which would be to put back the house in question very materially, and slightly lessen the injury to the adjoining owners, and to the appearance of the neighbourhood.* The registrar, however, thought it his duty to withhold the seal of office, on grounds which will appear, and to refer the matter to the Commissioners of Works; but, before doing so, he gave the parties an opportunity to shew cause to the contrary. The parties, therefore, again met, and the adjoining-owner's architect put in a reply to the registrar's objection, in the shape of a letter to the Commissioners of Works, which, as it states the whole case, and is our view of the question, we give entire:—

"Godwin v. Harvey.—Metropolitan Buildings Act.

The referees have determined and awarded that a building projected and built upon the site whereon a house is now being raised by Mr. Harvey, "in so far as it would stand before the general line of the fronts of the houses, would be injurious to" the owners of the adjoining house, for whom I act; and they have laid down "the general line of the fronts of the houses," and have determined "that it will be *contrary to the said Act* to erect the proposed building, or to make any other projection beyond or eastward of such line, except only such projections as are by the said Act expressly allowed, under certain conditions, to project beyond the general line of fronts in any street or alley."

The registrar asserts that they have exceeded their competence, and refuses to affix the seal of office, on the grounds that "the building in question being a separate and detached dwelling-house is not a projection within the meaning of the Metropolitan Buildings Act, and that there is no rule in the Act which prohibits the erection of such a building in the circumstances in question."

In opposition to this view, from which I wholly differ, I would advance that their competence to determine the line of front, and award against the projection of a building before that line, has been admitted by the registrar on many previous occasions.

Amongst others,—In the case of I'Anson and Pearce (No. 587), an award to prevent the erection of a shop in a forecourt beyond the general line of fronts was sealed June, 1847.

In the case of Hill and Brown, an award (No. 617), declaring that it would be contrary to the Act to build the front wall of three houses beyond the general line of fronts, was sealed September, 1847.

In the case of Barnett on the part of King, (No. 545), April, 1847, a building in a forecourt was not allowed.

In the case of Pelling and Edwards (No. 628), an award to the same effect was sealed, September, 1847.

In the case of Harrild and Garrett (No. 641), an award was sealed September, 1847, declaring five houses, which were built before the general line of fronts, contrary to the Act. And

In the case of Bell on the part of G. Smith (No. 644), it was determined that it would be illegal to bring forward the front of the house beyond what the referees determined to be the general line of fronts. In this latter case the builder's surveyor contended (as the registrar is now doing), that "there is no rule in the Act which prohibits the erection of houses or rows of houses beyond the general line of fronts, and that the rule applies only to projections from walls," yet an award in contravention to this doctrine was sealed. Nor would it be any explanation to say that in that instance the house formed part of a row, while in the present case the house is detached,—since the Act *nowhere recognizes a distinction in this respect.*

The second clause of schedule E, headed, "Projections from face-walls" (which schedule contains the rules relating to projections), provides that cornices, pilasters, and other *architectural decorations forming part of an external wall* (if of proper materials), *may* project before the general line of fronts; in opposition, of course, to those things which, not being named, may *not* stand forward.* Further, that balconies, verandahs, porches, shop-fronts, and "all other projections from external walls, *not forming part thereof*, may stand beyond the general line of fronts, *if*, observe, *if* they are built so as not "to obstruct the light and air or be otherwise injurious to the owners or occupiers of the buildings adjoining thereto any side thereof." External walls themselves, or *any parts thereof*, it is clear, may *not* stand forward, *even though they could be so built without the injury aforesaid to adjoining owners.* The projections from external walls, not forming part of such walls, *may* project under conditions,—the external walls themselves may not.

The correctness of this reading is confirmed by the fourth clause of the schedule, headed, "*Projected buildings beyond the general line of buildings and from other external walls:*" for this provides that "bow-windows, or other projections of any kind" which (it is evidently and reasonably intended to be understood) *do* form part of an external wall (unless this were the meaning it would contradict what went before) "must neither be built with, nor be added to, any building on any face of an external wall thereof, so as to extend beyond the general line of the fronts of the houses."

This clause relates to buildings already built or hereafter to be rebuilt, because in fact it is only required for such cases; the second clause, already quoted, being operative to *precisely the same effect with regard to buildings hereafter to be built.*

"If this were not so, however, section 8 of the Act expressly enacts, that buildings hereafter to be built shall be built in reference, amongst other things, to the *projections*, according to all the directions specified and set forth in schedule E, so that, if it were necessary, the 4th clause in the schedule, headed "Projected Buildings," would seem to apply as well to buildings about to be built as to those already built. As I said before, however, the 2nd clause governs satisfactorily without it.

To prove the objection sound which has been advanced, to the competence of the official referees in the present case, would be to convict the Act of absurdity, since it would assert that though the referees have power to prevent an owner from putting out a balcony, or verandah, or other projection, beyond the general line of fronts, not being part of an external wall, if it obstruct the light and air of his neighbour,—although they are bound to prevent the construction of a bow or any other projection beyond the general line of fronts, which *does form part of an* external wall (except certain specified architectural decorations), *even if innoxious and assented to by the adjoining owners*, nay, may even prevent its construction *within* the line of fronts, if it "obstruct the light and air, or be otherwise injurious to the owners or occupiers of the buildings adjoining thereto,"—

Yet, that they have not power to prevent that owner from building the external wall of his house forward to any extent, limited only by the extent of his ground, though it obstruct the light and air and be not simply injurious to but utterly destructive of the adjoining property!!

The Act, however, is not guilty of any such nonsense. Even if the provisions of the schedule were less clear than they are, I would urge that the referees have power to decide as to their effect, and as to the mode in which the provisions are to be carried out, a power expressly given to them by the 82nd section of the Act.

I respectfully repeat, however, that the meaning of the Act in the present case, when attentively considered, is so clear as to offer no difficulty, and that the referees are not merely competent, but *bound* to prevent the erection of the building in question beyond the general line of the fronts of existing buildings.

George Godwin, Jun., Architect.

Alexander-square, Brompton,
Feb. 11, 1848.

The registrar was not convinced, and has forwarded the award, the foregoing reply to his objection, and the following comments upon it, to the Commissioners of Woods:—

"According to an arrangement made with the parties during the progress of this proceeding, the registrar gave them an opportunity to shew cause why he should affix the seal; at which hearing Mr. Godwin stated that he did not rely [wholly] upon the rule under the fourth head of schedule E, to which he had adverted in the earlier proceedings; but upon the three preceding rules [the second clause only] together with that rule, and also upon the precedent cases. And he read a memorandum, of which a copy is sent herewith, setting forth those cases, and the argument upon which he relied. With respect to the cases so cited, the registrar explained, that with the exception of that of Harrild *v.* Garrett, the circumstances were not the same; and with respect to the argument deduced from the express application of the rules to smaller things, namely, copings, &c., balconies, &c., bow windows, &c., that such rules must be held to apply to larger matters, as entire buildings: the registrar explained to Mr. Godwin, that such an interpretation would be contrary to the well established rule by which statutes are interpreted, namely, that where lesser things are mentioned, as for instance, a parson, the law will not be held to apply to higher things, as for instance a bishop or archbishop; and the registrar expressed his regret that this being a matter of legal construction, Mr. Godwin had not obtained the assistance of some competent legal adviser, which he had particularly recommended on former occasions, on account of the same question having been raised in the case of Harrild and Garrett. The registrar explained, that whatever might be the practical consequence of so construing the law, it was his duty to act upon well-established principles, and to refer the matter to the Commissioners of Woods, to whom the legislature had assigned the duty of giving him such directions as the case admitted of.

The registrar pointed out the case of 'Hudson and Aitchison,' in which Mr. Hosking had with his assent awarded, that 'inasmuch as the proposed erection is an entire building, and not a projection from any external wall of any building, it would not be contrary to the Act to erect the proposed house;' and informed Mr. Godwin, that the subject having been brought before the Commissioners of Woods with reference to the case of Harrild and Garrett, they had determined that the registrar had taken a correct view.

With reference to the application of the law to some of the cases mentioned, the registrar stated that the whole subject having been latterly thoroughly considered, he thought it might very properly be urged, that some of the earlier awards had been founded upon a strained interpretation of the Act. That where buildings form part of the same row, the law had been construed unfavourably to any projection, but that where they were independent buildings, the rule had been held not to apply, until the case of Harrild and Garrett; and in that case the award was sealed inadvertently from the circumstance that the counsel and agents for the parties merely appealed from the decision of the district surveyor, assuming that he had jurisdiction upon which assumption all the parties proceeded in the argument. That upon drawing up the certificate of irregularity upon which the magistrate is to proceed in enforcing the award, the error was discovered, and the registrar immediately advised the official referees not to grant the same.

The registrar urged Mr. Godwin to submit the matter to some counsel to draw a certificate, which he might tender to the official referees if he should be so advised. The preparation of such a certificate would practically test the validity of the position for which Mr. Godwin contended.

Mr. Godwin considered that the matter was so clear on the principles of common sense, that he did not feel that it was requisite to take this course.

With reference to the latter part of this memorandum, in which Mr. Godwin states, 'Even if the provisions of the schedule were less clear than the

* The propriety or otherwise of this line we have not now to do with: the question with us is simply their right to lay down the line.

* It would of course be unnecessary to say that pilasters and other architectural decorations "*may* project beyond the general line of fronts in any street," if there was nothing to prevent the whole front being brought forward.

are, I would urge that the referees have power to decide as to their effect, and as to the mode in which the provisions are to be carried out, a power expressly given to them by the 82nd section.' The registrar remarked that the power given to the official referees is not an absolute power, but that their decisions must be within the limits of law, and that the statute must be construed according to the established rules of legal interpretation — that though it is the function of the official referees, as in some cases of a jury, to determine matters of law as well as matters of fact, especially architectural matters of an indefinite nature, in which they are peculiarly skilled, yet that section 82 must be construed together with section 89, and that the awards of the official referees must not be 'contrary to law or beyond their competence.' That they may determine the effect of the provisions, which of course must be citable, but not make new provisions or supply the defects of existing ones.

Mr. Godwin admitted that he could not cite any provision that applied in terms, but he relied upon the inference he drew from the provisions of schedule E, which, though permitting some, and prohibiting other smaller matters, must be held, as it appeared to him, to apply *à fortiori* to larger matters.

(Signed) Arthur Symonds."

The registrar says, that with respect to the cases cited, the circumstances were not the same: he would have found it much more difficult to point out differences in them recognised by the Act than to make this statement. We assert, without fear of contradiction, that if there be nothing in the Act to prevent a builder from bringing forward a detached house before the line of his neighbour's front, there is nothing to prevent the same proceeding in a close row of houses.

The way in which the registrar states the argument "deduced from the express application of the rules to *smaller* things, namely, copings &c., balconies, &c., bow windows, &c., that such rules must be held to apply to *larger* matters, as entire buildings," and then again, in the last paragraph, that Mr. Godwin "relied upon the inference he drew from the provisions of schedule E, which, though permitting some, and prohibiting other, *smaller* matters, must be held, as it appeared to him, to apply *à fortiori* to *larger* matters,"—shews clearly, as it seems to us, that the registrar does not quite see the real bearing of the argument. 'Large' and 'small' have little to do with the question. The schedule provides clearly that the only parts of an external wall which may stand before the general line of fronts are *architectural decorations:* there are no exceptions,—these alone are permitted. Further, that certain projections which do *not* in their nature form part of an external wall, may project before the line on the owner's own ground, if not injurious to the adjoining owners or occupiers, but parts of an external wall, with the one exception abovenamed, may not project before the general line, even if wholly harmless. The difference between projections which *are* in their nature parts of external walls and projections which are not parts, dwelt upon in the schedule, is not so visible, perhaps, to a lawyer as to an architect or builder.

Where the registrar makes the remark "that some of the earlier awards had been founded upon a strained interpretation of the act," he ought to have pointed out that the case of 'Hudson and Aitchison' was a much earlier award than any of those quoted by Mr. Godwin, and that the referees evidently admitted that *this* "had been founded upon a strained interpretation of the act;" since in their later awards they had decided differently.

The question is a simple one: have the referees power to determine what is the general line of fronts, and to enforce or prevent projections before it? If they have not power to determine it in this case they have not in any other, as the Commissioners of Woods will speedily find out, should they be led to confirm the registrar in his refusal to affix the seal. Being somewhat concerned in this case, we would rather that the question had arisen in any other, but since it has so happened, we must not allow personal scruples to prevent us from placing it fully before those of our readers who, residing within the limits of the act, are of course interested in its settlement.

The Cattle Market and Abattoir Company's Bill has been thrown out by the House of Commons.

ROYAL INSTITUTE OF ARCHITECTS.

AWARD OF MEDALS.

On Monday last, the 21st inst., the Earl de Grey, president, took the chair at an ordinary meeting of the Institute, when a variety of donations were announced, including a series of portraits of architects from Mr. Donaldson. The president pointed out the ease with which valuable collections of this sort might be made, if every member would but do something towards it, however small. Single prints—of themselves valueless—when gathered into the folios of the Institute, aided in forming an important whole.

Mr. W. A. Boulnois, M. R. W. Heneker, and Mr. J. Morant Lockyer, were elected associates; and the honorary secretary, Mr. G. Bailey, then read the report of the council relative to the medals for the session 1847-8. With reference to the Royal medal, it was stated that, in pursuance of notification in the various publications, English and foreign,—"On the 31st of January, 1848, the council met to receive nominations and applications of candidates, when sixteen names (eight Englishmen and eight foreigners) were given in and considered. The meeting being adjourned to the 14th of February, the claims of the several candidates were further considered; and a ballot being taken, the majority of votes was found to be in favour of Mr. Cockerell; and it was accordingly—'Resolved, That the Royal medal of the Institute be awarded to Charles Robert Cockerell, Esq., R.A., Professor of Architecture in the Royal Academy of Arts, London, Member of the Royal Institute of France, &c., in testimony of his distinguished merits as an architect.'

"For the silver medal of the Institute, offered for the best essay 'On the application of sculpture and sculptured ornament to architecture, and the principles which should regulate their introduction into buildings generally, both with regard to beauty of embellishment and propriety of style,—

Three essays have been received, distinguished by the following mottoes:—1. 'Junius;' 2. 'Rule;' 3. 'Nisi utile est quod faceinus frustræ est gloria.'

The three essays display much ingenuity and a praiseworthy habit of observation; they contain many judicious observations on the higher branches of sculpture, but in general the remarks are too indefinite, and are deficient in the illustration derivable from immediate reference to examples.

The authors appear to have mistaken the immediate aim of the question proposed:—the subject is of a practical and positive nature, in relation to a specific architectural purpose, and was not intended to elicit a disquisition upon the abstract attributes of sculpture.

Sculptured ornament, a most important section of the programme, appears in two of the papers to have totally escaped the attention of the writers, and in the third is only casually alluded to.

The council, however, are of opinion that the author of the essay headed 'Junius' has evinced considerable talent, and that he is justly entitled to the medal offered.

For the Soane Medallion, the subject being 'A design for a building to contain public baths on a comprehensive scale, with all suitable accessories, and combining the magnificence of the ancients with the usages and purposes of modern times,'—

Five designs have been received, thus distinguished:—

A. Four drawings and MS. description, motto, 'Quod potui perfeci. No. 1.'

B. Four drawings, motto 'Quod potui perfeci.'

C. Six drawings, motto 'Ne nimium expectes annis prudentiæ crescit.'

D. Three drawings marked 'Aquarius.'

E. Two drawings and MS. description, marked 'Christophorus.'

The council cannot refrain from noticing the little attention which appears to have been given by some of the candidates to the printed conditions, and particularly as respects the adaptation of the buildings 'to the usages and purposes of modern times.'

Although the several designs are formed on a scale sufficiently comprehensive to embrace all imaginable as well as suitable accessories, in some no indication is given of provision being made for the varieties of medicated or other baths so much in use in the present day; nor reservoirs, nor the requisite apparatus for heating the large quantities of water that would be required to supply such extensive warm and tepid baths as are shewn in the drawings; neither are chimneys or shafts provided to carry off the smoke, steam, &c., which it would be impracticable, under any circumstances, to consume.

The council are of opinion that the design marked 'Christophorus' possesses, on the whole, the greatest degree of merit, notwithstanding the unfavourable manner in which it is represented in the drawings of the elevations and sections, and sufficient to justify the bestowing on it the award offered."

The meeting having adopted the report, the sealed letters of the successful candidates were opened, and it appeared that the author of the essay marked "Junius," was Henry Bayly Garling, associate; and of the design marked "Christophorus," James M'Laren, 64, Broughton street, Edinburgh.

The noble President said, relative to the award of the Royal medal, that the council, on coming to their determination, had signified to him their desire that the decision should be first mentioned to her Majesty. Fortunately, he was honoured with an invitation, or rather an order to dine at the palace on that day, and took the opportunity of pointing out to Prince Albert the European interest which had been excited by the medal, the desire of the council to act impartially, and the name of the gentleman on whom the choice had fallen. His Royal Highness, approving it fully himself, said Mr. Cockerell should consider himself fortunate in having the suffrages of the council, and that the names from abroad shewed how much the medal was an object of interest. The Prince then mentioned it to the Queen, and the president was able to state that the award had her Majesty's approval.

Mr. Penrose then read a paper "on some of the geometrical lines and optical corrections of the Greek architects," which we shall lay before our readers in full next week.

After the paper, a letter from Mr. Jopling was read, inquiring of Mr. Penrose, amongst other things, if the curve was not conchoidal rather than hyperbolic, as stated by Mr. P.

Mr. Penrose replied, that there was nothing like a conchoid to be found in the Greek temples: all the curves were hyperbolic.

Notes in the Provinces.—The dam protecting the new steam basin works at Portsmouth from the sea having given way, and the cross-dam dividing the works under the contracts of Mr. Rolt and Mr. Bramble being insufficient, or unprepared to withstand the weight of water, the new large dock and sea-wall became inundated. A new cross-dam, however, has been made and the influx stopped. The loss to Mr. Bramble, it is said, will be considerable. The Admiralty are held blameable for urging the works forward with too much haste.——Plans for the new baths and washhouses at Hull have been approved of by the corporation surveyor, Mr. Thorp, and tenders are to be called for by advertisement forthwith.——The contractor for the Grimsby dockworks, Mr. Lime, has engaged above 100 additional workmen, and the excavation of the cofferdam is in progress by night, with the aid of camphine lamps, as well as by day.——Government has granted funds for building a Sunday and national school in connection with St. Mary's Chapel, Maryport, which is to be in the Elizabethan style, from a design by Mr. J. Asbridge, Jun.——Gawber Church, an early English building, designed by Mr. W. James Hindle, of Barnsley, architect, is now completed.

Free Importation of Zinc into France.—The French Government has issued an ordinance relating to the free importation of zinc into France, which will be the means of increasing the manufactories of Belgium, as well as those of Prussia. Raw zinc, or in pigs, intended to be flattened in France and re-exported, will be admitted free of duty. The loss of fabrication is fixed at 5 per cent. in the weight of zinc in its raw state. The re-exportation, or re-integration, into *entrepot*, of flattened zinc, must be made within three months at the most.

CHURCH OF LA VILLETTE, PARIS.

M. LEQUEUX, Architect.



Fig. 1.



Fig. 2.

CHURCH OF LA VILLETTE, PARIS.

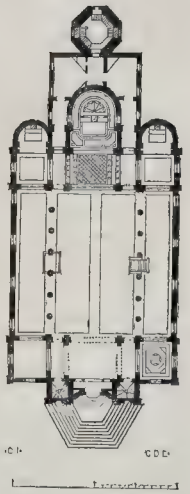


Fig. 3.—PLAN OF THE CHURCH.

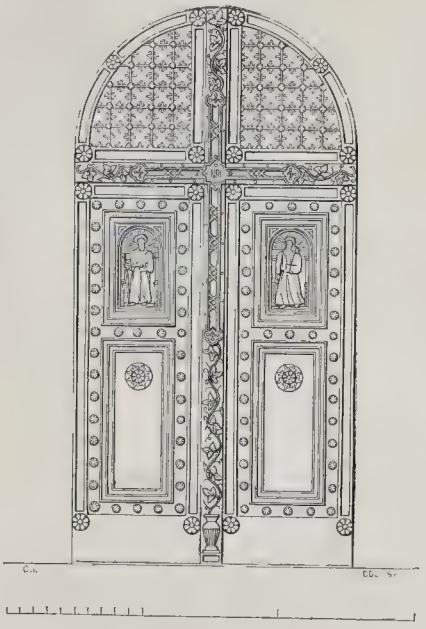


Fig. 4.—DOOR AT LARGE.

THE CHURCH OF LA VILLETTE, PARIS.

REVUE GENERALE DE L'ARCHITECTURE ET DES TRAVAUX PUBLICS.

The *Révue Générale de l'Architecture*, published monthly in Paris, is one of the best periodicals devoted to the art of which it treats, in Europe. In England, we grieve to say, architecture has no such well-appointed organ. It is 4to. in size; illustrated by engravings on copper, of great excellence; contributed to by men the most eminent in their art, including MM. Albert Lenoir, Didron, Hittorff, Labrouste, Renée Duvoir, &c. &c.; and is beautifully printed on capital paper.

M. Cæsar Daly, who projected and has for eight years conducted it, is peculiarly well fitted for the task, being an accomplished linguist, an able writer, and an excellent draughtsman, and carrying out his object as a matter of love. When he first commenced it, he visited England, Germany, and Italy, to establish relationships and collect information; and we believe he speaks the truth where he says, in the introduction to one of the volumes, that to write on art—to study the varied aspects presented by our admirable speciality, has always been found by him a work full of charm, a source of intellectual pleasure, and promoter of the sweetest emotions. "To lead us to persevere in a review destined to record discoveries and new investigations made in the domain of our art," he continues, "needs not the stimulus of money, we find our recompense in our labour—in the happiness which it gives us to ponder on the remains left us by extinct races—in the pleasure of studying and making known inventions destined to lessen the misery or increase the well-being of our fellows—in our dreams of a brilliant future due to the efforts of courageous and devoted men to whose investigations we had directed public attention."

We sincerely hope, nevertheless, that the more tangible reward is not wanting, and that Monsieur Daly is benefitting his fortune by his labours as well as his reputation. He has our best wishes and honest applause.

The annexed illustrations are engraved from the work in question with two ends in view; one, that we might record our good opinion of the *Révue Générale*, and make it better known in England than it is; and the other, that our readers might see the description of churches now being raised in and near Paris.

As the writer in the French work observes, notwithstanding the number of churches which have been built, and the amount of experience which is at the disposal of the architect, a new church is always a very difficult subject to treat, since, although religious usages remain the same, it is not so with taste and the requirements of the people. For example, as he observes, devotion served to keep our ancestors warm, and they asked not for fires in their cathedrals; but, now-a-days, people catch cold more easily, and new churches must be artificially heated.

In the middle ages, the churches were universally Gothic, none other was looked for; but when the *rénaissance* came, the faithful believed they could not offer up their devotions, unless surrounded by forms of a very different fashion. In our time the question is even more complicated, the writer continues,—some will have churches in the pointed style and nothing else, while others are willing that they should be built in any style, provided it is *not* Gothic. In England, we are less divided on this point: but it is as well to know what our neighbours are doing.

The church before us, built under the superintendence of M. Lequeux, architect, for the commune of La Villette, was commenced May, 1841, and was consecrated 27th October, 1844, at a total expense of 12,000*l*. It is dedicated to St. James and St. Christopher, and their statues are seen in the niches of the entrance front (fig. 1). The choir is elaborately decorated, as may be inferred from fig. 2. Figures of the Almighty supported by angels, the cardinal virtues, &c., our Saviour, and the Evangelists, are represented in fresco in the choir. The altar and pulpit are of white marble: the stalls are of chesnut, carved. The church is built on concrete, the walls are of stone, and the roof is covered with *zinc*. In the amount of total expense are included the following:—

Painting and gilding	£520
Painted glass	340
Marble working (the marble being given by the minister)	840
Ornamental sculpture	400
Historical sculpture	100
Historical painting	200
Stalls and fittings	256

Fig. 1. shews the principal elevation of the church.

Fig. 2. A transverse section, shewing the altar end of the building.

Fig. 3. The Plan. The tower is at the altar end of the church beyond the absis, and is connected with it only by a low building. The scale to each of these figures shews 20 French *mètres*.

Fig. 4. The entrance door at large. Scale shews 3 *mètres*.

Next week we shall give the font and some of the ironwork.

MR. WYSE'S ADDRESS TO ARTISTS.

THE INSTITUTE OF FINE ARTS.

A GENERAL meeting of the Institute of Fine Arts was held on Saturday evening, the 19th, Mr. Thomas Wyse, Vice President, in the chair, when a paper was read by Mr. Franklin on the connection between art and manufactures, the object of which was to claim for decorative art a higher place than is usually assigned to it, and to shew that some of the greatest artists of antiquity had not thought the practice of it derogatory to them. The writer urged the necessity of the study of the figure by those intended to become ornamentists, and suggested the publication of a well-considered paper on the subject by the Institute, with the view of correcting erroneous impressions, and giving a right direction to public opinion. Some ordinary business having been transacted,

Mr. Wyse addressed the meeting at considerable length, and to such good purpose, that we must endeavour to give an outline of his remarks. After repeating expressions of his good will towards the Institute, and his desire to aid it to the extent of his ability, he said that a great and beneficial change was taking place in England in respect of the arts; every time he returned here from his own country, he fancied he saw a difference, which

to those who were always here was, perhaps, not visible. Most important was the study of the fine arts, and all study that would tend to counteract the hurry and scuffle which characterize our time. To interest the people in art was of the first consequence,—without a sympathising public it was useless to expect progress in the arts. It was not because Greece was free that art reached there so noble an elevation, but because all participated in the enjoyment of it and could appreciate its efforts. Some had said that England was too democratic for the arts: this he must regard as a calumny against free institutions, or a calumny against art: he denied it wholly, as he could never believe that free thought, free word, and free action were opposed to the progress of art. The great obstacle to its progress amongst us was a want of sympathy, which had been produced by the separation of art from the purposes of ordinary life. There could be no lack of power in England: poetry and eloquence were not wanting in England, then why should art be, which was but another form of poetry—the poetry of form? Our insulated position, which drove us to the practical, had, perhaps, something to do with our backwardness in art. In America there was the same tendency; all travellers were struck with the great progress making there in everything but art; but that would necessarily follow. It was desirable our tourists should regard matters of art differently from what they did. Travellers who had seen all Europe (and in too many cases made all Europe see them) often returned little benefitted in this respect. Much of that one-sidedness which once characterised England was, however, fortunately disappearing, and we were more willing than formerly to learn, no matter from what source. A great move was being made, and it was surely worth while to strive to form a truly English school. To raise art, we must elevate the artist. If we looked to the annals of Greece we found the artist the counsellor and friend of the ruler: so also in Rome. In the middle ages, too, when new institutions grew up, we found artists, if not in the state, in the church: in the bosom of the church the greatest artists and preservers of art were nurtured; while all around were war and struggling, there they found peace—the promoter of art. Art never died in England, though it was sick; there was twilight, but never perfect night. As in the Athenian game, where the torch was handed from youth to manhood, and from manhood to old age, without being extinguished, so art was never lost, but still transmitted. As the church became corrupted, another society for the preservation of art arose within it. Those who looked at the noble works left by architecture necessarily asked how it was that, while in other respects society was retrograding, such wonderful buildings were raised. These were the work of a confederacy who had their own laws and powers, preserving inviolate the secrets of their art. There was a story recorded of an architect murdering the son of a bishop because he had communicated the secret to another. Their statutes were preserved in a town in Germany to this day, and shewed great coincidence with ancient German architecture as we now see it. Succeeding these, as communicators of art, continued Mr. Wyse, we find the Italian schools, each depending on one master, and following his rules. This accounted for the numbers of what are called Guido's and Caracci's, which are of the school only,—executed by pupils of these masters, and in some cases touched or finished by them. This was not an organization like the church, but approximated to the philosophic schools of Greece, from each of which proceeded a body of doctrine. During this time artists lost nothing of their importance with the state: Raffaelle might be seen descending the steps of the Vatican with as noble a band of followers and disciples as any prince; and Brunelleschi might be heard calling boldly on the Florentines to attempt great works. A short time only had elapsed since he (the speaker) had read the noble preamble with which, in the fourteenth century, the Florentines commenced the record of the foundation of their great church. It would be well if our senators, at this moment especially, could hear how this small state spoke. The preamble said, that considering it was of the utmost importance for a state to shew by its outward works its inward wisdom, they had commanded Arnolpho to commence a church, &c. Only a few nights before Mr. Barry had been accused of occupying ten years in the erection of the intended senate-house. This church in Florence took 230 years in building. But did the Florentines hesitate or fear? No. Every artist who could aid in producing excellence was encouraged to come forward: time was not considered, expense was not considered. They spent more money upon it than they had on all their wars, and food was taxed expressly in aid of the funds for completing this church. The same spirit was apparent all over Italy; they had a stout heart, and full confidence that art would never be wanting to the state, and would pay back all that was spent upon it.

The speaker went on to trace the progress of schools. Louis XIV., although a mock Augustus, made up of contrivances and shams, led to the recognition of the value of art and the worth of artists in his reign. In the Netherlands, at the same time, we know that artists were commissioned as ambassadors, and stood in the first rank. We come to England, and there we find art merely permitted, not ennobled. The orthodoxy of *whitewash* was deemed of more importance than art: the painter was shut out from the church. Where should such severity end? If painted glass be admitted, why not painted walls? If music, why not sculpture? The artist was driven from the high places: the upholsterer took the place of the architect. Look in the country-houses of the aristocracy, where in truth our aristocracy reign, and what do we find? Little but family portraits, or subjects foreign to our sympathies. Our own noble history is lost sight of, affording as it does countless subjects for illustrations. Look in our courts of law, still no art. A lining of deal painted to look like oak is the utmost we could expect to find. When every now and then an isolated instance of one of our own nobles encouraging art did occur, a great cry was raised of the patronage afforded by our aristocracy. Patronage! why one single cardinal of Rome had done more than all our aristocracy together. And now when the barrier had been broken down, and, in our new chambers of legislature, we were about to afford an asylum to art, murmurs were heard and cries for undue haste. The discussion in the House, however, had shewn how few there now were who refused a recognition of the claims of art. Now that artists had an opening afforded them to assist their country, the question of preparation must be considered. They should occupy themselves with their books as well as their pencil. They should get the language, the grammar of their art of course, and then strive to compose. The mechanical art of painting was of itself little. The question to every picture should be, what does this tell me? Whether landscape or figure piece, it should still have a soul, and speak to the soul. An artist must be educated: to produce mere transcripts of nature is not sufficient, and it was to be wished that they should give a short time to the study of books every day.

Cornelius had told him, that when he wanted inspiration, he opened Shakspeare, and there he always found it. They might rely upon it, that such a practice would give elevation of thought, and lead them above works which belonged only to the ephemeral day. These were not the object of art. They could not all be Shakspeares and Raffaelles, but all could aid in inspiring a love for such men, and that was much: all could make the men about them better, and that was more. Praise had been given to those who made two blades of grass grow where only one had grown before: he would say, that to make two minds think who had never thought before was a nobler act, and should be more highly lauded.

He earnestly hoped, before the year was out, to see that these influences were felt: he would like to find that they were so by an annual publication of art, which might rank with those of Germany and France. In this all might help—there should be no diffidence, no lukewarmness; and he would say to those who considered they were unable to render such assistance—despair not, but *do*.

STONE AND BRICK *v.* STUCCO.

Two letters having appeared in your paper upon the use of cements for the ornamental features of architecture, I am desirous to add some remarks, if you will allow me to do so.

To what extent and for what purposes it is fit to use cements or stuccoes in architectural works, is an inquiry of more importance than is generally supposed, and to which the architects of the present day have not given sufficient attention in an æsthetical respect—that is to say, as relates to the art of architectural design in its department of fine art.

It is a subject that may be considered theoretically and practically, but it is the theory that we have chiefly to do with in this discussion, and if we can establish a correct theory, the practical application will easily follow, although it may not always be possible to carry out the theory to its full extent, in consequence of circumstances which sometimes arise, and imperatively demand that theory shall give way to practical necessity. We may attempt to theorize too much, but we may also be too careless about theoretical principles, and this latter fault is now more common than the other. It should be borne in mind that it is only by a judicious union of theoretical and practical principles that complete excellence can be attained, and that by disuniting them, the result cannot be more than a partial and inferior degree of excellence.

It is not necessary to mount up to the first causes of architectural forms, and to say, that because this or that feature was originally executed in stone or wood, it should therefore be so now—such a theory as this would do away with art altogether, because the fine arts are in their nature not merely imitative, but consist in a refined idealization of natural objects; therefore, although it is desirable to have a knowledge of the causes from which architectural features sprang, it is only requisite to consider what materials will most conduce to the beauty and dignity of art, when executing those refinements of original forms which characterize the art of architecture.

It is often said, and the opinion is oftener exemplified in practice, that it is of no consequence what the material is so long as the effect is produced; but this is a shallow conclusion, and only raises the question whether the effect produced by a building erected with a material covered over with cement is equal to the effect produced by a building erected in a different material, and not covered over with cement? and moreover, whether the cemented building, if highly ornamented, would be equal in effect to the other building much less ornamented? Now if it is supposed that the effect of stone can be obtained by the use of cement, it is erroneous, for the practised eye at once detects the difference, and less experienced persons see it with a slight examination. The effect produced on the mind by the sight of hard and solid materials, evidently forming part of the solid walling of a structure, is that of strength and durability, besides a feeling of satisfaction at perceiving that what you behold is a reality and no pretence, and these are pleasurable sensations; but if, on the contrary, the mind recognizes the fact, that what is seen is a mere coating, a mere application of a thin and soft material to the surface, these sensations are lost, and others of a lower degree arise. In contemplating the marble temples of Greece and Rome, and other buildings of acknowledged superiority, the nature of their material much enhances their effect, and the mere idea of their being erected in stuccoed brick is a great descent in the scale of pleasure. The doubt created in the mind by a cemented surface, especially where it is intended to deceive the eye, is always unpleasant, and indeed the material itself, however used for decorative purposes, is of such an artificial nature that it cannot engender similar ideas to those which arise from the use of naturally solid bodies.

Architecture, as a most noble branch of fine art, should disdain all false effects, and should, on account of the largeness and costliness of its works, always present to the eye the ideas of strength and durability: whether light or massive, elegant or grand, it should not allow

any poor ideas to arise—no doubts about its excellence as a piece of genuine workmanship—nothing to detract from the opinion of its being an excellent production of human ingenuity. The use of cement, however, does allow these poor ideas to arise, while, at the same time, it encourages a meretricious display of exuberant ornament in preference to more valuable qualities. No one surely will deny that a stone column, a cornice, or an arch, more fully satisfy the mind than the same things built in brick and cement.

The above remarks, however, do not apply to all cases, for it is too sweeping an assertion to say that cements should never be used for ornamental purposes. There are instances in which they may be legitimately used without violating a correct theory, but the instances are such as appertain to inferior buildings, and to the particular modes and places in which they are used. It is more consistent with theory to use cements upon the inside than upon the outside of a building, because every thing is necessarily more artificial internally than externally: bare walls and naked timbers would not do inside a dwelling-house—they are artificially covered; and as the artifice has been thus commenced, and must be continued in many other appliances of the habitation, it may likewise be permitted in cornices, skirtings, mouldings, &c., because an unity of intention is thus maintained throughout the building, without any attempt to make the cement pass for other than what it is. But externally this artificial character is not necessary, and therefore should not be indulged in. A particular instance of cement workmanship is the interior of the Alhambra in Spain, where plaster is used to an unlimited extent, and where it is quite admissible, on account of its extremely rich and artificial nature, without any attempt to make you suppose that it is done in any other material. Wherever cement is used its artificial nature should be evident, by its mode of application, and then it would be as legitimate a material to work with as any other; but when it is applied as a deceptive expedient, it is of no value.

In churches, more than in other buildings, it is important to carry out a correct constructive theory, so that the building may appear to have the same truthful character as the religion therein to be celebrated. If any attempt be made to make it appear that the walls, or principal portions, are erected in a manner in which they are not, the attempted deception acts unpleasantly on a reflective mind, first from the mere fact of its being a deception instead of a reality, and then from the building not seeming to harmonise with that truth and honesty of purpose, which especially characterise the Christian religion there intended to be taught and practised. This deceptive construction has often been used in columns, piers, and arches built in brick, cemented over and jointed, to imitate stone; also in cornices, figures, and other ornaments run or cast in plaster, and stuck on, whereby a paltry effect is produced, in place of the delightful solidity, variety, and freedom of sculptured stone, besides the disadvantage of feeling that what you see is mere show applied upon, but not forming part of, the solid body of the church.

Contrast this false system with the practice of the architects of the middle ages, and it will be found that their buildings were erected upon sounder principles. They caused all the main portions of their structures—such as the piers, arches, jambs of doors and windows, and the mouldings and other ornamental parts—to be executed with the choicest of the free-stone or other materials they had to deal with, using the inferior materials in no place but for the mere walling, and this they sometimes plastered internally, but they executed the principal, or architectural parts, in none but their best material, displayed with its natural surface; and I do not suppose that a brick arch or pier, cemented over, is to be found in any old church in England, except in very early examples built with old Roman tiles. The moderns, however, often reverse this rule, and build columns and arches in plastered brick, while even the same building contains plain walling built carefully with stone.

I consider that we should endeavour to build our churches with all the piers, jambs, arches, angles, mouldings, and ornaments, in freestone; and if the other flat portions of the work must be built in a rougher material, this may be plastered over internally, so long as no attempt is made to make the plaster assume the appearance of stone. The same system should guide us in all other buildings having any pretensions to architectural excellence, unless we are satisfied to continue a paltry mode of building, and to be mere imitators in plaster of those works which greater men have built in stone. I have no sympathy with your last correspondent's gratitude for our cement copies of continental architecture, inasmuch as it is a commendation that discourages all endeavours after originality in ourselves; and I am foolish enough to believe that a good original composition, of plain character, executed in stone and brick, is much preferable to a rich design, or a rich copy of a design, executed entirely in sham stone. The reference to the works at Pompeii is rather an argument for my side of the question than for the other, it being generally admitted that most of those works were of an inferior taste to those of the classic times. It is also possible that the *rosso antico*, observed by your correspondent, was applied in a legitimate position.

The practical objections to the cementing system are numerous; but as I fear my remarks may be too long, I will conclude by only asking the question,—Whether the disaster at Euston-square would have occurred, if the pedestals and columns had been in stone instead of brick? I think not.

E. Nash.

Sir,—Your correspondent, Mr. Mason, in The Builder of the 5th instant, ventures to take Mr. Brandon to task for having fired off a "congreve" against stucco; had he said a broadside, it is no more than the pernicious system deserves. In return, the "amateur" has discharged his popgun at the "architect," but no man who values a reputation for himself, or who seeks to improve the taste of his country, will be turned aside from the straightforward and manly task of fearless exposure of what he deems to be bad as regards taste, worse as to construction, and worst of all as respects economy, even though his doing so is at the risk of offending the self-seeking practice of builders, supported, as it may be, by an instance quoted from a resuscitated city of the ancients.

But if, instead of producing an example from Pompeii, your amateur correspondent could shew that the glorious Athenians of the days of Pericles made it a rule to build their temples with compo and other sham and make-believe inventions, modern architects might pause before they considered stone and marble as superior to their counterfeits; but fortunately for after ages, the Greeks did not employ the shadow when they could use the substance, and hence their wonderous buildings have been handed down to our days as monuments of their taste and construction. But I should like to ask any one, whether amateur or architect, what sort of ruins a city would present to an inquiring traveller in which the architectural splendours were solely derived from compo. This is not the first time that I have ventured to deprecate, in the pages of The Builder, as elsewhere, the use of stucco, which has been, in my opinion, the fruitful source of much that is vile in construction, and puerile and tasteless in art. Monstrous caricatures of architecture, things utterly impossible to be executed in real stone, have been perpetrated in the counterfeit, whilst the first-cost cheapness of stucco, which is the tempting lure, soon becomes as much a fallacy as the other advantages to which it makes claim. It is notorious to all who can and will judge fairly on the subject, that since the general introduction of compo as an external decoration, excellence of construction in brickwork has been almost entirely lost sight of,—one has only to approach a sham-stone façade to be certain to detect a thousand cracks and fissures in the work, which all the future stoppings and patchings, and at last paintings over, will never effectually conceal or remedy. However, I firmly believe that the persuasion that compo is not so cheap in the end as some suppose it to be, is gradually forcing itself on the building mind, for even in the last twelve months we may perceive an inclination in many quarters to return to the honest English practice of building in brick and stone, when the entire expense of stone cannot be afforded.

I trust that such of our architects as have hitherto steadily rejected stucco as a substitute for stone, will still adhere to so laudable a practice, and that their example will be followed by the young and rising generation of architects, for we may rely upon it that we shall not be able to return to a true and honest system of architecture until stone has driven stucco from the field.

G. R. French.

Sir,—Your correspondent, Mr. Mason, in speaking of Bricks *v.* Stucco, says, that something "may be said on both sides." As yet nothing has been said on the stucco side of the question.

I myself am for "bricks" in preference, and always shall be, so long as we continue to have rain in this country. After a shower, a brick building appears as good as ever, but look next door at that abominable stucco, how green, how damp, uncomfortable, and wretched it looks, what a time it will take to dry,—what can lead them to cover the houses with it? Methinks, all will answer, "to hide the bad materials huddled up behind it."

To those who merely look at the new stuccoed houses for their effect (in dry weather), I would say, examine some of the old brick buildings scattered about all parts of London, with their cornices, pilasters, mouldings, and every portion of the building in red and black brick, and then let them fancy a handsome new street entirely of this material, and I am sure the preference will be given to it instead of stucco, not only for its beauty in dry and rainy weather, but for its durability and cheapness in the end, if not the beginning.

Another correspondent asks, "What effect can be better than that of the Tudor buildings of the fifteenth and sixteenth centuries, where brick and stone are combined, as at Hampton Court Palace, Eton, and many others? Brick is a material made much use of in this country, and well adapted to the atmosphere and climate, and as the taste gradually improves, we shall see there are great capabilities in the material of being rendered both ornamental and useful, especially if the tax be taken off."

RAILWAY JOTTINGS.

A new locomotive, likely, it is said, to supersede all now in use, has been patented and manufactured by a railway foundry company at Hunslet. The *Leeds Intelligencer* describes its main peculiarity as consisting in the want of a crank axle to the inside cylinders, and the consequent lowering of the centre of gravity. There are other improvements, and it is reported that on the first trial on the Midland, a speed of 75 and 80 miles was not only attained without the least difficulty, but a train of fifty-three loaded waggons, weighing 430 tons, conveyed with perfect ease from Derby to Rugby—a load no other engine has ever overcome on like gradients; so that velocity, the main end of its construction, is combined with power likely to render it a rival unequalled either on broad gauge or narrow.——Anthracite has been introduced for locomotive use on American lines by help of a revolving or endless fire bar, applied to the locomotive fire-boxes by Mr. W. G. Hennise, of Pottsville.——A bridge of three arches, 95 feet above the surface of high-water spring tides, is about to be erected at Saltash passage, in the Hamoaze estuary, with a pier midway, in a depth of 60 feet water forming a stream through a strait three-quarters of a mile wide, and which "runs there with a powerful force." A cylinder 85 feet 9 inches long and 6 feet 3 inches in diameter is about to be plunged into 10 fathoms water by aid of two 14-gun packet brigs, purchased by the Cornwall Railway Company for the purpose, and it is intended to exhaust this cylinder of the water, and, if successful, to surround it with another of the same length, but 30 feet in diameter, and weighing 130 tons, thus providing an area of sufficient extent to lay foundations for the piers of this rather formidable work.——The *Mining Jour-*

nal gives the following as Mr. Fairbairn's account of the experiments with the Conway tubular bridge:—"With its own weight (1,300 tons), the deflection did not exceed, but was under 8 in. With 300 tons of loaded trucks, the deflection was increased to 11 in.—being, as near as possible, in the ratio of 1 in. to 100 tons of load."——The viaduct across the Tay, at Perth, for the Dundee and Perth line, is in progress, labourers being busy in driving piles for it at the water reservoir.——London to Paris throughout by steam will forthwith be the route for all visiters between the two first metropoli in the world. The double line from Boulogne to Paris is now laid, with the exception of half a mile, and the directors of the Amiens section have been in London, arranging with our own South Eastern directors about the through traffic with the Continent at large. On and after the 15th March there will be five through trains each way between Boulogne and Paris, an express in 5 hours 20 minutes. An express steamer will be started, and the public will be enabled to breakfast in London and be in Paris to dinner or tea about 8 p.m. *et vice versâ*. Arrangements are even being made for 'booking through' all the leading lines on the Continent.——Two guards on the Eastern Counties line were nearly frozen to death during transit lately by night,—another appeal-by-inference to all directors in favour of our own simple 'universal remedy' for all possible contingencies, viz., the conversion of a line of foot-boards or a central gangway as a beat for the proper guards or watchmen of the train.

Miscellanea.

The New Houses of Parliament.—The substitution by the printer of a single letter (*w* for *h*) in the closing paragraph of our leading article, last week, much interfered with its intention. It should have been, and we are not sorry to repeat it,—"Let us have no undue *haste*, no unwise stint (at the same time of course no wasteful expenditure—no putting up of work and then knocking it down again), and we shall be able ultimately, and that before long, too, to point to a building unequalled by any contemporaneous structure in the world." Sir Robert Inglis has given notice that he will move, on the 2nd of March, for the appointment of a Select Committee "on the present state of the New Palace at Westminster, with a view to the reception and accommodation of this House therein, and the probable expense of its completion; and also to inquire into the present state of Westminster-bridge;" and Mr. Osborne has given notice that he will move, as an amendment to it, an address, praying her Majesty to appoint commissioners to superintend the expenditure, with a view of making such arrangements as may lead to the completion of the building at the earliest possible moment.

Free Admission to Public Monuments.—A correspondent from Manchester writes as follows respecting the fear we expressed touching Manchester Cathedral, that the churchwardens had taken the very means to prevent the impositions of the tax which we may suppose it was their object to guard against:—"Your readers will be glad to learn that they or any one else, may, at all hours of the day, enter Manchester Cathedral (the old church as we still love to call it, so wonderfully hushed in the midst of such noisy industry) and there may meditate and afterwards pass out without being dunned for fees either directly or indirectly. The parish have done what every parish should do—asserted their right to unrestricted access to their parish church, and the churchwardens' care is but to see that no damage be done. Extra attendance, and the following notice, makes the plan work admirably. 'Walking or talking in the church during the time of Divine service is strictly forbidden. No fee is required for the doorkeeper or apparitors, who are paid by the churchwardens.'"

Bedfordshire Architectural Society.—The first general meeting is appointed to be held at the library, in Bedford, on the 21st of next month, when Earl de Grey is expected to preside.

The Macclesfield Waterworks and Improvement Bill has formed the subject of a lengthened inquiry before Mr. George K. Rickards, barrister-at-law, and Mr. G. Rennie, civil engineer, surveying officers appointed by the Woods and Forests. The Bill, which was a comprehensive one, involving police and gas regulations, as well as other and sanitary purposes, was met by various opposing interests and counter proposals, especially on one of its main objects, the supply of water to the town, In course of the evidence, it was stated that while 150,000 gallons only per day are at present furnished in dry seasons, the proposed works would have storage room for 971,000 gallons, making in all 1,121,000 gallons per day, chiefly by the enlargement of reservoirs, at a cost of 18,000*l.* in all, pipes, fire-plugs, &c., inclusive. The Bill has been since thrown out.

Amending Tenders?—A short time since we published the tenders delivered to the assignees of Mr. Burton, for the completion of Portsea Barracks, which shewed that the lowest was very considerably under the next lowest amount. Since then, an error having been discovered by the contractors, the assignees have permitted an addition of about 1,200*l.* to be made to the sum named, which has justly excited much disapprobation. On principle, such a course, as we have before had occasion to say, ought to be most strongly objected to, being open to the greatest abuses.

Sound Visible?—Our contemporary, the *Literary Gazette*, speaks of a method recently discovered by which sound will be made visible! The effects of sound may, of course, be made visible, or even the action which is its cause, but the statement, as put forth, would seem to be a contradiction in terms. *Mais, nous verrons;*—perhaps.

Sewing Machine.—A French firm have patented a machine, which will sew, stitch, and make edgings with the same movement. It is said that it will entirely supersede hand sewing!

Sound from Bells: Clock for Houses of Parliament.—Sir: Experimental researches have shewn us that sound is the result of a mechanical vibration of the particles of air, and that this motion is induced by the vibrations of solid and elastic bodies. In all sonorous bodies, there are, however, certain mutually recurring periods at which the sound is more distinct and audible than at other times, producing a swell in the tone, and a corresponding decrease in each space of time between those undulations; this is produced by the following cause, Let us take a string and stretch it between two points and pull it on one side with the fingers: when we let it go it will fly from this side to the opposite, and from that back again, and so on for a number of times, until the power is wasted. Sound is produced in the air by the motion to and fro of the particles in exactly the same way; but if we examine the cord attentively, we shall find that a longitudinal or snake-like motion is produced, passing from one end to the other and from that back again and so on; it is this which, by adding to the lateral vibration, produces the increased sound. Now, let us strike a bell at the exact periods at which those pulsations occur, and we produce the greatest amount of sound from it which can be evolved with the force applied; but let us strike it twice in this time, and we destroy at every second stroke a quantity of sound equal to twice the amount of sound which we hear half-way between the undulation. The only sound we hear is that difference of force between the forward and backward undulation instead of their sum. The knowledge of this fact shews the importance of having a bell whose undulation shall concur with the stroke. I should not have been induced to make the above remark, had I not observed the numberless instances in which this is not attended to. We are now to have a clock which is to surpass all others in magnitude and power. Let the bell be of such a tone, that those vibrations shall always recur in unison with that of the stroke of the hammer; by attending to this, a sound will be produced which may be heard at twice the distance that it would be if not struck in unison with them.

Old Broad-street. J. S. M.

Projected Works, &c.—Tenders have been called for by advertisement for deepening Harwich Harbour; deepening and improving the drainage of the Pow of Inchaffray and water-runs communicating therewith—works 9 miles in extent; for the erection of a new church in the Weir district of Bristol; a parsonage house at Blaydon; a wall and balustrade, with vaults, &c., in front of All Saints' Church, Worcester; seven almshouses at Grimesthorpe; new vagrant-wards, workroom, and coal-vaults, at the Aston Union Workhouse at Erdington (by Birmingham); erection and completion of certain wards and buildings at St. Leonard's (Shoreditch) Workhouse; repairs of pavement at Poplar; also for the supply of curb, edging, paving and pennanting, of best Hanham or other stone, for Bristol Paving Commissioners, and setting and laying same, for three years; and for the supply of 10,000,000 sound bricks at Colney-hatch (brick-earth offered), for the Middlesex Lunatic Asylum; for a pumping-engine 35-horse power, pipes, masonry, earthwork, and pipe laying, at Durham Waterworks; making and erecting a gasholder at Hartlepool Gas and Waterworks; supplying and working the materials for fixing 21 gas-burners, with pipes, &c., in the Greenwich Union Workhouse Infirmary; and for supplying pipes and fittings connected with the baths now building in Orange-street, Leicester-square.

Competition.—Plans and estimates for a new workhouse at Stoneham have been advertised for; premium 50*l.*, or employment as architect.

The Lead Trade.—The lead trade appears to be an exception to the condition of almost every other interest at this moment. The miners of Weardale and Alston Moor are in full employment, and earning good wages, and the price of lead is understood to be remunerative and satisfactory to the various proprietors in those districts. Several very rich mines are being worked at present in Weardale.—*Newcastle Journal.*

Lincoln Lunatic Asylum Competition.—We have received a copy of a circular, addressed by an architectural firm to the individual magistrates who are to decide, pointing attention to the merit of their wares. Our opinion on such proceedings is too well known to need repetition.

Cheltenham Training College.—A correspondent led to go to the spot by a note in our journal, says, that three plans have been selected by a committee; a fourth allowed to slip in, then the four *sent back* to their authors to be re-arranged! He justly reprobates a course open to at least so much suspicion.

Monument at Calcutta.—It is proposed to erect a column 150 feet high, at Calcutta, to commemorate the victories in the Punjaub. The captured guns are to be set up around it in compartments, and it is to be crowned with three figures,—Britannia supported by two native soldiers.

The Olympic Theatre.—The architectural scenery, painted for the production of Richard III. at this theatre, is exceedingly creditable to the artist and the management. It embraces the Tower, old St. Paul's, interior of Crosby Hall, and various Gothic apartments.

Abbot's Leigh Church, near Bristol, has been partially destroyed by fire, caused by the overheating of the stove used to warm the edifice. The church is of early erection.

Society of Arts.—On the 9th inst. the discussion on the construction of Greek vases was resumed, and Mr. Scott Russell made some remarks on polygonal decoration, for which we shall find a corner next week.

A Lecture on Architecture was delivered at the St. George's Instruction Society, in Birmingham, last week, by Mr. Peter Hollins, and drew a numerous audience.

Blind Builders.—A correspondent sends the following list of tenders for finishing three houses, Albion-road, Dalston:—

J. Gleen	£1,012
Reeves and Parish	1,010
Bennet and Loyd	1,000
C. Loyd	989
Smith	840
Burgess and Moffet	724
Predy	700
Craber	695!

The Warwickshire Archæological Society, with a praiseworthy anxiety for the preservation of the ecclesiastical antiquities of the county, have issued a circular directing attention to the state of the chancel of Wappenbury Church. By the accidental fall of the ceiling, it has been discovered that the timbers of the roof of the chancel (which is of the date of the thirteenth century, and one of the most beautiful specimens of the early English style in the neighbourhood) are in so dilapidated a state, as to render substantial repairs necessary.

TENDERS

Delivered to the assignees of Mr. Thomas Burton, for the completion of the Kensington Union Workhouse.

Wilkinson	£7,995
Locke and Nesham	7,968
Haynes and Co.	7,788
Carter	7,659
H. Burton	7,491
G. T. Carter	7,479
Patrick	7,465
Albon	7,081

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, FEBRUARY 29.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, MARCH 1.—Society of Arts, 8 P.M.

THURSDAY, 2.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 3.—Archæological Institute, 4 P.M.

TO CORRESPONDENTS.

"*Alcohol as used in Arts.*"—A correspondent (F. P. D.) deprecates the reduction of the duty as lately urged in our pages, lest drunkenness—that worst of vices—should be encouraged. The object of the paper referred to was to point out how the advantage might be obtained without fear of such a much-to-be-dreaded consequence.

"*A Subscriber, at H.*"—We are unable to advise. The first inquiry would be—have you tried it?

"*A. X. B.*"—The Ordnance are about to supply the desideratum.

"*J. C.*"—We shall be glad to receive such information as may fall in his way.

"*Suburban.*"—A green-house is *not* excepted from the operations of the Act.

"*Dr. M'C.*" In what respect does the suggested arrangement differ from Cundy's stove and others?

"*R. K.*"—We have not the address at hand.

"*R. G.*"—The letter was mislaid. Double walls, under the circumstances, would act usefully. Washing porous walls with a solution of soap, and afterwards with a solution of alum, is said to have a good effect.

"*W. H. D.*"—No persons are yet appointed for the purpose. The committee now sitting is a private one.

"*T. T.*"—The arrangement in question is not untried in England. We will endeavour to find room for the communication.

"*C. T.*"—Messrs. Crace, Wigmore-street.

"*J. R. H.*"—Thanks. We will mention the circumstance.

"*A. B.*" (Reading).—Herbert's "Guide" will be found useful. The second work is but just now commenced, in parts.

Received.—"C. R. M.," "J. H." (Bayswater), "W. D.," "J. R." (shall be looked to), "N. J.," "Delta" (Lewes), "W. B.," "R. R.," "J. L." (thanks), "Hezekiah Potsherd" (a cute fellow, very), "Mungo," "W. L." (Belfast), a notice of the bridge appeared in THE BUILDER, "D. G. L." (shall be looked to), "G. B." "E. P." (thanks), "J. P." (thanks), "J. S."

Books received.—"Ancient and Modern Art, Historical and Critical," by George Cleghorn, Esq. Second edition. 2 vols. (Blackwood and Sons, 1848.) "Indian Railways and their probable Results;" by an old Indian Postmaster. Third edition. (Newby.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

NOTICE to ARTISTS and MANUFACTURERS of the USEFUL and ORNAMENTAL ARTS, and to PATENTEES of NEW INVENTIONS of WORKING MODELS.

ROYAL POLYTECHNIC INSTITUTION, INCORPORATED by ROYAL CHARTER in 1839.

The DIRECTORS beg to acquaint the above parties that the Institution, during the month of March next, will receive the results of Works of Merit. By means of extensive well-lighted Additions to the Premises, WORKS of ART will be arranged and exhibited with decided increased advantage to the Depositors.

It is determined (as far as may be practicable) that a separate Table or Glass Case shall be appropriated to each Depositor who forwards illustrations of the process of his manufacture with his finished work.

Parties will be furnished with full particulars on application at the Institution, 309, Regent street; if by personal application, from Eleven to One o'clock.

The INSTITUTION will be RE-OPENED to the Public early in APRIL next. R. I. LONGBOTTOM, Secretary

TO BRICK-MAKERS

E. AND C. KITCHEN (The Gridiron), 333, Oxford-street, late of High-street, St. Giles's, beg to call the attention of Brickmakers to their extensive STOCK of WROUGHT and other BRICK TOOLS, which they have re-modelled by means of an Polish they can warrant of the best workmanship, and of the lowest price.

N.B. Moulds made to any size on the shortest notice.

NOVELLO'S MONTHLY MUSICAL PUBLICATIONS.—On the 1st of March will be ready:—

ST. PAUL, by MENDELSSOHN, No. 2,—sixteen pages for 6d.

JUDAS MACCABÆUS, by HANDEL, No. 9,—same price.

CATHEDRAL CHOIR BOOK, No. 7, Folio Organ Score, 1s. 6d.; 8vo. Vocal Score, 1s.; 8vo. Vocal Parts, 4d. each.

The MUSICAL TIMES, No. 46, price three-halfpence, contains three short Anthems, by V. NOVELLO

London Sacred Music Warehouse, 69, Dean-street, Soho, and 24, Poultry.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 30,000 are now in use, defying fallacious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS. — The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are leaving to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs. G. and J. DEANE fit up single apartments or houses on true scientific principles, and in the most artistic style; and as every thing is got up in their own workshops, G. and J. DEANE can ensure for the strictest punctuality and the lowest possible charges. N.B. Plans and estimates prepared. GEORGE and JOHN DEANE, Gas-fitters, opening to the Monument, 46, King William-street, London-bridge.

PAPER-HANGINGS, CHEAPEST IN LONDON, BEST IN THE WORLD.

BUILDERS, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, Satins, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. Panel decorations, flowers or oaks remarkably cheap. Terms, cash. Established twenty years.—W. CROSBY, 24, Lowther Arcade, Charing Cross.

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E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford street.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge road the Grove, Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Building, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual.—The Trade supplied.

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PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

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SMITH and ENGLISH, Princes-street, Leicester-square, London, beg to inform Architects, Builders and others, that the above form of Lightning Conductor has been most extensively adopted, and is giving the greatest satisfaction, it proving considerably cheaper first cost, much simpler of application, with less injury to the building, than any other kind, and they can refer with great satisfaction to eminent architects and others, who have adopted it in preference;

As also their much improved Revolving and Panelled Iron Shutters,

PATENT DOUBLE-ACTION DOOR SPRINGS,

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IMPROVED FLOORING CRAMPS, &c. &c.,

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest

By Her Majesty's Royal Letters Patent.

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WITH SECRET AND SPECIFIC FINISES.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 63, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

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JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in. and upwards.
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Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 ins., 3 ft. 4, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d. per 1,000.
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Best Sheet Floor Brads 1s. per cwt.
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Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
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Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

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3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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Heuly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3ft. 6 in.	3ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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2 in.	2½ in.	3 in.	3½ in.	4 in.
1s. 1d.	1s. 3d.	1s. 5d.	1s. 9d.	2s. 2d. per yard.

Sheet Floor Brads, 1s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.
A variety of Best Black Ground and Bright Register Stoves.
Elliptic Stoves, with inside back, 3½d. per in.
Self acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

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£3. 8s.	£3.	£3. 15.

Iron and Steel of every description.

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Best Patent Cut Clasp.

4d.	6d.	10d.	20d.	per 1,000.
6d.	8d.	1s. 4d.	1s. 10d.	"

Cast Butts.

2 in.	2½ in.	2½ in.	3 in.	per doz.
11d.	1s. 3d.	1s. 4d.	2s.	

Also Best Patent Sash Line.

3	4	5	6	per doz. knots.
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Every other article equally reasonable.

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Best Cut Clasp Nails, 16s. per cwt.
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Best 6 inch Mortice Locks, with large Brass Furniture.
Fine Twin Duces' Patent Spindles, 6s. per dozen.
Best Butt Hinges, 2 in. 2½ in. and 3 in.

1s. 2d.	1s. 6d.	2s. 6d. per dozen pair.

Elliptic Stoves, 3d. per inch.
Register Stoves, 6d. per inch.

Best Self-acting Ranges, fitted complete—

3 ft.	3 ft. 6 in.	4 ft.
2l. 17s. 6d.	3l. 7s. 6d.	3l. 15s. 0d. each.

Orders from the country, containing a remittance or Post-office order (made payable at the Camden Town Post-office), forwarded same day.

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PATENT COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hothouses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. Specimens of the Wire Cord may be seen at the office of the Patentees, No. 163, Fenchurch street, London; W. T. ALLEN, Agent; and may be had of all respectable Ironmongers.

SURVEYING, ARCHITECTURAL, and ENGINEERING OFFICES, 24, Guildford-street, Russell-square, London, for Preparing, Training, and thoroughly Qualifying Gentlemen, in the most practical and scientific manner, for Surveyors, Levellers, Engineers, Architects, Builders, Draughtsmen, Measurers and Valuers of land, timber, buildings, townships, &c., and for giving practical instruction on the New System in every branch of the profession. Conducted by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Architects, Surveyors, &c., of extensive practice. Terms, till perfect, very moderate. Pupils, on completing the course, may be introduced to employment. For Prospectuses, &c., apply at the Offices.

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PORTLAND CEMENT. —Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost and to be consequently superior to every other for all purposes, such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

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REMOVED FROM 5, MAIDEN LANE, TO 22, STEEL YARD, UPPER THAMES STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone [illegible] Paint, never cracks or blisters, adheres to any substance with [illegible] previous preparation [illegible] every Climate, it improves by Age [illegible] that is [illegible] perfect remedy for internal Damp Walls. It is very cheap, and very easily worked.

Where also may be obtained

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel-yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

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FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balustrades, Capitals, Pateras, [illegible] Trusses, Windows, Masks, Heads, [illegible] Chimney Shafts, Soffits, [illegible] Flowers fixed complete, 24s. each, smaller in proportion. An assortment of [illegible] always ready for fixing. JOHN HERBERT and SON, [illegible] Parker-street, Drury-lane.

SMOKY CHIMNEYS CURED by the PATENT PNEUMATIC TOP and SMOKE SPREADER. Landlords, Architects, House Agents, and Builders are invited to inspect the [illegible] Inventor's, [illegible] Wandsworth-road, and G. B. PETTIT'S, 17, Brook street, New-road, Regent's-park.

N.B. The usual effect of high buildings and trees is entirely checked, and can be swept by the machine.

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.



The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the [illegible] of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual [illegible] and unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

DR. ARNOTT'S CHIMNEY VENTI- LATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

FOR SALE, a Valuable PATENT, for an improved process of rendering Paper and Wrappers waterproof, and Machinery for the manufacture of the same, by which two sheets of paper are made to adhere firmly together by a double coat of waterproof composition. The above has been extensively used by paper-hangers for placing against damp walls; it also forms an excellent sheathing paper. For further particulars, apply to Mr. JOHNSON, of the firm of Messrs. Tatham, Upton, and Johnson, Austin Friars, where the specification and samples may be seen.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square. Cash only.

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THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 12, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates.

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UNION PLATE-GLASS COMPANY.— Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied ⅛, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.

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SOHO CROWN, SHEET, and PLATE- GLASS MANUFACTORY, 26, SOHO-SQUARE.—ALFRED GOSLETT, Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass, begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Crown and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

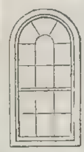
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MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 171, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



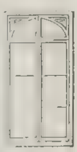
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK,

1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post to any part of the country.





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Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 78, Bethnal-Green Road, London. Parties engaged in Building will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

WINDOW BLINDS.—TYLOR and PACE, Window Blind Manufacturers, [illegible] street, [illegible]-square, and 3, Queen-street, Cheapside, London, submit the following prices of Window Blinds, which they can [illegible] in the best manner.

	s.	d.
Venetian Blinds, per square foot	1	8
Best Holland Blinds, on rollers		6
Ditto ditto, on spring rollers	0	8
Gauze Wire Blinds, in mahogany frames	1	0
Perforated Zinc Blinds, in ditto	1	8
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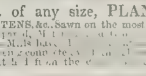
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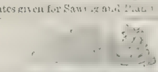
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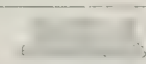
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EDWARD S. STEPHENSON,

Clerk and Solicitor to the Trustees.

The Builder.

No. CCLXV.

SATURDAY, MARCH 4, 1848.

EARNESTLY desiring to interest the people in matters of art, and to obtain for art and artists an appreciating and sympathising public, without which real advance cannot be hoped for, we have ever viewed the Art-Union of London, as amongst the most important institutions of the metropolis, and have watched its progress with great and increasing interest. This interest has been the greater, too, because of the extraordinary, if not wilful blindness with which the real tendency and positive results of this association have been overlooked by some, who are themselves urging the importance of making art enter into the every-day life of the people, and maintaining, with truth, that until the public be familiarised with art, we must not look for that general discriminative knowledge which must form the ground-work of a progress worthy to be called national. The great object of the half-dozen men who sat down eleven years ago to organise the Art-Union, was to spread abroad a knowledge and love of art amongst the masses. They did not speak primarily of the advancement of art, or the advantage of artists, knowing full well that these must inevitably follow the attainment of their object. Success has attended their efforts—success of the most extraordinary kind,—success far beyond what could have been anticipated by the warmest friends of the undertaking.

Public feeling in respect of matters of art has been greatly changed since the Art-Union began its work. If proof be needed, look into our shops; look into the newspapers; or listen to the debates in Parliament when art is involved in the discussion, and remember what would have been found in either of those cases only eleven years ago. There can be no question, as the Committee of the House of Commons say in their report on the subject, that "Art-Unions have largely contributed to interest, at home and in the colonies, a great portion of the educated classes in the nature and advancement of the fine arts. Were there even for a time to prevail an inferior description of production, with all the faults, both in subject and execution, ascribed to it, it must be remembered that the main point will still have been attained, the excitement and preparation for a new intellectual enjoyment, to which, till lately, the large majority, even of the educated public, were strangers." Moreover, it is not too much to assert that but for the establishment of the Art-Union of London in 1837, the Royal Commission of Fine Arts would not have been issued in 1841.

Feeling thus, we heard with much disquietude of a threatened, most uncalled for, and injudicious interference with the constitution of the Art-Union of London by the Board of Trade, likely to interfere seriously with its success, and we briefly protested against it some weeks ago.

Anxiety has been manifested by many of our readers to know the nature of the correspondence which has passed, and the precise state of affairs at this moment, and we are glad now to be able to comply with their request.

The first letter from the Board of Trade, dated October 6th, 1847, was addressed by Mr. John Lefevre to the honorary secretary, and stated that their lordships were about to issue certain general rules for the guidance of Art-Unions, and before doing so thought it "right to communicate to the committee of the London Art-Union the general results of their deliberation, both on account of the practical suggestions which they hope to receive from them, and because of the important effects which the alterations they consider to be requisite in the present English system may have upon the constitution and proceedings of that society."

The most important question raised was as to the mode of selecting the prizes, and after discussing the two systems, namely, 1, which gives the right of selection to the prizeholder, and 2, which intrusts it to a committee, and assigns to the prizeholder not a right of choice, but a particular work of art,—the letter goes on to say that their lordships decidedly preferred the latter:—

"As, however, my lords are sensible of the inconvenience attending a system which wholly excludes the prizeholder from any right of choice whatever, they are desirous to recommend a plan which endeavours to combine the advantages of both principles, rather than to insist upon the unqualified adoption of that pursued in Scotland and in Ireland. It appears to them that it would be desirable that the committee should, in the first instance, select the whole number of works of art from which the prizes should be taken, but that the prizes should consist, not of particular works, but of rights to a first, second, third, or later choice, from among the collection thus made; so that the prizeholder would have the opportunity of exercising his own taste and judgment, and would be able to choose such a work as was suitable to his wishes, while his choice would be confined to works of real merit, and would be exercised in a manner the most likely to lead him unbiassed by other influences than those of his own genuine taste. My lords cannot anticipate that the adoption of this system would be unpopular among the subscribers to unions, at present conducted on the principle of selection by the prizeholder: but should the committee of the London Art-Union see reason for apprehending that a sudden alteration of this kind would have the effect of causing any considerable decline in the number of the members of that society, my lords would have no objection to its gradual introduction, which they conceive might easily be effected, by confiding to the committee the office of selecting one-third of the prizes in the first year, two-thirds in the second, and the whole in the third year, thus affording an opportunity for observing the working of the system.

"The question which stands next in importance to that respecting the selection of prizes, relates to the distribution of engravings. My lords are of opinion that it is highly desirable, both to give encouragement to the art of engraving, and also, by means of the facilities which it affords, to diffuse among the public at large, a knowledge of some of those great works with which they have no other opportunity of becoming acquainted. They doubt, however, whether the system at present adopted is calculated to secure either of those ends; and they desire to see the practice of an annual distribution of engravings from *modern pictures* altogether abandoned. They consider that it would be more for the benefit of the art of engraving, and more valuable for the education of the public, were commissions to be from time to time given to first-rate artists for engravings of a very *superior* character. These would, of course, be too costly for general distribution, but the proofs might be allotted as prizes among the subscribers, and the prints might be disposed of by the committee for the benefit of the society, perhaps giving the subscribers some advantages in point of price."

Besides these two fundamental points, the selection of prizes, and the distribution of engravings, the letter sets forth that their lordships proposed to require that 10 per cent. should be set apart out of the receipts of the Art-Union for the purchase of works of art, not for distribution, but for public exhibition.

The council of the Art-Union, after due deliberation, directed a reply to be forwarded, dated October 25, of which the following are the more material portions:—

"The first and most important part of the communication refers to the principle upon which the prizes are to be distributed; it sets forth that, 'My lords prefer the principle of selection by a committee, although they recognise the advantages attending a selection by the prizeholder,' and it recommends a plan supposed to combine the good points of both.

If their lordships simply intend this as a recommendation, the council have to state, that the best mode of distribution has been a subject of frequent consideration during the last ten years, and that the plan proposed has, amongst others, been carefully considered by them. At the present moment, however, they are satisfied that the mode now adopted is the more advantageous; and, in the words of their last report to the subscribers, to which they are pledged by the unanimous expression of a general meeting, they 'would greatly deplore such a change, and furthermore, would consider it their duty to oppose it by every means in their power, as being calculated not merely to lessen the good effects of the association, but ultimately to destroy it altogether, and to do great injury to art and artists. The council are confirmed by experience in the opinion already expressed by them on other occasions, that by placing the selection in the hands of the prizeholders themselves, much good is done. Great additional interest in the subject is excited, personal inquiry and examination are induced, comparison between works is instituted, and knowledge obtained which is spread throughout their several circles. In this way, too, all classes of art-works find a market; whereas, were the selections all made by the same five or six individuals, a bias would exist, even with the best intentions, towards works of some particular character and style, to say nothing of the possibility of personal favouritism, and thus injury would be done to other classes of art. Moreover, allowing the prizeholders to select, is so much more popular than the contrary course would be, that the change could not fail to lessen the number of subscribers most materially, thus interfering with one great object of the society, that of interesting the masses in matters of art, and affording them the means of enjoying it.'

Further, the council of the Art-Union are not prepared to admit the advantage of being able to forestall private purchasers by visits to the studio; or that a gambling spirit is induced by the present mode which would be prevented by the change.

If, on the other hand, the communication goes beyond a recommendation, and, as may be inferred from it, their lordships consider the determination of the mode of selecting the prizes, 'one of the rules of a general character which the Privy Council may hereafter impose,' in accordance with 'a provision (said to be) contained in the charter of the Art-Union of London,'—and that the change recommended is to be enforced by one of the rules which their lordships are about to issue, the council consider it their duty, without meaning the slightest disrespect, to point their lordships' attention to the following reason, why such rule would not be binding on the Art-Union of London.

The Act 9 and 10 Vict., c. 48, separately refers to two sorts of associations under the name of Art-Unions, viz.—1. Those for the purchase of works of art to be afterwards distributed by lot amongst the subscribers; and 2, Those for the allotment to the subscribers of the right of purchasing for themselves works of art of certain value; and the Act provides that *all* such associations shall be

deemed lawful, provided that a royal charter shall have been first obtained, or the deed constituting such an association and its rules approved by a committee of her Majesty's Privy Council.

The Art-Union of London is an association of this sort under the second head; and its plan and regulations, wherein, as from its establishment, this peculiarity is specially set forth, were before the Legislature previously to the passing of the Act in question, and were fully canvassed. In the application to her most gracious Majesty for a charter of incorporation under the powers of the Act, this was *again fully set forth*, accompanied by the prospectus, and the Art-Union of London was accordingly chartered to raise moneys by subscription, to be afterwards allotted to the subscribers in certain sums, solely for the purchase of works of art.

The Act gives power to a Committee of her Majesty's Privy Council, 'whenever it shall appear to them that any such association is *perverted from the purposes of this Act*, to certify the fact to her Majesty, who may then revoke or annul the charter;' and the charter itself declares that it shall be lawful for a committee of the Privy Council to disallow, alter, and amend such bye-laws as the council of the Art-Union may make for the management and regulation of the body, the election of officers, &c. Further, the committee may themselves make any bye-laws '*for giving full effect to the said Act*' as may seem to them desirable, but nothing more;' and these provisions, it is respectfully submitted, cannot empower their lordships to abrogate that mode of distributing the funds of the society, to carry out which, with the sanction and under the direction of the Legislature, the Art-Union of London is *expressly chartered*.

In respect of engravings, referred to as the next important point, their lordships, you state, 'desire to see the practice of an annual distribution of engravings from *modern pictures altogether abandoned*,' and consider it would be better 'were commissions to be from time to time given to first-rate artists for engravings of a very superior character,' the proofs to be allotted as prizes, and the prints *disposed* of.

The council of the Art-Union of London beg leave to remark on this, that one main object of the association has been, from its establishment, the encouragement of British art; and they consider that the fact of their requiring annually the work of a modern artist to engrave, must act as a great and useful stimulus to our painters which should not be withdrawn. Further, it would not be in their power to employ more eminent engravers than those already commissioned by the society; as for example—Mr. Watt, Mr. Goodall, Mr. W. Finden, Mr. Doo, and others. To remove the certainty of each subscriber's receiving a work of art approximating to the amount of his subscription—to give which has always been an object with the council of the Art-Union—would be to lessen materially the number of subscribers; which the council, for a reason before stated, and doubtless their lordships also, would deplore. * * * * *

The only remaining point in the communication which concerns the Art-Union of London is their lordships' proposal 'to require, as a general rule, that 10 per cent. should be set apart out of the receipts of every Art-Union, for the purchase of works of art—not for distribution, but for public exhibition.'

In respect of this the council of the London Art-Union first respectfully remind their lordships, that the funds annually provided through the association are contingent on public approval of the terms of the prospectus, and that to ensure these funds, public opinion must be consulted: the question with the council of the Art-Union is, not merely how best to expend for the advancement of a general love and knowledge of art, a certain sum of money,—but how first to raise that sum, and then expend it, with a view to again raising a similar sum in the following year.

The council of the Art-Union are most unwilling to appear to be taking unnecessarily an opposing position: they are, however, advised that neither the Act of Parliament for legalizing Art-Unions, nor their charter, obtained under that act, gives a committee of her Majesty's Privy Council power to order a diversion of one-tenth of the funds from their proper course; and considering that such a step would militate greatly against the continued prosperity of the association, they feel compelled to express their dissent from the proposed intention of the committee, so far as it relates to the Art-Union of London." * * *

On the 14th of December a second communication was received from the Board of Trade, setting forth at considerable length the views on which their lordships grounded their right of interference, and urging that, although the Art-Union was incorporated before the Committee of Privy Council for trade were charged with the superintendence of such bodies, it was subject to such regulations as might afterwards be issued. Their lordships since the receipt of the reply had looked more carefully to see if they had legal power to interfere, and had thought it right to submit a case to the law officers of the crown, a copy of which, with the opinion, was inclosed. The letter then goes on to deny that the Art-Union of London was chartered as an association belonging to that class which gives the right of selection to the prizeholder, because it distributes a *larger number* of prizes, in the shape of medals, bronzes, and lithographs, &c. than in the shape of the right of selecting a work of art!! The general tenour of the communication, however, will be understood from the following extracts from the reply sent on February 19. But we first give the opinion of the Attorney and Solicitor General.

The case, after setting forth all that the Board of Trade considered necessary, ends thus.—

"Your opinion is requested upon the following points:—

1st. Is it the case that the Art-Union of London has been incorporated expressly for the purpose of 'raising moneys by subscription to be afterwards allotted to the subscribers?'

2nd. Is the Act 9 & 10 Vict., cap. 48, so framed that it would have been illegal in the Crown, in granting a charter of incorporation, to have inserted as one of its conditions that the mode of distributing the prizes should be that now suggested by the Board of Trade?

3rd. Does the Charter of Incorporation reserve power to this committee either to require such an alteration of the 48th bye-law as would meet the case, or to impose a bye-law to the effect suggested?"

"OPINION.

1st. The Art-Union of London was incorporated for the advancement of the fine arts, and for promoting and facilitating a greater knowledge and love of the arts of design on the part of the public generally. For this purpose the corporation is enabled to raise money by subscription, &c., in part to be allotted by chance as prizes amongst its members, to be expended solely in the purchase of paintings, &c., and in part to be laid out in the purchase of paintings, &c., to be allotted by chance in like manner. The manner of allotment and purchase by the allottee is to be regulated by the bye-laws made under the charter.

2nd. It would not have been illegal for the Crown, when granting the charter, to have inserted therein the clause above suggested.

3rd. The charter, in terms, reserves this power to this committee, and we think that a regulation requiring the allottees to purchase from a collection to be made by the Art-Union is not inconsistent either with the statute or the charter. (Signed),

JOHN JERVIS.
DAVID DUNDAS.

Temple, 3rd December, 1847."

A transparent piece of equivocation, of which Messrs. Jervis and Dundas will be somewhat ashamed, we venture to say, when the whole correspondence is fully before them.

The council, in their reply, again combat the right of the Board of Trade to interfere, not with a *bye* law, but with a fundamental law of the society. They shew clearly that under the Act of Parliament, the Board have *no power whatever*, unless the society become perverted from its purpose. The only power they have is under certain clauses in the charter inserted by the council of the Art-Union themselves, simply to prevent the possible perversion of the society to private gain. The council continue,—

In the first address issued by the society, February, 1837, it is remarked,—"The mode of encouraging art by purchasing works, to be distributed among the subscribers, is neither novel in principle nor untried in practice." "But the promoters of the Art-Union propose to combine with this principle that of LEAVING THE SELECTION OF WORKS TO THE SUBSCRIBERS THEMSELVES," and this was prominently set forth in the first and all subsequent lists of regulations. It was, in fact, the characteristic and foundation law of the association to leave the selection of prizes from the public galleries in the hands of the subscribers.

The right of selecting for himself a work of art *from one of the public exhibitions of the day* was the chief prize offered from the commencement to the subscribers; to protect a society offering this right amongst others, as an inducement for subscription, the Act 9 & 10 of Vict. was passed, and to incorporate a society offering this special right a charter was granted by her Majesty. Bye-laws over which, by the terms of the charter, the Committee of Privy Council have control, simply go to the mode of distributing this right and other details,—the offer of the right itself is made legal by the act of the Legislature.

The deprivation of the right of selecting for themselves from the public galleries, as the council know from widely-extended inquiries, would make the association so much less popular, as to lessen most materially the number of subscribers. It would deprive the public of that amount of instruction in art which is gained by the inquiry and the interest called forth, not only in the individual who gains the right to select a work of art for himself, but in that numerous circle of friends whom he is sure to gather round him, to consult before making his choice, and who are equally sure to criticise it severely, if not technically, after it is made.

The falling off in numbers would of course much reduce the list of prizes, and still further limit the very small range of choice left to the prizeholders, under the plan proposed by their lordships. The difficulty of finding pictures in this small collection to suit their several tastes, and the discontent thence arising, would again act unfavourably on the subscription list for the following year, and thus the same round of evils would be repeated to the final extinction (probably) of the society. It will be remembered that the plan of selection by a committee had been tried for some time in London, previous to the establishment of the Art-Union, and totally failed, though under the direction of gentlemen of well-known character.

On the other hand, supposing that no great reduction of the members takes place, but that the prizes remain at that number which they will no doubt reach, and probably exceed, in the present year, the time which would be occupied in the proper selection of the number of pictures required, has perhaps not been con-

sidered by their lordships. Judging from their experience in making the selections deputed to them, under the present arrangement, the council are satisfied that they would have to meet for this purpose *every day for at least one month*. This further devotion of time could not be expected from any such body. It would probably become necessary to have recourse to a paid delegation, and the duty must of necessity be intrusted only to such persons as would require a very large fee for their services: thus a large portion of the subscribers' money would be diverted into a channel never contemplated by them, and in no way conducive to the advancement of art; and even then it would be quite impossible to avoid the imputation, if not the reality, of jobbing, while the particular views entertained by those who select, must inevitably give a particular bias to all their selections however conscientiously made.

Beyond these objections their lordships' proposal, that prizeholders should select from the collection thus made (in the case of the principal prizes there could still be no choice), involves a delay of the proceedings so great as of itself to make the scheme seem impracticable.

The selection of the prizes would put into the hands of the council all the patronage attached to the expenditure on works of fine art of 10,000*l.* per annum, supposing the number of subscribers to remain undiminished. It cannot be supposed that anything but a firm conviction of the inexpediency of the measure would lead them to decline the exercise of such patronage. The great aim of the society is to extend a knowledge and love of art amongst all classes of the community, and this, they feel assured, will be best advanced by continuing to permit prizeholders to select works of art for themselves from the various public exhibitions of the day, in accordance with the principle on which the Art-Union of London was established, and which it is chartered to carry out."

The communication closed with a request for an interview, which was afterwards granted; and on the 25th a deputation from the council, comprising Lord Monteagle, Mr. Auldjo, Mr. Dodd, M.P., Mr. Donaldson, Mr. Gaskoin, Mr. G. Godwin, Mr. T. C. Harrison, Mr. Noble, Mr. Lewis Pocock, Mr. Serjeant Thompson, and Mr. Zouch Troughton, attended the Right Hon. Henry Labouchere, President of the Board of Trade, and pointed out further objections to the proposed changes. Mr. Labouchere said that, in consequence of the representations made to him, he would abandon the proposed retention of 10 per cent. of the amount of the subscription, and would not interfere with the distribution of engravings. In respect of the third and more important requirement—the selection of the prizes—he was not disposed to yield the principle, and wished that the council should themselves make some modified proposition—as, for example, that they would choose all the prizes above 70*l.* in value.

The council have since met, and, as a matter of course, have declined to make any proposition for a change in their constitution—certain to interfere greatly with the success of the association. It is to be hoped that the Board will weigh well the representations which have been made to them, and (wise in time) leave the Art-Union in quiet to its well-doing. It was not to be expected, that they could know all the bearings of the question so well as the gentlemen who have been zealously and disinterestedly labouring in its administration for so many years, and they may yet retreat gracefully, if they will.*

ON THE GEOMETRICAL LINES AND OPTICAL CORRECTIONS OF THE GREEK ARCHITECTS.†

I have been greatly flattered by the manner in which some of my friends here have expressed their desire, that I should bring before the Institute the subject which I have been endeavouring to pursue, in searching out the minute and beautiful curves which the refined minds of the Greek artists led them to substitute for the straight lines and circular forms with which the Egyptians, if I mistake not, before them, and the Romans and their followers, after them, have been contented.

I am afraid that I shall have great difficulty in putting the question into a sufficiently perspicuous shape; still as I am satisfied that the construction of the Greek temple (which within these walls at least, whatever prudence might in certain quarters suggest, I dare to call the most perfect system of design which architect's mind has ever conceived or workman's hand executed) must still claim a worthy place in your esteem. I am the less fearful of wearying you with the details and particulars which are necessary to lead me to the facts—small in size but not in meaning—which I have to bring before your notice. I would wish particularly to protest against any one measuring the importance of these results by the very small quantities which they involve. They create the whole difference between ordinary, and scientific and artistic construction. I will also observe, that although the scrupulous accuracy with which the measurements which I shall produce have been recorded may seem almost absurd to some, it will not appear so to those who have been so fortunate as to see the originals, and observe the perfection of the workmanship with which they are put together, and the exceedingly happy preservation of many parts from the weather, which enables measurements to be taken with precision in these, where in many buildings they could only be a matter of approximation. One advantage from the obtaining this rigid accuracy in the measurement of the temple and its parts, I shall be able to state by-and-by.

The last postulate I shall make is to beg you to allow me to use a decimal system of measures, as I have in these researches always done, which I shall briefly explain.

I use as my standard of measurement the English foot, and divide it into 100 parts, which I shall call cents; and as this is small enough for almost every practical purpose except the curvatures of Greek architecture, I shall not require any other name but cent: should it be necessary to go to more places of decimals, they may be stated thus—6·757 = 6 feet 75 cents ·7. With regard to the cents, it will create very little confusion for the present if those who are more accustomed to the duodecimal system will consider them as eighths of inches, to which they are in the proportion of 96 to 100. Thus the quantity ·210 may be easily solved into 2 inches and 5-8ths, which is a near approximation.

Having said thus much in the way of introduction, I will say a few words with your kind permission (first apologising for, I am afraid, a somewhat too free mention of the first person,) on the manner in which I was led to the subject I have the honour to bring before you this evening.

In the beginning of the year 1845 I was led to Athens by the same attraction which has been felt by so many, and will, I trust, continue so to be. I had an introduction to Mr. Riedel, a Bavarian architect, resident at that time at Athens, who kindly accompanied me on my first visit to the Acropolis, and pointed out to me the peculiarities of construction of which I am about to speak; it was the first time I had any intimation that there was any departure from ordinary line and rule work in these buildings, excepting a rumour which I heard from our consul at Trieste, that there was something very curious recently discovered in the ancient buildings at Athens.

These peculiarities, which were then pointed out to me, were the convexity of the stylobate on the four sides of the building, and the inclination of the columns towards the centre of the building, that is to say, on the east front the axes of the columns incline in a westerly direction, and those of the west front easterly. Those on the north and south flanks, south and north respectively. It follows that the angle columns share the two inclinations; for instance, the north-east angle column inclines in a direction south-west.

This fact has been ascertaind some time; it is given with considerable accuracy in that part of the supplement to Stuart which was supplied by Mr. Jenkins. The exact amount, owing to the slight displacements which the building has suffered, is only to be obtained by a diligent survey of the whole building.

The observation of the convexity of the lines of the steps is more recent. I believe that one of our countrymen, Mr. John Pennythorne, whose little pamphlet on the subject no doubt some here have read, was the first who paid any discriminating attention to these lines. I use this phrase as they cannot but have in some measure influenced our earlier investigators, as no one could ever have cast his eye along any portion of the upper members without being sensible of them. The lower lines of the building were, as I understand, quite encumbered with rubbish until the excavations of the last few years. Any measures obtained by boning must have been vitiated, and they have doubtless given many a diligent measurer a vast deal of trouble, and many have been the dimensions which have stood at dismal variance with themselves, and been cast aside without being really to blame. In the same way as earlier astronomers have often unjustly blamed their instruments when the perturbations of the heavenly bodies were really the cause of the incongruities.

Mr. Pennythorne was the first to see in these an original intention and meaning; he however kept his knowledge to himself, and the world first heard of it through the communication of Mr. Hofer and Schawbert, German architects, to the *Bauzeitung*, in the year 1838, which very number was presented on our last meeting to the Institute.

I have been, however, assured by Mr. Hill, an American missionary, and now chaplain to the English Legation at Athens, that Mr. Pennythorne had communicated his ideas on the subject to him at least a year before.

I then (in 1845) was very much struck, as all who have seen the Greek buildings must be, by the perfection of the workmanship, and I took such levels and dimensions as I could with the instruments I had with me, for the purpose of ascertaining the amount and nature of these adjustments. And I arrived at a sufficient degree of exactness to assure myself that it was well worth while to go deeper into the matter. I, however, at that time (in 1845) was not able to pursue the subject further, and I returned to England in the autumn of that year, and had the pleasure of reading a paper to this institute on the observations, such as they were, which I had made.

They attracted more sensation than I had any right to expect, and I received a proposal from the Society of Dilettanti, that if I were willing to go out to Athens, for the purpose of taking more accurate observations, they would assist my operations with a sum of money. This proposal I willingly accepted, and provided myself with the necessary implements, and induced a young architect (son of Mr. E. Willson, of Lincoln, the well-known archæologist) to accompany me, and arrived at Athens towards the end of October last year. I was also so fortunate as to fall in company with Mr. Meyer, associate, whom I beg here to thank for his very kind and able assistance during the time he remained in Athens.

The first thing which we attempted, as is

* For the re-assurance of some who have hesitated about subscribing, we may mention, that no alteration was ever contemplated in the mode of selection for the present year. The illustrated edition of "Il Penseroso" and "L'Allegro," to be given to each subscriber, in addition to a copy of Bacon's beautiful engraving after Wehnert's "Prisoner of Gisors," is making most satisfactory progress. Amongst the wood-engravings already finished is one which is equal, perhaps, to anything of the sort ever published. A correspondent lays a complaint against the council on account of the engraving lately issued—"The Convalescent"—after Mulready, by Doo. When the council obtained one of the best pictures of one of our most esteemed artists, and commissioned the first engraver in England to reproduce it on copper, giving him his own terms and his own time, they surely took all the means in their power to ensure general satisfaction.

† Read at the Royal Institute of Architects, February 21st.

necessary in all surveys, was the measurement of the base line, namely, the length and breadth of the building. This was done with steel tubular measures compared, at the time of measurement, with the thermometer, from which also long deal rods were graduated for the measurement of the heights, and for general purposes. The iron rods were carefully compared by Mr. Simms, both before and after my return, with his standard, and I give the results as delivered at Athens. They are still subject to a very minute correction, but not worth troubling you with at present.

As soon as the weather allowed, and the requisite permission was obtained from the local authorities, I proceeded to hoist a scaffolding at the east-end, of which I made an entire circuit, beginning with the three columns which are standing on the north side, and ending with the south-east angle column.

In this examination we plumbed every column, measured every stone of the architrave, the capital, and upper and lower stones of each column, in every direction; took careful measurements of all the cracks which have in any way modified the original form, and obtained levels of all the lines of the entablature at fixed points; and finally examined the entasis of five different columns, taking several sections of each.

We then migrated to the west-end, where I contented myself with making an exact examination only of the two angular columns, which positions enabled me to obtain the levels of the upper members of the western part. I also took all such measurements in the western part as my examination of the eastern part had pointed out to me as necessary to arrive at the exact original state. I then proceeded to examine the upper members of the Posticum, and the arrangement of the Tympanum, which has some peculiarities worth notice connected with the support of the statues. Then the roofing, the ceiling, and lastly, the original painting, engaged our attention.

This work in the upper part of the building was naturally very much exposed to wind, &c. It often happened that while it was impossible to do any accurate work on the scaffolding, we might be employed profitably below. But frequently it was altogether out of the question to go up to the Acropolis at all. The pavement was of course levelled in every part and several times over, until the whole system worked perfectly together, and I could satisfy myself that I had got the exact curve in every instance, or at least within one or two thousandths. We also took such measures as sufficed for the accurate position and proportions of the cella, with the arrangement of columns within it. This sums up our proceedings at the Parthenon, which occupied nearly five months. The Propylæa occupied a considerable share of attention, and I searched the Temple of Theseus to find how far it was analogous to the Parthenon.

Last, but not least, we ascended the Temple of Jupiter Olympius, from which we obtained various measurements and drawings. I have now nothing to do but actually to mention the measurements obtained, and I shall venture to hint at their intentions, where I have been able to form any thing like a theory on the subject.

The measurements of the breadth of the temple on the upper step, at the east and west ends, I found to be, respectively 101·341 and 101·361,—north and south, 228·141 and 228·154 respectively. This exceedingly small difference in measures which were certainly intended to be equal, points out the limit of error, which can be attributed solely to inaccuracy of measurement in other dimensions, namely, about 1 in 5,000. I may just observe that I found my wooden measures, notwithstanding they had been previously saturated in oil, subject to a fluctuation in various states of the atmosphere rather greater than this amount. So that, had the eastern front of the Parthenon been set out with deal rods on a dry day, and the western on a moist day, we should have had as great a difference between them as actually exists. I simply mention this to point out that the equality of the two ends is as great as wooden measures, under certain circumstances, could ensure.

It follows that all quantities which tend to proportionality must be looked at with great suspicion, in which varieties exist sensibly greater than this small admissible error.

I will take as my example the proportion between the fronts and flank, measured on the upper step. I prefer adopting the measure from the eastern end, on account of the greater religious importance of the first.

This is very nearly in the proportion of 9 to 4 or $3^2 : 2^2$. Had it been only 228·017, it would have been exactly so; instead, we have 228·147, if we adopt a mean between the measurements of north flank and south, and which gives a difference of ·130 between the probably intended proportion and the actual measurement. Again, the proportions of the cella, also measured on upper step, are 193·739 and 71·331. This suggests the proportion of 19 to 7, which would have held exactly, had the length of the cella step been only 193·612. The flank is, therefore, exactly as much too long as in the other case of the upper step of the peristyle, supposing the two assumptions of proportion to be correct.

These two tendencies towards a mark, and missing by exactly the same small quantity and in the same direction, strongly confirm the hypothesis that the mark was aimed at in both these cases, and that they were both deflected by the same cause. I think I could point out what the cause was, but I have already, I fear, exhausted your patience on a point of comparatively small importance. I will just point out the way in which the position of the cella seems to have been determined. My proof that it was so rests in the exactness of the proportions by which I have worked it out, and that it seems a very simple and natural method.

To bring a case of a proportion that may be admitted at once without any cavil, I will take the interior dimensions of the Naos, 98·04, 63·01; had it been 98·016, it had been exactly in proportion of 14 to 9: the difference here is only $\frac{4}{4000}$ or $\frac{1}{1000}$. And again, the interior of the opisthodomus, or treasury, which is between walls, 63·01 by 43·767. Had it been 43·750, I would have had the exact proportion of 36 to 25, or $6^2 : 5^2$, the difference in this case being $\frac{1}{1000}$. This may be fairly admitted, particularly as it is a geometrical ratio. I will now mention an approximate proportion, which I am not so ready to entertain.

The breadth of the Temple of Theseus is 45·011, and its length is 104·23. The former is almost exactly in proportion of $\frac{5}{12}$ths of the breadth of the Parthenon: this, I think, was intended.

But a difficulty occurs if we attempt to proportion the front with the flank on the upper step. It has been suggested to try the equilateral triangle. That, however, notwithstanding its being near enough the mark to suggest the trial, leaves a quantity = ·282 unaccounted for at the end; and, besides, I do not find that in the Parthenon there are any affinities whatever to that figure.

I very much prefer to descend from the upper step, and try the proportions on the second. By this addition, the flank becomes 106·63, and the front 47·41.

We now obtain a proportion of 9 to 4, differing from exactitude by so small a quantity as to be fairly admissible.

It is somewhat remarkable that the quantity 1·066 is found frequently in the measures of the Erectheum.

The proportion of solids to voids is 4522 to 1000, nearly as 9 to 2.

I have now stated the principal larger proportions: I will state a few others, which are the more important secondary ones. A very happy artifice is the walls of Pronaos and Posticum being thicker than the cella walls.

The height of the columns of Parthenon is exactly $\frac{1}{100}$ length of temple on upper step, the breadth of the abacus of six of the eastern columns is exactly $\frac{1}{13}$ breadth of temple; they are not all equal, but I have given the dimensions of those at the eastern end, which always gives the key to the main proportions.

In the Temple of Theseus, the column is exactly $\frac{18}{100}$th of length of temple on the lower step, and the abacus $\frac{1}{12}$th of the breadth on the upper step. In both, this member appears to be the unit of measure for all the details.

The whole building is most accurately proportioned in every part, and I think it not unlikely that it will be possible to find a standard which shall express every dimension without any incommensurable fractions.*

F. C. PENROSE.

* The remainder in our next.

USE OF CEMENT IN CONSTRUCTION.

SIR,—What I am about to say is founded on several years' experience in the almost exclusive and extensive use of cement; and I can prove its efficiency, when properly used, in building columns, as at Euston-square station. If columns are built with good cement, hard bricks, and properly bonded, they are capable of sustaining as much weight as ordinary building stones; and the entablatures (if built in cement properly, with bricks, all stretchers, and iron-hoop bond) may be made as strong, or stronger, with proper iron bearers, than a stone entablature; but the way in which irons are put in make them frequently causes of defects in entablatures, and often useless. It is not necessary to use iron over small openings; but over wide openings, where they are used, they should camber and have tension rods to them, and be made to take the abutment of the brickwork. The way in which brickwork in cement is *generally* done is very bad indeed; for I say, and can prove it, that not one bricklayer in a hundred understands or uses cement properly; and many of the builders themselves, not being practical men in this department, know less, especially in this matter. The chief cause is the degenerated state of brickwork, brought on by ruinous competition; and yet many architects encourage it, by accepting tenders, however low. Instead of accepting the lowest, if the medium price were adopted it might be considered the most fair price, and low enough, too, for it is certain that when a man takes a job so very low, every possible advantage is and will be taken, frequently bringing trouble and discredit on the architect, who, not always being on the spot, cannot see or know what is going on; even if there is a clerk of the works, he is not competent to understand every branch, particularly if he is by trade a carpenter, as most of them are. The system is to go in and win; and every advantage is afterwards taken of plans and specifications to make extras. The quality of the work is not considered,—the quantity is the chief thing required of the workmen; and he that can pack the bricks in a wall the quickest is generally esteemed the best workmen; and the railway works have made many that go merely by the name of bricklayers not worth half their wages, and not noticed in a crowd at large jobs.

I have known brick and cement work tendered at 14*l.* per rod, and brick in mortar at 10*l.* per rod, prime cost; and I am sure that brick and cement work cannot be done properly in any case for less than 15*l.* per rod prime cost; and in most cases where cement is used for strength, not so little as that; and if it is not done tolerably well, good mortar may as well be used, and in some cases better: for good mortar will harden, and spoiled or bad cement will not. It is a general practice where brickwork is to be cemented, that bad bricks are used with the idea that any sort will do to put cement on; but it requires good hard bricks, and where bricks are intended to be used in cement, they should be washed clean, and for particular works one by one; but what is generally done is to throw a few pails of water over a heap, and that neither soaks nor cleans them, and then the cement will not adhere to them. In particular jobs, every cask or at least every load of cement, should be tried before using, for most of the cement that is made so cheap is very bad and unfit for anything. This precaution is necessary even where a better price is given for it, as it sometimes happens that it is stale or injured by damp, and in order to test the abilities of a workman in the use of cement, let him stick up some bricks flat against the face of a wall, and if he can bring out seventeen with the ends upwards, or twelve with the edges upwards, he may be considered an efficient workman; although I can shew twenty-two end upwards, and fifteen edge upwards, stuck up within the last ten days, without any other support than their adhesion to the wall, and in *Roman* cement (*not* obtained for the purpose).

Much has been said about bond, to which I wish to add a little, and recommend it to be 1-16th inch thick, and 1½ inch wide, and one layer to each half-brick thick, viz., three to a brick-and-half wall: when laid in two or three courses of bricks, all stretchers, well cleaned and wetted,

and carefully built in cement, it will make a bond unequalled by any other; but the hoop should be stretched before using, and well turned up over the courses above, at the angles of the buildings, and to the jambs, to form a good tie; and it should be painted to prevent rusting: it should be well blocked at the end with the brick against it, to take the strain, and hooked together at the joints. One reason for having thick hoop is, that two or three pieces are more likely to be put in well than so many thin pieces. The way hoop is frequently put in is of little use, as I have seen, when left to the ordinary care of bricklayers, as it interrupts their work, and they (some of them) do not like it, so that it should be put in by a responsible man. I mention these points, as I have seen them unheeded, so long as the hoops are hanging out to view; but a good foundation is the most important, and, where the ground is bad, to spread out the brickwork to a good width, especially where the heaviest parts of the building are—as under columns and piers, where the pressure is sometimes over a small surface and likely to compress. Where it is desirable to make a building as fireproof as possible, the lintels may be dispensed with, by putting three or four courses of hard bricks in cement, with iron hoops over the openings. I have done so over windows of five or six feet opening, and then laid the floor-joist on them; and the floor or joist-plates may also be dispensed with, by making a screed of good cement over the brick and cement-bond, so that the joist may still have a tie; and where this is not considered sufficient, an iron tie may be fixed on the ends of some of them, and built in.

It has been said that failures and accidents have been caused by building too quick, where cement has been used, which is a mistaken idea, as brick and cement may be followed as quick as it sets, which it will do in a few hours at the longest.

One word as to columns: it seems to me that the proper method of building columns is quite overlooked, viz., that of laying the bricks the same as they would be in a square pier, heading, and stretching in alternate courses (cutting the outside to the proper sweep), thereby having all solid work and proper bond. I consider the method of cutting and laying bricks flat, radiating from the centre, is very bad; but laying them on their edges, in the same way is worse.

In building columns to take a great weight, malm paviers, being a uniform hard and sound brick, should be used, not being so likely to break in cutting as stocks are; but brick made of a quadrant shape, I think, without doubt, would be better, breaking joint every course; and as very little cement would thus have to be used, I think the expense would not be more than in the ordinary way; and if made from 9 inches to 3 feet diameter, a brickmaker might, I think, sell a great many.*

Broxbourne. JAMES PULHAM.

FINE ARTS IN BRISTOL.—A junction has been effected between the Academy of Fine Arts recently established in Bristol and the Bristol Institution for the advancement of literature and science, which can scarcely fail to be of great advantage to both bodies, and consequently to the city. The arrangement will give the academy immediate accommodation in a fine building and the use of a gallery of casts, &c., for which the institution will receive from them 3,000*l.*, and thereby be enabled to increase the museum, and otherwise advance the interests of science.

LIGHTING BY ELECTRICITY.—Experiments are still being made (previously alluded to by us) with the view of obtaining continuous light from the electric spark. At the theatre of the Palais Royal, Paris, recently, some extraordinary effects were produced in this way.

* A correspondent from Wolverhampton (R. R.) says, on the same subject,—I am surprised to see that, in reference to the late accident at the Euston station, not one of the parties or of your correspondents have noticed the simple and efficacious method of building columns with bricks moulded for the purpose. I send you a sketch of the method I have adopted in similar cases, by which, at an outlay of 20*s.* for moulds, about 5*s.* or 10*s.* per thousand extra price for the bricks, and a *little foresight*, a good, firm, well-bonded column can be built, without waste of material and labour in cutting, and with half the quantity of cement. Of course, in making the moulds, allowance must be made for the shrinking of the clay in drying and burning.

REVIVED USE OF MEMORIAL BRASSES.

THE art of engraving monumental brasses, after having flourished nearly four hundred years, presents striking evidence of decline in specimens of the sixteenth century, and in the succeeding century it was almost wholly superseded by the monuments in stone, terra-cotta, and painted wood, which then came into general use, and which were succeeded in turn by the pseudo-classic and grotesque barbarisms, with which many of our churches and cathedrals are cruelly disfigured.

Mr. J. W. Archer has been for some time past applying himself to the revival of the art, and last week gave us the opportunity of inspecting a brass of large size, which he has recently completed, and is intended to be placed in the family chapel of the Cottons, of Landwade, in Cambridgeshire. It is in the perpendicular style, 5 ft. by 4 ft., and contains a legend in raised characters under a flat canopy, consisting of a border of strawberry leaves, a moulding composed of crosslets and fleur-de-lis, in blue and red upon a ground of dull green. This is succeeded by a series of quatrefoils in pale blue, a moulding composed of the water lily, and another of small flowers upon a ground of bright scarlet. Within the depressed arch of the canopy is a trellis of vine leaves bordering the top and sides of the legend. This is effected in high relief, shewing the veining of the leaves by an original process of his own invention. By this method the inventor thinks, not only the boldest results, but likewise the more delicate minutiæ are capable of being rendered according to the most intricate varieties of design. The lower part of the monument is composed of a base containing the monogram C. H. for Cotton and Houblon, in characters worked in low relief with the hop plant and griffins' heads erased, the arms of the intermarried families: alternately with the escutcheons containing the monograms, are compartments representing the common Gothic ornament, found likewise on the tomb of Harpagus, at Xanthus, and to whose name it is supposed to bear allusion, called the grappling iron or harpagus. The colours on the base are composed of dull red, with smaller portions of bright blue, and of dull blue and bright red in succession; in the centre of the base are the arms of Cotton and Houblon impaled.

From the circumstance that a mixed metal is not calculated to bear the application of enamel, a durable substitute as a colouring material has remained a desideratum. In consequence of the use of coloured mastic and other perishable substances, ancient brasses are found generally destitute of this means of decoration, or retaining only such traces of it as merely serve to show that it has formerly existed. In remedy of this desideratum, Mr. Archer has made it his object to obtain a substance of a more permanent nature, and conceives he has procured for the above monument material scarcely inferior to enamel in hardness. At our request Mr. Archer has given the following memorandum of his progress:—

In July, 1839, I had an opportunity of reviving the use of church brasses in a monument in memory of Dr. Davy, which I was employed to execute for the chapel of Caius College, Cambridge.

This is a small brass, including an effigy of Dr. Davy in a niche composed of the representation of one of the gates of Caius College, called the Gate of Honour. It is now inlaid in the pavement of the body of the chapel. Since that time I have produced upwards of twenty brasses, chiefly of my own design.

In producing these works I have met with assistance and encouragement from members of the Cambridge and Oxford Camden Societies, and clergymen and gentlemen of taste.

Among my larger productions in this revived art are the following, viz.—At Foulmire, in Cambridgeshire, a large cross, with four ogee points, containing in the centre the sacred monogram upon a ground of small diaper, with a legend. At Ribbersford, in Gloucestershire, an effigy, with canopy, containing a shield of arms, buttresses, &c., in memory of Captain Winnington Ingram, dedicated by the brother officers of the Enniskillen Dragoons. At Wargrave, in Berkshire, a large brass, covering a space of 9 feet inlaid in Purbeck stone, consisting of the figure of an angel with a sword lowered, on which is inscribed—"The sword of the spirit, which is the word of God;" and in the raised hand a chalice, with a label inscribed—"I am the way." Two lesser figures support a diapered drapery bearing the legend. This monument was likewise dedicated by the Enniskillen Dragoons to their officer, Colonel White, of Wargrave.

Being desirous of effectually reviving the general use of this ancient and national art, I have spared no pains in availing myself of such means as may entitle it to a place among the fine arts of the present century, and I see in it such capabilities for extension, both as regards design and workmanship, that I have little doubt of its ultimate success. In anticipating such a result, I found my hopes not only on the intrinsic beauty of which this kind of monument is susceptible, but likewise upon the remedy which it will provide against that disfigurement of churches, which has occurred through the intrusive position of mural monuments, having a bold projection.

In the case of the monumental brass, whether placed in the wall, the pavement, or upon an altar tomb, it interferes with no projection, but takes its place upon the surface, serving as a relief to the blank monotony of the interior walls of our churches, and connecting the embellishments of enriched windows, carved work, &c., with analogous forms, and colours, and types, which preserve an entire harmony with the religious character of the sacred edifice.

RAILWAY JOTTINGS. — Landslips have been rather frequent of late. About 100 yards of a deep cutting on the London and Brighton, near Hayward's-heath tunnel, fell in on Thursday week; and on the Friday following a portion of the line itself of the Caledonian, near Ecclefechan, was undermined, and a serious accident was the consequence to a train, in which about six passengers had their legs broken, and several others met with severe bruises. Mr. Goodridge, of Bath, the architect, was slightly injured. Nearly the whole of the carriages were smashed to pieces the instant the engine sunk.——On another Scottish line, the Edinburgh and Glasgow, a landslip has taken place at an embankment near the Falkirk tunnel. Three oxen were killed in consequence of some trucks being thrown off the rails.——The masons and miners at the Huddersfield tunnel, on the Manchester and Huddersfield line, have struck work in consequence of an intimated reduction of wages. There are many hundreds in all,—the miners with 5*s.* a day of eight hours (previously 6*s.*), but offered 4*s.* 6*d.*, and the masons with 4*s.* 6*d.* and 5*s.* a day of ten hours, but offered 4*s.* and 4*s.* 6*d.* The sub-contractors have advertised for 500 masons and miners. ——The stone blocks in the Kilsby tunnel are being replaced with wooden sleepers, the stones having been found very liable to break off at the chairs from vibration. Safety is held to demand the change.——The Great Western Company have been found liable in nearly the full amount of the doubled rate (8,000*l.*) assessed by the parish of Paddington. The reference has lasted twelve months, and the Company must pay the costs.

PROVINCIAL.—The mines beneath Dudley Castle having been decided to be quite safe, the castle has been again thrown open to inspection.——A stained window, by Wailes, has been put up in St. Mary's Church, Birmingham. The design is from Raffaelle's Transfiguration, but it is thought by the Birmingham people to be 'too dazzling.'——A monument is to be erected to the memory of the late Earl Powis, with the 5,000*l.* collected for the testimonial.——A site has been got for a new church and burial-ground at Penrith. The work will be superintended by Messrs. Travis and Magnall, architects, of Manchester; and the building will be executed by Mr. Joseph Mawson; the joiners work by Mr. Green; the slating by Mr. William Bailey; and the plastering, plumbing, and glazing by Mr. William Scott, all of Penrith.——The foundation-stone of the new patent slip at Harrington was laid on Friday last.——The Conside iron-works, Shotley-bridge, says the *Durham Chronicle*, now support a population of 20,000, on wages amounting to 4,200*l.* a week.

ARCHITECTURAL ANTIQUITIES OF SCOTLAND.



Fig. 1.



Fig. 3.



Fig. 2.

BARONIAL AND ECCLESIASTICAL ANTIQUITIES OF SCOTLAND.*

When Messrs. Billings and Burn commenced their illustrations of Scottish architectural antiquities, we took occasion to direct attention to the work, and to commend the intention warmly.

Eleven numbers of the book are now published, each part containing four plates, engraved by Mr. Le Keux, besides occasional wood-cuts, and do more than bear out the promise of the first. It is intended that the work shall contain at least one representation of every ancient edifice in Scotland worthy of notice, and, if we understand rightly, there will be some supplemental parts, containing plans and details expressly for architects.

The parts already published, contain illustrations of Glasgow Cathedral, Holyrood Palace, Linlithgow Palace, Crichton Castle, Haddington Church, Trinity College Church, Parliament House, Edinburgh; Heriot's Hospital, Wintoun House, Moray House, Dunfermline Abbey, St. Giles's Cathedral, and Craigmillar Castle.

The views of Crichton Castle shew a description of external masonry little known in England, in which every stone is cut into facets. Scott, in his Marmion, describes the ruins, and thus notices this peculiarity—

> "Still rises unimpaired below,
> The court-yard's graceful portico;
> Above its cornice row on row,
> Of fair hewn facets richly show
> Their pointed diamond form,
> Though there but houseless cattle go
> To shield them from the storm."

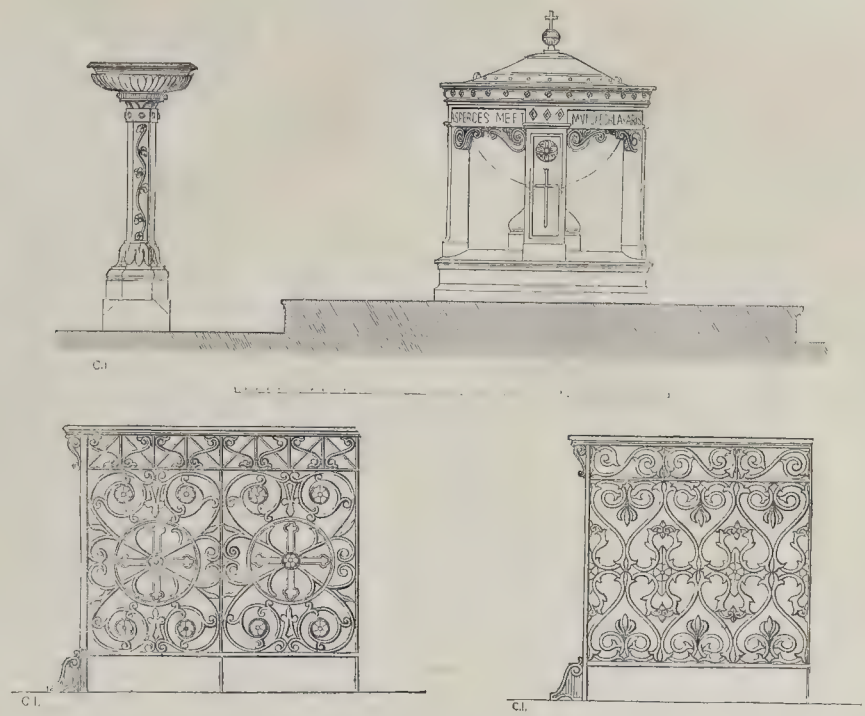
Ancient architecture in Scotland displays many peculiarities which deserve investigation, and it is to be hoped that the work before us will include some discriminating essays on the subject. The descriptive letter-press which accompanies the plates is too meagre for a work of this character and importance: the majority of buyers in these times expect more precise architectural description and inferences drawn therefrom than are at present to be found in it, a hint which we trust will be taken in good part, and not lost sight of by its able and spirited conductors, who have apparently put this portion of the work into other hands than their own, thinking it desirable perhaps to avoid giving it too technical a character.

Annexed we give specimens of the wood-cuts which illustrate the work, in addition to the engravings on steel. Fig. 1 shews the north aisle of Trinity College, Edinburgh, ascribed to the fifteenth century, and which, according to our author, is doomed to be destroyed, to make way for the operations of the Railway Company. Surely if some effort were made this destruction might be avoided.

The semi-circular headed door on the left side (this form of arch appears to have been oftener used in buildings of the pointed style

* By R. W. Billings and William Burn. Blackwood, Paternoster-row.

FROM THE CHURCH OF LA VILLETTE, PARIS.



in Scotland than in England), leads to "a small edifice, in the form of a house, but from the character of its details probably coeval with the church. It may have been formerly the chapter-house of the college; it now accommodates the Kirk session."

Fig. 2 represents Moray House, in the Canongate, Edinburgh, with its curious massive balcony and stone spires on either side of the gateway. "This house," says Mr. Chambers in his "Edinburgh Journal," was built in the early part of the reign of Charles I. (about 1628) by Mary, Countess of Home, then a widow." It possesses much historical interest.

Fig. 3 is the west front of Dunfermline Abbey Church, in the county of Fife; founded in the Norman times, and afterwards renewed posterior to 1304, when the abbey buildings were fired. The nave alone remains: a church was built on the site of the ancient choir from the design of Mr. Burn in 1821.

A large sale can alone repay the proprietors the cost of the work before us, and this it well deserves, and will, we hope, secure.

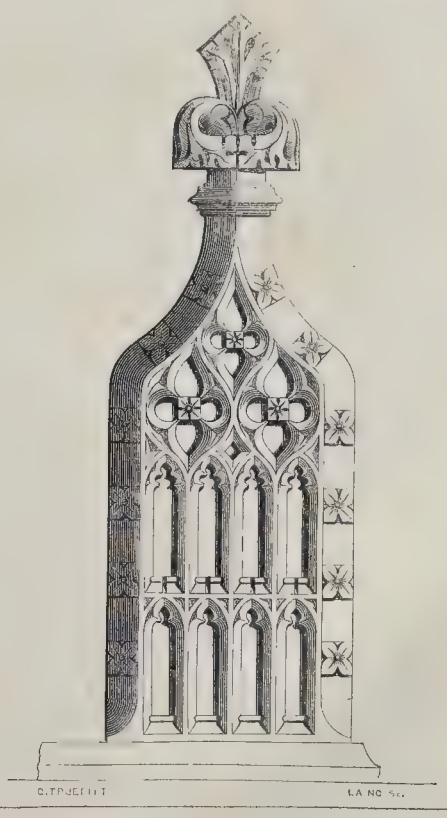
FITTINGS FROM THE CHURCH OF LA VILLETTE, PARIS.

To complete our illustrations of the modern church at la Villette, published last week, we now give engravings of the marble font, the basin for holy-water, and two examples of cast-iron railing used to inclose the chapels. The scale of the font and basin shews four *mètres*.

BENCH END FROM LITTLE SAXHAM CHURCH, SUFFOLK.

WE add to the list of specimens of bench ends already given, an elegant example from the well-known church at Little Saxham, in Suffolk. We have several others in the hands of the engraver: when completed, we may make some general remarks on the whole.

BENCH END, LITTLE SAXHAM CHURCH, SUFFOLK.



PROFESSOR COCKERELL'S LECTURES ON ARCHITECTURE.

THE sixth and last lecture of the course included remarks upon the probable duration of the medieval styles, and the greater principle of vitality in the classical, or trabeated system, and the advantages of the latter for municipal purposes, the aid afforded to the trabeated system by the use of iron, also the merits of the Grecian and Roman styles contrasted, and the value of the works of Vitruvius. The lecture had also much interesting matter on the subject of the ancient mausoleum, referring particularly to that at Halicarnassus, the marbles of which are now almost certified to be those which have recently been deposited in the British Museum. The illustrative drawings included several restorations of the mausoleum, of other mausolea, and different buildings in Italy and England, amongst them elevations of the towers of Bow Church and St. Bride's, intended to form part of a work by Mr. Clayton, illustrative of the architecture of Sir Christopher Wren.

The professor said that in previous lectures, the medieval style had been considered, and it had been allowed that no style was so well suited for religious purposes. There was no doubt of its duration for a period, and we might, out of it, produce many new combinations, but it had not been attempted to apply it to municipal purposes. Whilst the arcuated system was well adapted for religious purposes, the trabeated should be retained for municipal buildings. We had now such facilities in the use of iron, and other materials, that the trabeated system had advantages which it had not had previously. Granite could be polished as it never had been since the world began.

In the course of some remarks upon Grecian and Roman architecture, and the influence of classical tastes, he said that we had overlooked the application of the Grecian style to times and usages different to our own; we had rejected the arch, and the rich inheritance of 300 years of the architecture of Italy. One of the mistakes into which we had at the same time fallen, was executing in bas-relief, the front of the Grecian temple in systyle, with windows between, whilst by the masters of "the revival," as Palladio, a wider system of intercolumniation was seen to be requisite, where windows had to be inserted. The more artistic arrangement had been adopted in Lord Spencer's house, in the Green Park, by Mr. Vardy. In superimposed orders, the Romans had seen the propriety of treating them in combination, and diminishing them regularly; whilst, in modern works, they had no reference to each other, as might be seen in the wings of Buckingham Palace.—In referring to the debt which architecture owed to the Greeks, he said that we had never yet equalled that people, and were never likely to do so. In all their devices for optical illusion, as in the "scamilli impares," we noticed an emanation from the exquisite artist. Concerning the Romans, and their use of the arch, he said that they united that feature, in an admirable manner, with the trabeated system. The Romans were, at first, the Puritans of the ancient world—they were architect-engineers. The value of the Roman baths had been felt in every later style of architecture: it was to those structures that the architects of the middle ages were indebted for some of the most striking features of their buildings. Their value was felt by the Adams; and the architects of "the revival" discovered in them many of those inventions which we admire in their buildings.—He recommended that much attention should be paid to the architects of "the revival"—noticing Brunelleschi, Bramante, and some of those who succeeded them. The work of Serlio penetrated to all parts of Europe, and, lastly, was published in England, with Dutch plates. Vignola was the inventor of a new cornice used in St. Paul's Cathedral, and also of the method of entasis which is now so well known. The French had always followed Vignola as a master, whilst we had taken Palladio. Palladio invented the arrangement of order and subordinate order, so striking a feature in the basilica of Vincenza, of which the professor exhibited an effective drawing. Palladio was probably the earliest master who united two stories in one order, although Michaelangelo, in the capitol, may possibly have practised this arrangement earlier. San Micheli had followed a peculiar method, using very large windows, and yet preserving a remarkable solidity, and his buildings might afford to us a hint worth taking: in Italy they excluded the light, whilst we were glad to court the sun's rays. If it were allowed by the laws of the academy, which would not permit him even to speak well of the living, not even to say what was good of them, he might describe in the same manner many arrangements by contemporary architects.

After some remarks upon the examination of ancient monuments, and the value of travel, he passed to the consideration of mausolea. Certainly, at no distant period, invention would be on the stretch as regards these interesting buildings, and the study of such ancient monuments was elevating to the mind of the architect. But there was great difficulty in gaining the forms from the descriptions of authors only, and the study required very peculiar qualifications. Quatremère de Quincy had been in error in ascribing the earliest restorations of the mausoleum to Politi and de Caylus, for Wren had made a design for a restoration, given in the "Parentalia," at least fifty years before. The examination of these marbles had been a matter of extreme danger; so much so, that when an order from the Sublime Porte was produced by a traveller, to be admitted to the fort where many of the marbles were placed, it was not unusual for the Aga to say that he had no orders to let him go out again. The building had been described by Vitruvius, and by other authors. The subject of mausolea was interesting, because tombs were more splendid, or more enduring than temples themselves. The funeral pyre of Hephæsion, the friend of Alexander, described by Diodorus, was, in plan, a square of about the length of the Colosseum, and is considered to have cost not less than 2,325,000*l.* sterling.

The professor then described the different restorations of the mausoleum, including his own. Quatremère de Quincy and de Caylus had made the lower portion solid, whilst Sir Christopher Wren had made it open, inserting only the columns which were necessary for support, as in the monument at Mylassa. The professor considered that that structure must have been on the same plan as the mausoleum, and it corresponded, as to the vacuity beneath the pyramid, which it was supposed had covered it, with the accounts of the mausoleum; the restoration he gave had, therefore, been designed by a comparison of the accounts with this monument. Hawksmoor had adopted the design of the mausoleum in the upper part of the tower of St. George's Bloomsbury. The professor also exhibited a drawing of the mausoleum of Augustus, an immense structure, covered with a pyramid on which were planted cypress trees.

The professor concluded his lecture in the following admirable words, which we are glad to give entire.

Having now arrived at the termination of the present course, in which I have endeavoured to lay before you such considerations as I conceived useful to advance your studies and your present pursuits, I have now to recommend your diligent attention to every opportunity of instruction, and your use of every hint that is thrown in your way by every possible means. The architect is especially a curious and observant animal: whatever contributes to use and beauty, from the curtail of a step to the turning of a dome, will arrest his consideration. Taste and judgment are created by observation, by comparison, by selection. The field of this observation should be enlarged and expanded to the utmost. The past, as well as the present, are before us by books, by hints, and by all the senses. We should travel in books—travel in our respective offices—travel in our respective towns—travel in our own land, full of interest as it is. Those elements which made a Vitruvius, or a Wren, are perhaps in a richer abundance amongst us than in their times; all depends upon ourselves.

Finally, in the exercise of that privilege and most profitable faculty of our art and business—criticism—let me recommend you earnestly to use that privilege with candour and ingenuousness, like liberal gentlemen; carefully to dismiss from your habits of mind all captious censoriousness, all cold disrespect, when you stand in the presence of works, the fruit of so much cost of mental labour, experience, and material expense. Consider the works of a reputed master with the generosity of the English law—that it is all *innocent* till it is proved to be *guilty*. By an ingenuous and confiding reliance upon reputed merit, you will soon learn to discover and appreciate it; and more than this, you will appropriate it—make it your own—part and parcel of yourself—bone of your bone—to the great advantage of your future productions. We should *begin* by finding the beauties, and *end* by finding the faults; take the difficult first, and the easy and the vulgar last. In each conspicuous master you will find a conspicuous merit: by a sound, careful, and ingenuous criticism, you will make yourself the depository of those merits. I may truly say that I never was disappointed in this respect; and constantly, in following and tracing a great master, ancient or modern, I have said to myself, "I have grown a cubit since I examined his works."

Now, if we permit the contrary system—that vulgar detraction which is so common, that supercilious scorn—to grow upon us, we utterly lose those advantages; we begin with a disgust which confines us to a superficial appreciation; we skim over it, as unworthy of our notice, and miss, by this empty vanity, the *secret* which ought to be the object of our search—the *jewel* which, hidden beneath the surface, will repay our industry and fidelity to labour so largely. It is therefore that I recommend the same temper of mind regarding all the respectable masters and authorities in our art; treat them with habitual respect, as the benefactors of our craft; rightly viewed, they will be found in general harmony with each other. However different the shades, Vitruvius, Sir W. Chambers, Vignola, Palladio, and Sir C. Wren, will not be found to differ materially: they do not give you inventions of their own, but the great results of the previous experience of their age and country. Let not the sceptical detractors of Vitruvius lay hold upon your prejudices; be assured that you will never be safe without him, nor that you can dispense with his rules; nor, if you mean to be an accomplished architect, can you be unacquainted with his writings. Remember that he was respected until the German philologist, Schneider, presumed, in 1807, to attack his Latin, and visit him with scorn, because he did not write like Cicero—for he had something better to do—while Schneider professes and declares utter ignorance of the subject-matter, the art, with which, he says, he will have nothing to do. "I leave his text purified," says he, "for the use of the learned artist." Since Schneider, it has been the fashion to run down Vitruvius, at first called "divine" by Salpitius, and respected during 300 years by the best of the moderns.

There never was a time in which this respect for wholesome doctrine and authentic names, and a sound criticism, were more wanted than at present, because the variety of monuments and materials of all countries, ages, and styles, recommended indifferently by the teeming publications of the press to our notice, occasion such a dissipation of mind, and looseness of principles, that we stand like the Babylonians amidst the confusion of tongues, unknowing which to follow, or what to understand.

If allegiance to high principles of art, and the great men who have taught them to us, is once allowed in our minds to be trifled with, there will be no end of our deflection from the right path; we shall be the victims of error, caprice, and experiment, and the ridicule of future times; for, remember, that while those who order works are forgotten, our names and our art endure, and fix the blame and praise of our day upon the character of our period of history.

ARCHITECTURAL PREMIUM.—Amongst the prizes advertised by the Royal Manchester Institution, the council offer the Heywood silver medal and 5*l.* in money for the best design for street architecture, with regard to warehouses, shop-fronts, and offices. The prize is limited to architects resident in Manchester, or within a distance not exceeding 50 miles therefrom.

ARCHITECTURAL IMPROVEMENTS IN LYONS.

Although the city on the banks of the Rhone is by no means one of great population, yet its structural works were, at all times, of a great character, partaking of that of those Romans of which Lyons was one of the chief colonies. Amongst the works of the last century, is that stupendous digging of new beds for the Soane and Rhone, and *descending* the embrochure a few miles down their former junction. Of late the municipality of Lyons have put forth this sensible axiom—"That there is a great necessity for systematising old streets, to *healthen* its lower and more damp districts, and to make *art* prevail, with a constant and unceasing regard for the dictates of *Hygiéne*." Great praise is owing to the late M. Terne, Lord Mayor of Lyons, who was so fond of this sort of improvement, that his administration was called *le règne architectonique!*

The difficulty of architectural improvement in Lyons lies (partly), in a cause which does *honour* to that art, viz., the very substantial character of almost all its buildings, even such of the more distant quarters, where *demolition* is indispensable. The houses of Lyons are built of gigantic blocks of stone which equals the durability of granite, and defies age to destroy it. These stern structures attain, at times, a Babel-like height, seven to eight stories, in some even as many as ten, all inhabited from top to bottom.

Notwithstanding this obstacle, great improvements have taken place, and are taking place. Several of the quays of the Soane have been enlarged, others newly constructed. Two *galéries* (arcades), one the model of the *Vivienne* at Paris, *la Galérie de l'Arque* and *de l'Hopital*, have opened commodious roads in quarters hitherto little frequented. A terrible stink pool, called *la Pecherie*, and one of the streets of abomination (*Rue Noire*) have completely disappeared, and asphalte has supplanted the hitherto filthy and unwholesome paving of many out-of-the-way localities. It has been here also remarked, that to cleanse any locality is tantamount to a *moral* cleansing of its population.

Amongst the latest public buildings of Lyons, the *Palais de Justice* is to be adverted to first. It has been erected on the site of the former *Palais de Roanne*, whose dismal walls and iron bars reminded of the barbarism of those times. The present edifice presents a façade turned towards the quay, and opposite to a suspension-bridge erected in the direction of the axis of the building. The peristyle is composed of an attic, supported by twenty-four Corinthian columns of great height, on an elevated *soubassement*, arrived at by a *perron* of twenty steps. This large staircase is flanked by two ranks of pedestals, whereon groups and symbolical figures, executed in marble, are to be placed. The gaol, which forms the rear part of the edifice, will consist of a huge mass of masonry. The architect, M. Baltard, has, however, made some interior arrangements of the prison, which have not been generally approved of.

The old *Pont du Change* has been replaced by that called Pont de Nemours, and while on one side the old bridge was demolishing, on the other the new one was raising already its numerous arches. It is strange to observe, that for some reasons of economy, the axis of the bridge lies *obliquely* on the bend made here by the Soane. Another new suspension-bridge, that of St. Clair, deserves notice, because the chains are laid on two large Corinthian columns, erected on the middle pier—an improvement on the hitherto mere brickwork pyramids of similar buildings.

We shall conclude our sketch by the mentioning of the *Jardin d'Hiver* (winter promenade and garden), in which Lyons has so closely followed the example of the French capital. It is curious to observe, moreover, that besides the *hygieistic* ground for such winter promenades, another grave reason has weighed on the Lyons shareholders and civic authorities, viz., to afford, by the rich display of gorgeous and gaudy floral forms, *new patterns* and ideas to the many silk manufacturers of the city of the Rhone! The French press describes this edifice as a palace of plate glass, a monumental green-house, surmounted by a lofty cupola, of which the girders are of cast-iron. This dome, as it were, rests on a number of porticos, ornamented by *Lianes*, Gessnerias, and other tropical creepers. As the necessary accessories of a winter garden, there will be reading rooms, conversation halls, athletic and gymnastic grounds, playgrounds for children, rooms for botanical studies, &c. There will be concerts, and an exhibition of objects of art to afford the young artist an opportunity of his works being seen and appreciated. The architect of this edifice is M. Hector Horeau, of Paris.*

METROPOLITAN COMMISSION OF SEWERS.

A general meeting of the Commissioners of Sewers was held on Thursday last, Lord Morpeth, M.P., in the chair, when a rate of 6d. in the pound was ordered to be made on the Holborn and Finsbury division.

A recommendation from the General Purposes Committee was adopted, that the only condition on which aid for drainage purposes will be afforded by this court is, if deemed necessary by their surveyor, the abolition of all cesspools connected with their houses.—The Clerk reported that Mr. Thomas Lovick, late surveyor of pavements to the united parishes of St. Andrew, Holborn, and St. George the Martyr, had been appointed assistant-surveyor for house drainage; and that the Paving Board of those parishes had afforded every facility by allowing his immediate services, which would commence on Monday next.—Mr. Hutton rejoiced in the appointment of a person who had given such evidence of his capability of performing the duties required.

A communication was received from Mr. Daw, clerk to the City Commission of Sewers, setting forth that suspicion was entertained by that court that the refuse of the gas-works in Worship-street had been cast into the sewers, and calling the attention of this court to the subject. The matter was referred to the surveyors.—Mr. Slaney complained that he had received various applications from individuals as to the trapping of drains and other subjects, and he wished now to observe that such applications should be sent to the clerk of the court, and not to individual commissioners.

The surveyors then presented a report on cleansing and flushing of sewers, from which it appeared that "since the last report on this subject 10,328 cubic yards of deposit had been flushed away from 65,071 feet in length of sewers. The total number of streets and courts thus benefited to the present time is 489, and the total length of deposit flushed away 41,498 cubic yards. The deposit in many of these sewers was of the foulest description, and in some cases so very offensive, that men who have been employed for years could scarcely withstand the effects of the noxious effluvia, nor could they do so for more than a short space at one time, although there was a plentiful supply of water from the mains for dilution."

The state of the funds for the various divisions was declared to be as follows, after cheques drawn this day:—

	£	s.	d.
Westminster	1,257	1	0
Holborn and Finsbury	1,516	8	1
Tower Hamlets	9,340	19	3
Poplar	321	11	1
Surrey and Kent	1,100	13	0
Greenwich	91	9	3
Total	£13,628	1	8

A letter received some time since from Mr. Gwilt, one of the surveyors of the Kent and Surrey division, having been referred to the General Purposes Committee, a report was presented from them, stating that they, looking upon it as a resignation of his office, recommended that his resignation be accepted.—Lord Morpeth put the question, which was unanimously agreed to.

The Hon. F. Byng inquired if the surveyors for the Kent and Surrey division were in attendance? and on being answered in the negative, expressed his surprise that they were not in court, as he had a question to put to them regarding a portion of the district under their survey. He said he wished to draw the attention of the court to the horrible state of the premises at the lower part of Bermondsey, known by the name of Dockhead, where, in the midst of a densely-populated neighbourhood, he found frightful, extensive, and black open ditches, with filth in them 5 and 6 feet deep; and as the surveyors were not present, he wished to ask Mr. Drew, the clerk of the Kent and Surrey division, why they had been allowed to exist so long?

Mr. Drew said they were not public sewers, and no complaint had been laid before the late commissioners.

Mr. Byng—Were the commissioners aware of their existence?

Mr. Drew said they were; for during the raging of the cholera they had them cleaned out.

Mr. Byng said he had carefully looked through the records of the court, but could discover no report, no note of the existence of this pestilence from any of their surveyors, although they received a per-centage (he believed 5 per cent.) on works ordered, to the amount of 300,000*l*. The place, nevertheless, was too horrid for description, as he felt assured that such another did not exist throughout England. Similar remarks might apply to Lambeth, where there were miles and miles of open ditches, and he thought the court ought to inquire what had been done for 50,000*l*.—whether that sum had been applied to the relief of persons who had the power to complain, rather than to the poor, who were compelled to suffer the evils in silence.

Mr. Leslie inquired why a jury had not been called out to compel the owners of the property to abate the nuisance.

Mr. Drew doubted whether the Court of Sewers could take it up in that way. They had recently obtained powers under a new Act to give parties notice to do what was required, and after fourteen days, if not done, to cleanse the place, and charge the owners of the property with the expense; but the great difficulty was in finding out the real owner of the property.

Lord Morpeth thought their duty was that of inquiry and future amendment; at the same time he trusted it would be made known, that they required the attendance of the actual officers; and also to inform them that if they did not attend, this court would not feel bound to continue them in office.

The conversation then dropped. An appeal-day against the sewer-rates, for the Kent and Surrey division, was appointed for the 4th of April.

The state of St. Giles's.—The clerk laid before the court a report from the Statistical Society of London, on the sanitary state of portions of St. Giles's (particularly Church-lane), remarking that they considered it involved such startling circumstances, that they deemed it a duty to have them attested and verified, for the sake of the public. The report gave a picture of human wretchedness and degradation disgraceful to a civilised country. Much of it resulted from the system of sub-letting. Cheap houses will go far to give the death-blow to this fatal system; and to build cheap houses, deserving of the name, appeared to the Committee a work of preventive charity worthy of all encouragement.

It further appeared from evidence, that 17 houses contained a total of 463 persons; and 100 families, of whom were—males, above 20, 111; females, above 20, 138; males, under 20, 117; females, under 20, 97.*

Miscellanea.

Taste Pays.—Artistic improvement in manufactures has created an entirely new school of architecture in London. Assuredly there are few whose memory cannot carry them back to the old shop fronts of the metropolis. They remember the small dingy panels, the heavy frame-work, like the gratings of a prison, and the miserable attempts at display of wares, more calculated to repel than to invite purchasers. Now that shopkeepers have got something worth showing, they have become eager to display them. Does any man imagine that the plate glass, rich mouldings, and splendid pillars, in the shops in Regent-street, the new Strand, and Ludgate-hill, would ever have been erected but for the confident belief, that repayment would be derived from the gratification afforded to the improved and improving taste of the people? We may be assured, that if the shopkeeper found his association with the architect a losing concern, the march of plate glass and gilt mouldings would long since have been arrested. Its continued progress is a conclusive proof that *taste pays*; no one indeed can doubt the fact who walks through the streets of London with his eyes open.—*Art-Union Journal.*

A Suggestion to Brickmakers.—A subscriber thus writes:—Will you allow me (through your paper) to draw the attention of the manufacturers of bricks, artificial stone, or other similar materials, to the desirability of making ornamental or suitable plain coverings or bands for graves, as well as borders to keep up the earth. It would be the means of churchyards and cemeteries always retaining a clean and orderly appearance, and where economy was required, I conceive it would have that effect.

* Our Paris correspondent does not speak well of the new *Jardin d' hiver*, constructed there at immense cost. The complaint is that art has had little to do with the design.

* 1,000 cubic feet of air being deemed necessary for a single prisoner in England, and 800 cubic feet for a soldier in a barrack in India, it will be seen how miserably deficient the supply of air is to the inhabitants of these houses. The average supply is as nearly as possible 175 cubic feet of air, the largest 605, and the smallest 52.

The Light, Air, and Health Tax.—In the Commons on Thursday last week, Lord Duncan brought on his motion for the immediate and total abolition of this now more and more than ever unpopular and offensive tax. He entered pretty fully into its history and demerits, pointing out the fact, that windows were no more a criterion of the value of the house, or the ability of its occupant, than were the buttons on a coat of the merits of the man, or the weight of his purse. Mr. Hume scouted the idea of administering a sanitary antidote to the people mixed up with such a bane as the light and air tax. All—even the Chancellor of the Exchequer himself—admitted the indefensibility of it on its own merits, and it was even clearly shewn, that independent of its sanitary bearings, the pressure of it on the people was absurdly and even preposterously unequal. Various members, however, Lord Ashley inclusive, were so inconsistent as to point out, clearly and ably, what was right, and then to turn round and do deliberately what was wrong, merely because a Chancellor of Exchequer declared he wanted the proceeds of the unqualified evil,—the admitted wrong. Mr. Wakley, as a medical adviser, and in strong language, denounced both the evil and its supporters, regretting that the public would now be convinced, from the determined objection of the Government to remove it, that all hope of retrenchment by them was gone. He asked if architects had ever been consulted on the subject. Even Sir Robert Peel recommended them to seek a substitute less open to objection, though he voted with them; but on the motion being pressed to a division, the Government and its thick and thin supporters outvoted the more consistent members by a majority of 160 to 68.

Appointment of Architects by the Church-building Society.—At a meeting last week of the Incorporated Society for aiding in building and repairing churches, a report of a sub-committee was brought up, from which it appeared that it has been repeatedly represented by professional persons and others well skilled in these matters, that much injury has been done, and needless expense incurred, through unkilful persons having been employed. It has been further represented that the alteration of an old church generally requires, not merely the assistance of an architect, but of one who has given his attention more particularly to the subject of works of that kind, which, when constructed upon the true geometric principle so well understood and practised in the middle ages, display a wonderful intimacy with that great division of superior mathematics by which the simple elements of "lateral thrust" and incumbent pressure are so beautifully balanced, and, indeed, harmonised, in our most stupendous architectural constructions of that era, but which are incomprehensible to ordinary minds. The society, which has long felt the need of some inspection of the works in progress, have therefore secured the co-operation of several architects, who, it is said, from their skill and long standing in their profession, can be safely relied upon, who will advise with clergymen upon the best means of restoring or altering their churches, but without in any way interfering with the employment of an architect, or other person, to whom it may be wished that the work should be intrusted; and who will, as opportunity may offer or the parties desire it, inspect the works as they are carried on under the sanction and with the aid of this society; thus affording additional assurance that such works are properly executed. We are compelled to view such interference with distrust.

The City Sewers.—A deputation of the corporation having waited on Lord Morpeth to ask what were the intentions of the Government as to the second reading of the Bill for the enlargement of the powers of the City Commissioners of Sewers, his lordship gave them distinctly to understand that they would feel it their duty to oppose it, as he expected in about a fortnight to introduce a Bill for the consolidation of the system of sewers throughout the whole metropolis. The utmost his lordship would consent to was, that he would not oppose any resolution for postponement that might be moved.

An Offering for Conscience Sake.—The clerk of the Holy Trinity Church, in Bridgewater, Mr. John Hayward, has recently presented to that church an oak cover for the font, six feet two inches high, designed and carved by himself, as a memento of gratitude for restoration to health. When we say that the donor is an accountant, and having lost the use of his right shoulder joint, has worked the whole of the cover with his left hand, our readers will give him credit for much perseverance as well as a good motive.

Sir John Vanbrugh.—A sketcher in Felix Farley's *Bristol Journal*, talked lately of "Blenheim and its Architect," and moreover talked pleasantly. We take a couple of his paragraphs:—"Do any of the ladies and gentlemen who welcome our hebdomadal prolusions understand architecture? We have ourselves studied it with extreme assiduity, being solicitous to be delighted according to rule, and never to be guilty of misplaced admiration. But, somehow or other, we are apt to be rather erroneous in our raptures. We cannot avoid being somewhat pleased with Blenheim. At any rate we admire its architect, who was certainly no ordinary man. It is a very rare thing for the same skull to confine both an architectural and a dramatic genius—

He writes you comedies, draws schemes, and models,
And builds dukes' houses upon very odd hills!

A combination so strange, *outré*, fantastic; the power of working with two such opposite materials in two such contradictory modes; and the decided attainment of a certain excellence in both. There never was a case at all similar. Ben Jonson was a mere working bricklayer; yet he would seem a far likelier man for an architect than Sir John Vanbrugh. One naturally invests your architects with architectural qualities, such as gravity, steadfastness, stability; how alien from the wild wit, the mad method, the fiery reckless vigour of a dramatic author in the days of the second Charles! An astronomical discovery by Shakspeare—not such a one as Romeo makes—were not more truly amazing than a mansion built by Vanbrugh. Is it possible that the creator of Lord Foppington was the contriver of Castle Howard? The architecture of Vanbrugh, in his two greatest works, Blenheim and Castle Howard, and in several other magnificent mansions which he built, is characterised by an irregular grandeur; but in his lesser edifices, where fancy and lightness were requisite, he has decidedly failed. Sir Joshua Reynolds, a very competent authority in such matters, speaks of his architectural genius in terms of high laudation." "We passed through Blenheim's stately halls and magnificent parks, thinking less of its hero than its architect. We had few remembrances for the founder of the ducal house of Marlborough; his good sword has already acquired a rust which will never dim the facile pen of Vanbrugh. Those great soldiers, who for their life-time fill the eye of the world, and are regaled with a perpetual pension of praise, suffer terrible diminution in the judgment of posterity. How is it that words are so triumphant over deeds?"

Beverly Minster.—A correspondent from Lewes says: Not long ago I visited Beverly, for the purpose of inspecting its celebrated and beautiful minster. A gem, indeed, it is, and would be a perfect model of a beautiful ecclesiastical structure, were it not for two sad inconsistencies—one external, and the other internal. I allude to the absence of the central tower—which one would imagine, in a wealthy county like Yorkshire, could easily be subscribed for—and to the barbarous treatment of the interior, by erecting a hideous rood-screen, of the very worst taste, of the cinque-cento period, and filling up the lofty and beautiful chancel arch with *red cloth*, as the clerk informed me,—to *keep the place warm*. He, however, told me that it was proposed to remove it, and fill the arch with *glass* instead. Now, the miserable effect of this Vandalism every ecclesiologist knows in Lichfield Cathedral, where the taste of Mr. Wyatt introduced it. Surely the officiating clergy in Beverly Minster are not so bent upon their own comfort that they will allow the beautiful perspective of their "long-drawn aisles" to be sacrificed to it. Let us hope for better things.

Fire-proof and Rot-proof Houses.—Sir: In connection with a recent inquiry as to the prevention of rot in houses, I would direct your attention to a plan of building by Mr. Grimsley. He builds houses without any wood whatever, except for doors and window-frames: his roofs are self-supporting, and so are his floors. The roof is turned with a brick arch, with bricks of a peculiar form, made to support each other, and firmly put together with cement, about five feet apart. The floor is supported with *wrought* iron girders placed five feet apart, arched in proportion to the width, and the space between the girders is filled by arched brickwork, also laid in cement. These bricks, both for floors and roofs, are hollow and light as timber. Any one who is about to build in a damp situation, or wishes for a fire-proof house at a moderate cost, would do wisely to visit Oxford, where he can see both the University Record-office and St. Paul's School, both built on this plan.—T. C.

Relics of Ancient Gloucester.—In consequence of a survey by Messrs. Hamilton and Medland for a new street about to be formed in Gloucester, as a main approach to the docks, an interesting portion of the monastic buildings in Blackfriars-square has been brought under notice. It has long been known only as the "malthouse," and includes an apartment of considerable size, which the local antiquaries call a *scriptorium*, with an open timbered roof of curious construction, partly carried on stone corbels, which go down to the floor, and so form a series of *carrols*, or shallow inclosures, to read in.

Advantages of Education to Mechanics.—It has a tendency to exalt the character, and, in some measure, to correct and subdue the taste for gross sensuality. It enables the possessor to beguile his leisure moments (and every man has such) in an innocent, at least, if not in a useful manner. The poor man who can read, and who possesses a taste for reading, can find entertainment at home, without being tempted to repair to the public-house for that purpose. His mind can find employment where his body is at rest. There is in the mind of such a man an intellectual spring urging him to the pursuit of mental good; and if the minds of his family also are a little cultivated, conversation becomes the more interesting, and the sphere of domestic enjoyment enlarged. The calm satisfaction which books afford, puts him into a disposition to relish more exquisitely the tranquil delight of conjugal and parental affection; and as he will be more respectable in the eyes of his family than he who can teach them nothing, he will be naturally induced to cultivate whatever may preserve, and to shun whatever would impair, that respect.—*Robert Hall.*

Chronicles of Old London Bridge.—Sir: In looking over the early volumes of the *Northampton Mercury*, I found the following paragraphs relative to old London-bridge, which may perhaps interest some of your numerous readers.

Northampton. E. Pretty.

London, May 27, 1721.—"This day they will begin to work upon the drawbridge (of London-bridge), and 'tis thought it may take up three days to mend the timber-work; during which time no cart, coaches, &c., can pass over."

Mercury of May 19, 1722.—"The new drawbridge of London, as aforementioned, is now finished, and a free passage made between Surrey and London, except for those who design a longer journey, and then a passport is required."

June 29, 1728.—"They are at work in widening the passage through the gate at London-bridge, that two coaches, waggons, or carts, may pass at the same time, the portcullis being taken down, and two posterns to be built for foot passengers."

The inconvenience felt by the public on the above occasions produced the following:—

July 1, 1728.—"Read a third time and passed, the Malt Bill; read also, petitions of the freeholders of Kent, Sussex, Surrey, and Southampton, also of the inhabitants of Southwark and Westminster, praying a Bill may be brought in for building a bridge from Lambeth to Westminster ferry, on river Thames, and referred to the Committee."

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of the several works to be done in building an asylum for chronic lunatics in Kent, and also a chapel on land adjoining the present asylum; national schools at Lyndhurst; a parsonage house in Durham; extensive additions to the Newmarket Union Workhouse; the building and completion of six additional almshouses at Ely, with the works attached; also for paving and repairing the carriageways and footways in St. Paul's, Covent-garden, and providing good materials for same; squaring, paving, and repairing pavements in Cambridge, for one year; paving, &c. the carriageways and channels of streets in Cambridge; supplying 750 tons of rails, 150 tons of chairs, and 8,500 sleepers, for the Ayrshire and Galloway Railway Company; and supplying three wharf cranes, 50 cast-iron columns, and 20 warehouse cranes, to the London and South Coast Railway.

COMPETITION.—Plans and estimates are wanted for the construction of the Durham new county infirmary, estimates not to exceed 5,500*l.*: no premium or limit of remuneration is advertised.

MODERN ART IN THE NEW REPUBLIC.—It will be observed, with curiosity, that nearly the first act of the new Provisional Government of France was to place the direction of all matters connected with the fine arts under the Minister of the Interior, and to arrange for the annual exhibition of works of modern art at the Louvre! The jury to examine the pictures are to be named by election, and the exhibition will open on the 15th inst.

MODERN ART IN ITALY.—M. Mariotti, in his new work "Italy, Past and Present,"* gives the following view of the state of art in Italy:—"Veneration for the masterpieces of happier generations is fatal to the development of original genius in the fine arts. Painting and sculpture never boasted of greater activity in Italy than they display at the present day. Never were schools of design better endowed than the Italian academies in every town or province; never greater encouragement held out to rising talent. The very materials and implements of his calling are freely supplied to the beginner by those liberal institutions. The wonders of taste, both of Pagan and Christian civilisation, are within his reach. From the marbles to the naked figures, and from this again to the classic works of the great masters, he is made to toil and to plod. Loud ecstatic contemplation begets idolatrous veneration. The youth at the academy have no eyes or taste of their own. They exhaust their energies in mere copies. They grow old, soul and body, in the endless drudgery of their complicate training. They acquire correct ideas of design—consummate skill as colourists; but they lose all power of creation. * * * At last the 'work' is produced. The exhibition-rooms are crowded to suffocation. Critics and amateurs in rapture. Town and country are proud of the achievement of their *valoroso concittadino*. What is it? Why, a Madonna after Correggio, or a Venus after Titian; a Sacra Famiglia after Rubens, or a Sibyl after Domenichino—always something after somebody. They are original pictures, nevertheless. See, the Madonna holds her divine infant on the right knee, not on the left. The Venus is in a supine, not a recumbent attitude. These trifles—it is grievous to say—too often constitute originality at an Italian academy. The copyist—unheard-of daring!—aims at modification and improvement! Reproduction, with slight variations, is dignified into invention."

TRIGONOMETRICAL SURVEY OF IRELAND.—Messrs. Longman have just now published "An Account of the Measurement of Lough Foyle Base in Ireland," by Captain Yolland,—a line of eight miles, on which depends the accuracy of the whole survey. The *Athenæum*, speaking of this book, says,—"A quarto volume, full of figures, to describe how eight miles were measured in a straight line: A great many of our readers have about as much notion of what all this is for as the country alderman thirty years ago had of a railroad. When one was proposed to bring coals into the town, he listened quietly; and after a vote had passed, he said, 'Well, gentlemen, throw away your money if you like, but tell me now, why would not posts and chains have done as well?' We can imagine some one who reads this thinking that, with a good surveyor's chain, London made, and a couple of willing hands, he could have measured eight miles, or eighty either, and described it all in one column of a newspaper. The policeman who drags the wheel along the streets to test a disputed cab-fare, will swear to the absolute accuracy of his result; and why five or six engineer officers, with many men and a large apparatus of tents, bars, and microscopes, should be creeping along the shore of Lough Foyle, and calling it good progress when they made 600 feet in a day, would puzzle him as much as to conceive what it could all be for when done." Many of our readers, however, will recognise in the mapping of this base a work of no ordinary difficulty, honourable to the officers and men of the engineer corps.

NOBLE BUILDINGS OF NATIONAL IMPORT.—If liberality is any where expedient, it is in the public buildings of a great constitutional country. Those buildings are the outward expressions of a political unity which should be loved and admired. The greater the nation the greater also is the tendency of private wealth and display to throw *the State* into the shade. We need not go beyond our own country and metropolis to witness this result. The mansions of the nobility, not only in their imposing aggregate, but even in some particular instances, give an air of meanness to the public edifices. There is little of which the people can be proud to call their own. There is little to improve their taste, to raise their aspirations, and impress the image of the commonwealth on their minds. Hardly is there one public place, one portico, one exhibition, one sacred aisle, one place consecrated by the recollections, the trophies, or the productions of genius and worth, into which the wearied commonalty can escape from their dingy homes and noisy thoroughfares: hardly is there one pile which they can contemplate with pride as faithfully representing the institutions, the genius, and the patriotism of their country.—*The Times*.

* J. Chapman, 2 vols.

TENDERS

For new wards at St. Leonard's Workhouse, Shoreditch. Quantities furnished by Mr. Tress, the architect.

W. H. Cooper	£1,953
Billson	1,950
Carter	1,929
Harrison	1,897
Knightly	1,896
W. Higgs	1,887
Patrick	1,876
Watson	1,836
Walker	1,815
Pollock	1,789
Norris	1,784
Taylor	1,781
Livermore	1,717
Smith	1,697
Jay	1,695
Reeves	1,636
Wythes	1,598
E. Carter, Murrey-street (accepted)	1,473

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, MARCH 6.—Institute of British Architects, 8 P.M.

TUESDAY, 7.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 8.—Society of Arts, 8 P.M.; Graphic Society, 7 P.M.

THURSDAY, 9.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 10.—Archæological Association, 8½ P.M.; Architectural Association.

TO CORRESPONDENTS.

"*Suburban.*"—Payment of 6d. will enable you to consult the awards already made by the referees on the subject of greenhouses, and give you all the information you desire.

"*Subscriber.*"—Such a scantling would be quite insufficient.

"*Curve of Pointed Arches.*"—We are compelled to postpone some letters on this subject.

Received.—"Vigil," "E. E. S." (time is past), "G. T. J.," "W. W." (we do not insert all lists of tenders indiscriminately), "W. Y.," "A. B.," "J. C." "T. E.," "Constant Reader," "G. W." (we hope to find room for an extract), "A Carpenter" (we are unable to supply him), "J. W." (we cannot afford him any more space), "J. M.," "R. S.," "Constant Reader" (we avoid recommendations), "Y. Z." (consult a local solicitor), "M. E. W.," "Constant Reader," "G. L." (Canterbury).

Books received.—"A Handbook of Irish Antiquities;" by W. F. Wakeman. (James M'Glashan, Dublin; Orr and Co., London.) "Christian Memorials;" by W. Osmond, jun. (Masters, Aldersgate-street.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

MONEY ON LOAN at £3 per Cent. per Annum.—ARNEWAY'S CHARITY.—NOTICE IS HEREBY GIVEN that the Trustees of this Charity are enabled to lend out the Trust Money, to poor persons of Householders resident within the City and Liberty of Westminster, that is to say within the parishes of St. Margaret and St. John the Evangelist, St. Anne, Soho, St. Clement Danes, St. George, Hanover-square, St. James, St. Martin-in-the-Fields, St. Mary-le-Strand, and St. Paul, Covent Garden. The amount of each Loan is not to exceed £100, is to bear interest after the rate of £3 per cent. per annum, and is to be secured by the bond of the borrower, with two sureties. Printed Forms of Application, and all necessary information, may be obtained by applying personally, between the hours of 10 and 4 o'clock this day, at the office of the Clerk and Solicitor to the Trustees, No. 12, Great Queen-street, St. James's-park. By order,
EDWARD S. STEPHENSON,
Clerk and Solicitor to the Trustees.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the choicest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.

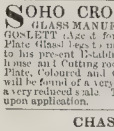
THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 13, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.
ROUGH PLATE GLASS, of every thickness, at very low rates.
J. L. GRUNDY, Company's Agent.
13, RATHBONE PLACE.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance of the Glass manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose
ROUGH PLATE GLASS supplied 3, 3-8, ¼, and ⅜ inch thick. Particular attention is requested to the superior colour and evenness of this article
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H. CHRISTIE, Agent.

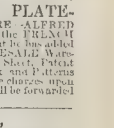
SOHO PLATE GLASS COMPANY, 26, Soho-square.—Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Crey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three eighths, half, and three-quarters inch thick.
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SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE.—ALFRED GOSLETT begs to for the EXCLUSIVE Sale of the FRENCH Plate Glass long to hand on the Trade, generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

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of Sashes and Frames, and Joiner to the Trade, 121, Dunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam saw. Mouldings in any quantity, &c. This Establishment is worth the notice of all engaged in building.



HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sunblind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed Feather Factory, 14, Kingsgate-street, London.

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AT 29, Great Charlotte-street, Blackfriars'-road, may be had JENNINGS'S SHOP SHUTTER SHOT AND FASTENER (which requires no bar); also JENNINGS'S PATENT JOINTS, for connecting Lead, Copper, or Wrought-iron Pipes without solder; also JENNINGS'S PATENT COCK, which has no plug—gas, water, or other fluids being stopped without any interference with the water or gas passage.—A visit to the Manufactory, as above, is solicited.
Samples of the above Inventions may be seen at the Office of "The Builder."

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 69, REGENT-STREET and 128, CHANCERY LANE, Patented on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Reducing and Lowering Shutters without Machinery, and Two for Hinging and Sheathing the Edges of Wood Lattice with Iron.—The Patentee having now in use hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantee the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel, rack, or screw gear, or any other complicate machinery employed by other makers.

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 161, Broad St., from Ten a.m. to Five p.m. Mr. Robert Scrivenor, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 161a, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slighty's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 136, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's, Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Limavady, County Derry.

GENERAL PRACTICAL SCHOOL OF ART, at the New Gallery, 79, Newman-street, Oxford-street; Mr. J. M. LEIGH, Master. The above School is now open of a Morning, with Classes for Ladies, and of an evening for Gentlemen. Prospectuses, &c., may be obtained at the Gallery; and of Mr. R. W. HERMAN, Hon. Sec., 24, Green-street, Grosvenor-square.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is" offers his services in Tinting Backgrounds, Landscape, Perspective Views Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner. -Address, Mr. BOYS, 31, Great Titchfield street, Oxford-street.

TO SLATE MERCHANTS.

SALE AGENCY WANTED.—The Advertiser having a portion of his Wharf Premises unoccupied, would be happy to treat with any party who may be disposed to establish an Agency for the SALE of SLATE and SLAB in a highly improving locality. Wharfingage moderate, and security if and if required.—Address by letter, pre-paid, to J. H., care of Mr. Hudson, Newspaper and Advertising Office, London-street, Greenwich, Kent.

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone. Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLICARPUS BRUNTON PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

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LUARD, BEEDHAM, and Co., beg to inform Architects, Surveyors, Builders, and others, that they continue to carry on the Caen Stone business, at the above extensive premises, where a large Stock will be kept up by continual arrivals from their quarries at Allemanne. Orders receive at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, Southwark-square, Borough, London.

Orders shipped direct from Caen to any port.

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N.B Whole cargoes direct from the Quarries. Enamelled Slate Chimney-pieces, Slabs, Mural Tablets, Baths, Fonts, &c. &c.

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SWEDISH GRANITE.—A Cargo just landed at Mr. WEBSTER'S WHARF, Fore-street, Limehouse, consisting of about Seventy Tons in blocks of various sizes, is offered FOR SALE, at very moderate rates. The granite has been approved by scientific gentlemen and architects, and may be viewed as above. Further particulars may be had on application to H. J. LINDGREA and Co., Agents, 13, John-street, America square, near the Minories.

24th February, 1848.

MARBLE.—L. BOZZONI, of Carrara, begs to call the attention of SCULPTORS, STATUARIES, and Others, to his last importations of MARBLE per the *Mermaid*, *Asia*, and *Williams*, comprising Statuary, Vein, Sicilian &c., of the first quality. For prices, &c., apply to Mr. ROGERSON, Victoria Wharf, Pimlico.

VICTORIA STONE WHARF, ISLE of DOGS.—JOHN HUSLER takes this opportunity of returning his best thanks to his numerous friends for their kind patronage since the establishment of the above wharf, and he hopes to secure a continuance of their favours by a prompt fulfilment of orders with stone of the best quality, and at the lowest paying prices.

Stone Merchants, Masons, and Builders are respectfully informed that J. H. has arrivals every week of Yorkshire Stone, &c., which may be sold at river prices, delivered above or below bridges.

A large Stock of Yorkshire Stone kept constantly on the wharf in Paving, Landings, Sinks, Steps, Sawn Slabs, and Headstones. Also a large Stock of Bramley-fall, Harehill, Portland, and other Block-stones.

Orders direct for the quarries fulfilled in two or three weeks to any port. Estimates given to supply any contract, either in London or any other place. Heavy goods landed on the premises free of charges.

Agent, SAM. TRICKETT.

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By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SPOONE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 69, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Gravel, Southwark. At the above Works, the Public are supplied in Sheets of superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual.—The Trade supplied.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, &c.; Gas and Water Pipes, Lead Manure. BRICK-MAKERS PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, Kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when cut or used, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes. Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT-AIR APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

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R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-casting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£2. 6s.	£3. 13s.	£3. 10s.	£4.	£4. 10s.

Henly's Patent Improved, with Hark Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., 8d., 9d., and 10d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 3 43s.; 3 ft. 4 44s.; 3 ft. 6, 46s.

Self-acting Ranges with Circular Oven and Back Boiler.

Cast Wrought Bars.		Bright Pintles.		
3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.		4 ft., £4.	

Best Patent Cut Clasp.

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d. per 1,000.
2d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 1s. per cwt. Best Registers 6d. per inch.
Best Town Glue 9d. Do. pooth. 6d. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 6, Chiswell street, Finsbury square.

Lists of Prices that can be had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per in. and upwards.
Bright ditto with Black Bright Bars, 7d. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 5s. per pull.

IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading from Baker-street, Portman square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

Best Patent Cut Clasp.

4d.	5d.	6d.	7d.	8d.	10d.	20d. per 1,000
6d.	8d.	1s. 4d.	1s. 10d.	"		

Cast Butts.

2 in.	2½ in.	3 in.	4 in. per doz.
11d.	1s. 2d.	1s. 4d.	2s.

Also Best Patent Sash Line.

3	4	5	6 per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.

Every other article equally reasonable.

Catalogues of Prices can be had on pre-paid application, inclosing postage stamps. Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors

TO BUILDERS AND CARPENTERS

BURT and POTTS, York-street, Westminster, Wholesale and Retail Ironmongers, Smiths and Stove Grate Manufacturers. Delivered free within five miles. Cast Iron Rain-water Pipe:—

2 in.	2½ in.	3 in.	3½ in.	4 in.
1. 1d.	1s. 9d.	1s. 7d.	1s. 9d.	2s. 2d. per yard

Sheet Floor Brads, 1s. per cwt. All other Nails in proportion.

Register Stoves with inside backs, 6d. and 7d. per inch, and upwards.

A variety of Best Black Ground and Bright Register Stoves.

Elliptic Stoves, with inside back, 3d. per in.

Self acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	4 ft.
£2.	£3.	£3. 8s.	£3 15.

Iron and Steel of every description.

TEN TON LANDING CRANE, for IRON CASTINGS, BOILERS, TIMBER, and STONE. Also, Warehousing on the London Vulcan Iron Company's Wharf, 14, Earl-street, Blackfriars. Also, COAL LANDING on same wharf.

TO BUILDERS, CARPENTERS, &c

WYOUNG and Co., 194, Oxford-street, having entered into arrangements with their Agents, are enabled to supply the Trade in London at prices as low as at Birmingham. They decline inserting the prices of one or two articles, it being no criterion to judge from, having made great reduction in all their prices. Lists sent upon application by post.

BEAR-LANE IRON-WORKS, Christ Church, Blackfriars-road (late ROUPELL'S) is RE-OPENED for the manufacture of all kinds of Wrought Iron-work for the West Indies; Gudgeons for Sugar-mills, Axletrees, Tyres, &c., made in the best manner at the lowest prices. -Turning, Boring, Saw cutting, &c., for the Trade.—An Apprentice wanted.

BUILDERS and GENERAL JOB IRONMONGERY WAREHOUSE, 3, New-road, Whitechapel-road.—The Proprietor begs to apprise Builders, Contractors, and the Trade in general, that, in addition to his usual Stock of Assorted Ironmongery, &c., he has now present for disposal Ninety to Thirty Tons ASSORTED NAILS, comprising Brads of all sizes, Lathe, Rose, Clout, Slate, and other useful sorts, which he can offer at such prices as shall maintain the pre-eminence of his Establishment for Locks, Screws, &c., ever published.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK of PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

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PATENT COPPER WIRE ROPE LIGHTNING CONDUCTORS, for the Protection of Churches, Towers, Chimney-Shafts, &c.

SMITH and ENGLISH, Princes-street, Leicester-square, London, beg to inform Architects, Builders and others, that the above form of Lightning Conductor has been most extensively applied to churches, &c., with perfect satisfaction, it proving considerably cheaper first cost, much simpler of application, with less injury to the building, than any other plan, and they can refer with great satisfaction to extensive certificates and others, who have adopted it in preference;

As also their much improved Revolving and Panelled Iron Shutters, and PATENT DOUBLE-ACTION DOOR SPRINGS,

PATENT CASEMENT FASTENINGS AND SILL-BARS, Patent Copper and Iron Wire Sash Lines,

IRON VERANDAH PLATFORMS, &c. &c.

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest.

TO ARCHITECTS, BUILDERS, &c

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended by builders and other parties connected with the above. Specimens of the Wire Cord may be seen at the office of the Patentees, No. 10, Fenchurch-street, London; W. T. ALLEN, Agent; and may be had of all respectable Ironmongers.

DR. ARNOTT'S CHIMNEY VENTILATOR. F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas fitters, and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

GRANT'S PATENT ROTARY WINDGUARD, FOR THE PREVENTION OF DOWN DRAUGHTS AND CURE OF SMOKEY CHIMNEYS.



By discharging a Strong Current of Air at the Mouth of Chimney-Pot.

The attention of the Public and the Trade is respectfully solicited to this simple Apparatus. The Patentees guarantee its effecting the purposes named. Let it be applied to any chimney, however smoky, and if not liable to derangement; can be easily and cheaply applied to all pots that may be fixed with the existing cowl. Manufactured by the Patentees, LAMBERT and GRANT, 91, Lisle-street, Leicester-square



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been test d extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweeping machine

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, in the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle

The Patent Pots have proved to be the most effectual means of cure yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

The Builder.

No. CCLXVI.

SATURDAY, MARCH 11, 1848.

THE exhibition of recent British manufactures, which has been opened this week at the Society of Arts in the Adelphi, will be found more satisfactory than the first, and gives evidence, still small though it may be, of the employment of good art for every-day purposes.* It must not be regarded as even an approach to a representation of what the kingdom can do,—there is not room in the apartments for other than a certain class of examples, and some manufacturers require to see very clearly the advantage of sending specimens of their productions for exhibition before they can be led to do so; they do not like the trouble, or begrudge the cost of carriage, and some few have a notion of keeping things to themselves! They do not understand that "there is that scattereth and yet increaseth,—and there is that withholdeth more than is meet, but it tendeth to poverty." This, however, does not lessen the praise which is due to the Society of Arts for these exhibitions, and for the other steps they have taken for promoting the application of the arts to the improvement of the manufactures of the country. The exhibition will grow, and if the society succeed in an object they have now in view, the exhibition will become NATIONAL, and fairly represent British industry and taste.

A rock on which the project may strike may be just dimly seen below water by the observant visitor on the present occasion: it is inscribed *clique*,—but as we would say nothing to discourage, and certainly nothing that might be construed into fault-finding, we will simply bid the pilot look out a-head, have no object in view but the port of General Good, and the voyage will not fail to be both pleasant and prosperous.

The manufacturers who have contributed on the present occasion are seventy in number, and we would especially direct attention to Minton's tile pavings, Jordan's machine-carvings, and the Coalbrookdale iron-castings.

The new scheme of the Society of Arts already referred to, and relative to which the council have attended the Board of Trade, is,—That the places where Schools of Design are established, should, in rotation, have the advantage and use of the collection made in London every year by the society; and to do this, the society suggest that the manufacturers and proprietors of the chief specimens should deliver them over to the council of the Schools of Design, to be sent for gratuitous exhibition to the students and public generally each year, in such provincial schools as the council may think fit. The council urge as a reason for the step, that the students in Government Schools of Design throughout the country, should be rendered familiar with the most recent works in art and manufactures; that the manufacturers, who must be the future employers of these students, should be more closely connected with them; and the public taste improved, for the due appreciation of their joint productions.

They further propose, with the co-operation of the Board of Trade, that the Society of Arts shall, every fourth year, make a collected exhibition of the principal subjects exhibited in the previous three years, and of others expressly prepared for the special purpose; and that such national exhibition shall take place in some large building purposely provided, if not at the cost of the Government, at least with the Government sanction. And they suggest that the site which offers the greatest advantages for such a building (to be of a temporary character) would be Trafalgar-square,—considering that it affords abundant space, and a provision of water for specimens and models best exhibited in connection with water; and offers facilities for a structure of economical character, inasmuch as there is already a good pavement, and three sides more or less available in a building for such temporary purpose.

Government sanction to the erection of such a building would have to be obtained; but they say, if there should be any reluctance on the part of Government to undertake the risk of the structure, it is believed that other responsible parties might be found to do so. The admission to the exhibition to be partly free and partly by payment; and the receipts to be applied, in the first instance, to the payment of expenses incurred in forming it; in paying for the honorary medals and rewards to be distributed to artists, manufacturers, and art-workmen, and for forming a fund for future exhibitions.

As we long ago urged the advantage of such an exhibition, it is scarcely necessary for us to say that the proposal has our hearty concurrence.

Would that we could make more rapid progress in the production of designers, or, at all events, in the artistic instruction of the public, than is now the case! But those who should guide the movement flounder sadly; in some cases absurdly interfering in matters out of their province, and which they understand not; and in others countenancing the weakest productions and the most inefficient arrangements. We can illustrate this assertion on the instant, by reference to the first part of "Ornamental Designs for Decoration and Manufactures, published under the authority of the Government School of Design," of which, luckily, only a few copies are yet issued.

It appears from a report of the council that good copies of decorations being needed for the provincial schools, Herr L. Gruner was selected to prepare and publish such a work in ten parts, each containing six plates (afterwards arranged to be in 20 parts, each containing 3 plates), at a price not exceeding one guinea each part. To shew the importance of producing a standard work on ornament, the council observe—

"that the taste for decorative design, in all its various branches, is greatly increasing in this country; that none doubt the commercial value of art to every species of our ornamental manufactures; and that, in the absence of good works on ornament, published in this country, many foreign cheap publications of objectionable quality are imported, and are eagerly sought for and purchased by manufacturers and artisans; so that already in their productions there is perceptible a *baneful influence*, which the council believe would be *remedied by a liberal diffusion of the work now projected*, inasmuch as it would serve extensively to promote the cultivation of correct taste, by putting into the hands of practical designers numerous examples of the highest excellence.

From the careful study of these copies of original examples, and the explanations with which they will be accompanied, will be derived the means of invention, and ultimately the power to produce original designs; for the council feel assured that, for the education of designers of ornament, the proper course is first to present for study *examples classifically excellent*, from which the *principles* of ornamental art may be deduced.

The council cannot conclude this report without repeating the expression of their conviction that the work which they recommend to be undertaken, will be found to be *an important instrument for the promotion of correct taste*, and will be highly useful to the numerous industrial classes for whose special benefit it is designed. That there is great want of such a publication in this country is fully demonstrated by the number of foreign works imported. They would further observe that, although the estimated amount of expense may be deemed large,* it has been, on due deliberation, considered essential; and that, if schools of design under the sanction of Government are to be maintained, they trust they may be enabled to produce *such works of instruction* as are necessary *to ensure to their operations a high character and beneficial results.*"

In consequence of this report, the subject was referred by the Committee of Privy Council for Trade to the Lords of the Treasury, and the publication of the work was sanctioned by the Government.

The work being required for such a purpose, so heralded, produced under such authority, and apparently considered beyond the capabilities of an Englishman,† we naturally expected would be a first-rate production, calculated to exercise a beneficial and lasting influence on decorative art in this country. What is the fact? The first number is now before us: it contains the following plates (each 24 inches by 20 inches):—1. The Roman Doric order (?); 2. Tarsia, or inlaid wood, fifteenth century. Fra Giovanni; 3. Richly chased arms, historical museum at Dresden; 4. Painted arch round a tabernacle, by Luini; 5. Ancient painted frieze, from Pompeii; 6. The marble room, Palazzo del T. at Mantua (ascribed to) G. Romano; 7. Detail of parts of the principal frieze of ditto; and, 8. Ornaments in chiaro-scuro at the Academy at Venice: and we have no hesitation in saying, it is discreditable to all concerned. So far from its diffusion being likely to remedy "the baneful influence" spoken of by the council; so far from affording excellent examples "from which the principles of ornamental art may be deduced;" so far from being an "important instrument for the promotion of correct taste," or such a work of instruction as will insure to the operations of Schools of Design "a high character and beneficial results,"—we scruple not to say that the majority of the plates are calculated to produce a bad taste, and do much more harm than good.

Some of the "richly chased arms" might have come from Mexico or the Sandwich Islands; the "ancient painted frieze from Pompeii" is positively detestable; and the decorations of the room said to be painted by G. Romano are so ill designed and so badly drawn (at least in the book before us), that if any master were to place them as copies before his pupils it would be most satisfactory proof of utter unfitness for his office.

Mr. Gruner is himself a good artist, and

* The exhibition first opened on Wednesday evening, when Sir John Boileau took the chair, and Mr. Scott Russell, the secretary, read an introductory paper.

* About 700*l.*, we understand, have been already paid on account of it.

† The only references in the number on the first plate), are part in French, part in English, viz.—"Names of the *membres* of the base and pedestal;" "names of the *membres* of the entablature;" "names of the *membres* of the capital," &c.

published some time ago a beautiful book, to the excellence of which we bore willing and honest testimony. It is the selection of examples which we mainly condemn in the work now before us, and as it is just possible that with this he may have had nothing to do, this admission is due to him. If we understand rightly, no copies of this first part have been issued to the public, and we would express an earnest hope that none will be. For the credit of the Government School of Design let it be cancelled forthwith.

ON THE GEOMETRICAL LINES AND OPTICAL CORRECTIONS OF THE GREEK ARCHITECTS.*

I now proceed to that part of the subject which is more particularly the object of the present paper, namely, the optical corrections. I shall first state the case as I found it, and lastly, say a few words on the probable origin and intention of these subtleties, which prevail, more or less, in almost all the Greek temples. In all, indeed, that I have examined, with the exception of the Temple of Bassæ, on the borders of Arcadia, where I could not find satisfactory indication of either convexity of pavement, or inclination of the columns, or even entasis.

The pavement of the Parthenon is bounded by four curved lines, viz., the edges of the upper step on the four sides of the building. The four angles of this curved surface are not precisely level, the south-west angle is about ·16 above the north-east and south-east angles. I think that this is simply owing to the lines of the earlier temple, which were also curved, being made use of as far as they would go, and by being produced in one direction only, and remaining fixed at the south-west angle. The line so produced would naturally fall below the fixed point.

This is the case on the west front, south, and north sides. The extreme points of the upper step of the east front are exceedingly near level.

The result of a number of observations gives only a difference of ·002, or $\frac{1}{500}$ feet, a quantity which we need not stop to discuss.

If these two points be joined by a straight line, the curve which forms the edge of the step will be found under the middle columns to rise to a height of ·214 above it. If the uniform curve had been preserved, it would have been ·218 in the middle, which is about $\frac{1}{230}$ breadth of front; and the curvature is so regular on the northern half of this front, where the steps rise immediately from the solid unbroken rock, and consequently no settlement can have taken place, that of four points measured at the centres of each column, three agree exactly with a circular arc: the fourth differs only by ·003. The curvature is so very slight that it might be any regular continuous curve; for instance, in so small an arc no appreciable difference could be shewn between the arc of a circle or that of an ellipse or parabola, and I think that the work was set out by means of the latter figure, which might be done very easily; whereas, I need scarcely point out the difficulty, or rather impossibility, of using the circle, which would require a diameter of about 2½ miles.

Let it be required to construct a circular or other arc of uniform curvature, whose length is 100 feet, and the rise at the centre is to be ·25, or any other small measure which must not much exceed one foot.

Construct with any axis a parabola, and set off from the vertex AB = the proposed rise, and draw LM at right angles with AB.

Now, LM will represent the 100 feet horizontally, and ordinates drawn to the curve perpendicular to LM will determine the exact rise at as many points as may be required, full size.

The curve on the upper step north side of the Parthenon, also approximates to a regular curve very closely; its entire rise in the centre above the line joining its extreme parts, is ·356, which is very nearly in the proportion of $\frac{4}{7}$ of the rise in the east front: it is exactly $\frac{1}{280}$ length of the building.

The curve on the south side seems to have been identical with the north side, but it has suffered more from the concussions which the building has undergone, especially as there is a great depth required on this side of artificial foundation. On the north side the steps rise almost immediately from the solid rock. The curve on the west front is not quite so symmetrical as the other sides. It has, I believe, been affected by the lines of the old building. The rise is exactly the same as the east end.

The upper members on all four sides follow the steps, and are nearly parallel, but there is a little more curvature given to the steps; the entire rise of architrave is ·173 on east front, ·175 on west. The levels of those portions of the entablatures which remain on the north and south sides point out the directions which those lines had originally, and they were as nearly as possible parallel to the line of the step, excepting that just at the angle columns the step has a little the more declension. The frieze and cornice are exactly parallel with the architrave. In the Temple of Theseus, also, these curves prevail; on the fronts the rise is $\frac{1}{500}$ part of its length, on the flank $\frac{1}{450}$. The lines in the architrave are exactly parallel to the step.

There is one refinement which the Temple of Theseus possesses which the Parthenon is without. In addition to the cornice being raised, the inclined lines of the pediment have a very slight convexity, between ·02 and ·03. I was unable to fix more precisely the amount. I imagine that it was owing to some degree of haste, in which the Parthenon was finished, of which there are several indications in the upper members, which prevented this final adjustment being made to its pediments. The state of the political horizon at that time making the completion of the long walls of more immediate importance than the optical corrections of the Parthenon. On a former occasion, when I read a paper to this institute, I stated my impression that the cause which led to the adoption of this convexity of the horizontal lines, existed in the contrast of the inclined lines of the pediment.

Mr. Ferguson, who has, I understand, promised to read us a paper on Indian architecture next evening, has kindly favoured me with an illustration, which I will read to you, from a description of the construction of an iron foundry at Kasipur, near Calcutta, built in the year 1834. The foundry is covered by a single roof, with principal rafters, tie rods, and suspension bar, from the centre. The rise is 6 feet and the span 50 feet, which is exactly the same pitch as the Parthenon and Propylæa. The passage is extracted from the fourth volume of the journal of Asiatic Society of Bengal, page 116.

"Before closing our short account of Kasipur roof, we must notice a curious optical deception, for which we are somewhat at a loss for a correct explanation. On entering the room and looking up at the roof, it strikes every beholder that the roof has somewhat sunk, and the horizontal tie rod is about 5 or 6 inches lower in the centre than near the walls.

So firmly impressed were we of this being the case, that standing at one end of the room, and holding two flat brass rulers, over-lapping one another, to the eye, we could readily measure the apparent angle of the tie rod, by raising the ends of the rulers so as to coincide with the two halves of the tie rods.

On mounting the roof and looking in at the upper window at either end, the same effect was still visible, though in a diminished degree, and we were not convinced that it was a deception until Major Hutchinson, at our request, caused an actual measurement to be made by a perpendicular wooden batten from an accurately adjusted level on the stone floor. It was then proved that there did not exist a difference of level even to the tenth of an inch." The writer's manipulation of the brass rulers I do not pretend to understand, but the conclusion is obvious that a straight tie-rod appeared to be deflected; and I have no hesitation whatever in ascribing the cause to the contrasting lines of the principal rafters. I do not think that it is necessary to have our eyes refined by a southern climate for the appreciation of these effects. I suppose that there are very few gentlemen here who have not felt the same disagreeable effect of a flat open roof with horizontal tie-beams, unless, indeed, the latter be very much cambered. That this was the view the ancients took of the matter I am convinced by these two facts—

That the great temple at Pæstum has the convexity only in its fronts, and not on its flanks; and in the Propylæa at Athens, although the base on which the columns of the two pediments stand is perfectly straight and level, the line of the architrave was curved. For enough remains to determine this in the eastern portico—the central columns are actually about ·12 higher than those at the angles. The base in this building is cut in two by the ascending roadway, so that there could have been little or no advantage in a convex base line.

It will be well to remember that the temples at Athens were the result of the experience of several centuries in which these refinements were gradually brought to perfection.

The first process was probably to raise the cornice under the pediments and entablature by making the middle columns a little higher than those towards the angles, as I have mentioned in the case of the Propylæa. Still it is likely that to a fastidious eye the straight line of the stylobate would appear weak.

The second method would be that found in the great temple at Pæstum, in which the fronts have the convexity in their steps, as well as their entablatures, the flanks being composed with horizontal lines. Perhaps a reasonable man should be content with this. I must willingly admit that I was perfectly content with the temple at Pæstum; still nothing short of perfection could satisfy the refinement of vision with which the Greeks alone, among the people of all time, seem to have been endued; and perhaps by looking at a temple constructed as above-mentioned, anglewise, and contrasting the convexity of the corona of the fronts with the straight line of that on the flanks, or more likely the comparison of the two different forms of line on the stylobate, suggested the possibility of improvement; at any rate as early as the time of Pisistratus, the Athenians had begun to demand from their architects the perfected construction, as the foundations of the Temple of Jupiter Olympus testify, which we know were laid during his reign.

I also refer to his time, the earlier Temple of Minerva, which occupied the site of the Parthenon at the time of the Persian invasion, in which also we find that the lines on the four sides of the building were convex. I can bear witness also to convexity on all the four sides of the temple at Nemæa, in the Peloponesus, and Segeste, in Sicily. I could find no trace of convexity at Corinth, Egina, Rhamnus, or Bassæ.

The next subject is the inclination of the columns and the upright faces of the building.

1st. The face of the steps inclines about ·008.

2nd. The columns incline, backwards, a quantity, of which I obtained the following results. From the average of the measurements of all the lower drums, (scamillæ impares, as Vitruvius calls them) ·229. From plumbing the angular columns of the east front, taking into consideration all the cracks and movements which have modified its original position, I obtain two results of ·230 and ·232.

In the plumbing, I observed every precaution to ensure correctness, using a very heavy weight and also watching for calm intervals of weather, which are rare at Athens. I am disposed to think that ·228, or one thousandth part of the length of the building was the amount originally intended. Those gentlemen who remember the perfection of the joints with which the Parthenon is constructed, will allow that the openings between them, which at present exist, are the exact records of all the settlements which the building has undergone, and that by a careful examination of these, the original amounts may be exactly recovered, which would be hopeless in a building which had been of less highly-finished construction.

Vitruvius directs that the columns of the Pronaos and Posticum should be set perpendicular, and those of the Peristyle should incline towards the cella.

In Cicero ad Verrem, we have an amusing passage, in which Cicero relates one of his rascalities; that having under his charge, as Roman governor, a young Syracusan nobleman, whose property was subject to the con-

* See page 112, *ante*.

dition of repairing the Temple of Castor in that city, Verres was exceedingly anxious to make a job of this; so he goes to examine the temple, but was much disappointed on finding it in perfect repair, when one of his companions casually observed, there is nothing here to be done, unless you order the columns to be set perpendicular. Verres was evidently surprised at the observation, for he knew nothing of architecture, and to his eye the columns appeared angular; but it was mentioned to him by those who were around him, and no doubt familiar with the practice of the ancients, fere nullam esse columnam quæ ad perpendiculum esse possit. Namely, that in a temple there was scarcely any column, which by the practice of the Greeks, could be perpendicular. Verres was delighted at finding something to set his young friend about, and said, oh by all means let him set the columns perpendicular, and no doubt he took care himself to superintend the payment.

The object of this adjustment is to correct an appearance of fanlike spreading from the base outwards, which takes place in columns which are all perpendicular. It may be owing to this cause that, in consequence of the diminution of the columns, the spaces between them on the architrave are greater than those at the ground (for the eye quite makes allowance for the counterspread of the capitals). Again, owing to the greater depth of shadow behind them, the upper part of the columns will have apparently more strength of light, and consequently appear greater. The effect altogether produced will cause the architrave, if equal, to appear longer than the base, and consequently the angle columns will appear to lean outwards: this is rectified by making the said angle columns lean a little towards the centre of the building. It is a proof of the wonderful judgment with which this quantity was chosen, that so many diligent and accurate observers have studied and drawn these temples without being aware of the fact. When my attention was first called to it, I could not at all perceive it; and I greatly amused a French architect, who had been for some time at Athens, by asking him which way they leaned: after some days the eye began to take cognizance of it, and I could perceive which way it went.

The impression of strength and beauty resulting therefrom is by no means confined to those who are cognizant of the fact; and I doubt not that many of our earlier investigators have been astonished that the level and plumb imitations of Greek architecture which we have in this country so little recalled to their minds the consummate beauties of the Parthenon and other Greek buildings. No doubt our climate is unsuited to the pure Greek, but this is not enough to account for the falling off; it is not so in our Roman and Palladian buildings—witness the portico of the Fitzwilliam Museum at Cambridge, and the Royal Exchange in London, which do not fall so far behind the majesty of the Pantheon. I particularly name recent English buildings, as they are more fairly compared with our Greek revivals than the time-furrowed architecture of St. Martin's and St. Paul's. Now, if we turn to the Greek Doric, the parallel is certainly less satisfactory: and it must be evident that, although, confessedly, native Greek architecture is high above native Roman, our copies of the former are vastly inferior to our imitations of the latter. Of the former we have only preserved the corpse—the vivifying essence is gone; of the latter the energy may be impaired, but it is not destroyed.

One peculiarity which I noticed is that the antæ lean forwards to meet the columns of the pronaos. This seems to have resulted from the inclination inwards of the columns of the peristyle; those of the pronaos and posticum being perpendicular, the effect would have been to produce a strong contrast between their different positions, and the artifice must have been detected: by the influence of the contiguous face of the antæ, the column (here drawn from the posticum), which is really perpendicular, is made to appear to lean slightly in the same direction as the outer columns.

I have observed that a perpendicular pilaster, when brought very near to a column in a portico or doorway, has the effect of making the column appear to lean forward. The inclination of the antæ is not itself visible, except to a spectator in the narrow space between the inner row of columns and the wall; and when the eye is brought very near to a line, so that it cannot take it in all at once, it is scarcely possible to judge of perpendicularity.

The last peculiarities I shall mention are the differences of the abacus. Those on the east front are of the largest class, the north-east and south-east having the largest in the whole temple; they are 6·858; the others in the east front are 6·755; on the south side they are 6·580, and so are they on the west front. The north-west angle is the same as the ordinary size of the east front, 6·755; the south-west angle is somewhat less; on the north side they are 6·750 in the middle, and regularly decrease towards the angles.

I shall be occupying your time too long if I attempt to discuss the reasons which led to this.

The entasis of the columns is the most wonderful and beautiful of all the curves. It is so delicate, that its existence was for some time doubted; and yet I found by careful measurements, in a manner which was suggested to me by Professor Willis, which I will here describe. A fine harp wire was strained from the top to the bottom, as tight as it would bear, close to the edge of such flutes as preserved a sufficient number of points, with the original surface, and by means of a rule similar to the one I here produce, which is supplied with a vernier, I was enabled to measure from the flute to the wire with the greatest accuracy to about half $\frac{1}{1000}$ foot. I took such measures in several columns of the Parthenon, which I found to be wonderfully true and identical. I measured also the entasis of columns from the Erectheum, Propylæa (both orders), Temple of Theseus and Jupiter Olympius. In those of the Parthenon, Erectheum, and Propylæa, I find the correspondence with hyperbolic arcs, which I have calculated so exact, that the mean of from 14 to 20 measurements in each column differs from the calculated curve less than $\frac{1}{1000}$ foot, and none of them, where the surface was to be depended upon, differs by so much as $\frac{1}{100}$. The entasis of Jupiter Olympius gives also a very true hyperbolic arc. The columns of Theseus are so much worn in their outer edges that I was obliged to content myself with measures within the flutes, which never give such regular curves as the fillets, although the flutes are worked with a nicety far exceeding that found in any other style of architecture.

Still, a mean from four different sections within the flutes gives a very accurate hyperbolic arc, although no one is a perfectly regular curve. These hyperbolas are all chosen with their axes, multiples, or aliquot parts of the attic foot. The Greek architects acted with great judgment and knowledge of the nature of the curve they were employing, as it is the only one of the conic sections which can produce variety in such delicate curvature as they have chosen for their entasis.

I must now advert to some of their mouldings, which are worked with the same perfection, and, as far as I have examined, are all different forms of the conic sections.

The echinus of the capitals of all the Doric columns agrees with various forms of the hyperbola. The soffit of pediment, Parthenon, and Propylæa, and I think of Theseus also shews a hyperbolic arc. This is a magnificent moulding, and worked with the utmost perfection. That of the Erectheum is an equally true parabola. The cymatium of the Parthenon is the only certain circular form which I know, except the torus of base, Erectheum, and Ionic order Propylæa. The flutes, also, are all parts of circles, whose centres are proportioned to the width of the flutes. In this they shewed their judgment, as it would have been almost impossible to have worked pure ellipses; and in these retiring surfaces the value of the perfect variety of curvature of the ellipse would scarcely have been appreciated. Talking of flutes, there is a peculiarity in the flutes of the Parthenon, which does not occur in any other of the temples of Athens. The flute at the neck is deeper in proportion to its width than in the rest of the shaft: during the whole rise, until about 3 feet below the neck, the sagitta or depth of the flute, from its chord, is $\frac{1}{60}$ths of chord. At the neck it is $\frac{1}{50}$ths, which is about $\frac{1}{6}$th part greater. This has a good deal of effect on the column, and gives a richness of effect to the upper part, at the same time that it diminishes the light in that part where it can best afford it, viz., where it is contrasted to the deep background of shade of the upper part of the cella wall,

I have not yet much to say with regard to the colouring of the temple, nor have I much time to say that little, for I fear I must have exhausted your patience. The drawings which are at present made represent the architrave, band, &c., the trigliph, and the string which carries the marble beams which supported the ceiling. There is not a great deal of positive colour remaining in the Parthenon. The underside of the mutules shew some vestiges of blue and red colour, and the upper part of the nook of the triglyphs, here and there on the east front, preserves some blue. One of the antæ of the Posticum has a tolerable supply among its eggs of blue and green, and some red. The flowers which decorate the cymatium and other mouldings have no trace of positive colour, but the drawing of the ornaments upon them is in many places clearly to be made out.

My companion, Mr. Willson, paid much more attention than I was able to bestow on this subject, as I was almost entirely occupied with the levelling department. He is at present in the country, or I should have been able to produce more illustrations of this part of the subject. I fear, gentlemen, that you will consider that I have been making much ado about a very little or nothing. That it is all about a a very little I willingly grant, but that that very little is nothing, there lies the whole question.

F. C. Penrose.

TESTIMONIAL TO MR. THOMAS CUBITT.

A Committee of the Builders' Society, comprising Messrs. Elger, Grissell, Grimsdell, Haward, Herbert, Kelk, Lee, Peto, Piper, Rigby, Smith, and Stephens, has been organised for the purpose of presenting to Mr. Thomas Cubitt a testimonial of the respect and esteem of the builders of London, to which he has entitled himself, as they justly urge in their address, by his general integrity of character,—his constant endeavours to promote kindly feelings, as well amongst the builders generally, as between them and their workmen, thus inducing a feeling of mutual dependance and community of interest between the employer and the employed,—the anxiety he has also evinced for the improvement of the moral and social condition of the workman,—and his constant and successful efforts to raise the Building Art to a high standard, by judicious improvements in the construction of buildings, based upon original and costly experiments.

The committee have determined that the object will be best attained by the presentation to Mr. Cubitt of his portrait, painted by a distinguished artist, and that an engraving shall be made from it, of which a copy is to be presented to each subscriber. They appeal to the builders of London to assist in carrying this into effect, and will doubtless meet with that hearty response which the proposal merits. Men like Mr. Cubitt, whose example tends to elevate a whole class, make every member of that class their debtor. The subscriptions already received amount to about 350*l.**

THE CURVE OF POINTED ARCHES.

Sir,—Unless I greatly misapprehend Mr. Laker in his communication upon the "Curves of Gothic Architecture,"† he appears to have made two rather remarkable oversights or mistakes. He says—

1. "Let any one examine our best churches, and he will perceive that the curve has more point at the apex, and more perpendicularity at the base, than the single arc of a circle could produce."

But the constructive diagram proposed by him gives *less* perpendicularity at the base; that is, at a given height—say 1 foot above the springing line—the curve is at a greater dis-

* Mr. Herbert (Cavendish House, Clapham-common), who acts as treasurer, or any member of the committee will receive subscriptions.

† See p. 40, *ante*.

tance from the tangent or perpendicular than by the ordinary single arc method.

2. "The product of the minor radius and the complement is always equal to the product of the abcissa and ordinate; *i.e.*, $r s = x y$."

Instead of *always*, this is only the case with arches of one particular proportion, which happens to be that of Mr. Laker's diagram, or nearly so.

This correction does not affect the other theorems; but can Mr. Laker verify the proposition that the curves are compound by measurements of arches so constructed? or is not the appearance an optical deception, arising from the position of the eye, or from the pier or bowtell caps being under the springing line, as is sometimes the case, or from the deep series of concentric mouldings on different planes?

W. R. CORSON.

Leeds.

SIR,—Is not Mr. Laker incorrect in that portion of his inference which deduces $r = \frac{y^2}{\sqrt{x^2 + y^2}}$ from r as a mean proportional between the height y and the chord?

Or does he mean that the height y is a mean proportional between the minor radius and the chord which would lead to the equation he has obtained?

As the equation stands now it vitiates his definition.

MATHEMATICIAN.

London.

Having submitted the above to Mr. Laker he replies as follows:

"I am greatly obliged by the courteous and friendly strictures of your correspondents.

"Mathematician" has pointed out an extraordinary misplacement of terms in my second theorem, namely, that "the *minor radius* is a mean proportional," &c.; whereas the reading should be:—

"*Theorem* 2.—The minor radius projects the lower portion of the curve. The height, or rectangular ordinate y, is always a mean proportional between the minor radius and the chord joining the apex and base. The value of this chord, calling the half width or abscissa, x, is by the well-known property of the right-angled triangle, $\sqrt{x^2 + y^2}$. (*Eucl.* i. 47.)

Hence, $r = \frac{y^2}{\sqrt{x^2 + y^2}}$."

I beg pardon for this oversight, but that it was merely accidental, is manifest from the fact, that my whole argument is built on the correct assumption.

I must, however, contend for the universal truth of the equation, $rs = xy$. Mr. Corson's diagrams* exhibit the general application of my theory to all pointed arches. They also shew its superiority for *ensuring* point under all circumstances. This would be very evident in an arch whose height should equal the half-width.

In the diagrams, your correspondent has understood $x + y = r + s$; but this is a misapprehension.

It may be proved that $r = \frac{y^2}{\sqrt{x^2 + y^2}}$, and that $s = \frac{x}{y}\sqrt{x^2 + y^2}$. Let these two values of r and s be multiplied into one another, and the product will be xy, as was proved geometrically.

As I do not contend about words, I confess that the remark about "perpendicularity" should have been qualified. The idea in my mind was, that with the *same* base I obtain *greater* aspiration: a circumstance very accordant with the genius of the pointed style. My object has been to prove that pointed arches of *all* proportions may be (and probably were) struck by one uniform equation. If I have succeeded, let me humbly hope that I have done the *style* some service, and that Tudors need not be left to the "rule of thumb."

THOMAS LAKER.

Wavertree, Liverpool.

LECTURES AT THE SOCIETY OF BRITISH ARTISTS. — Mr. Hurlstone, the president, closed the school season on the 4th inst., with an able lecture on Spanish art.

* For which we have not space.

DWELLINGS FOR THE WORKING CLASSES.

THE EXTERNAL GALLERY SYSTEM.

SIR,—The construction of appropriate dwellings for the working classes has of late attracted much of the public attention, which it highly deserves, both in a moral and in a sanitary point of view. You will, therefore, I trust, excuse my offering to your notice a few remarks on the advantages, which, in the construction of a lodging establishment on a large scale, might be derived from the adoption of a system of external galleries, or balconies, constructed along the front of each story throughout the whole extent of the building, and connected with each other, and with the ground, by staircases at distant intervals. This peculiar mode of forming a communication between the various parts of a building is frequently practised in Italy, especially in the court-yards of large inns; and one form of it is exhibited in plate 9th of the work lately published at Brussels, under the title of "Projet d'association financière pour l'amélioration des habitations, &c." Par F. Ducpetiaux.*

In framing the following considerations, I have assumed the galleries to be constructed in the most economical manner, consistent with perfect safety; to be supported one over the other by wooden or iron pillars, about 12 feet apart; to be 4 feet wide, guarded by a light iron balustrade or railing, and paved with tiles, or slate, or any other appropriate material. I do not, however, wish to lay any stress on either of these particulars, my intention being to shew the practicability and usefulness of the system, in a general point of view, leaving its details to professional men.†

1. I consider one of the chief advantages of the proposed plan to be this, that the occupants of the higher stories would possess almost the same facilities for neighbourly intercourse with all those residing on the same flat, as if they lived on the ground-floor; and the look-out from the windows, enlivened by frequent passers by, would present nearly the same degree of cheerfulness; whilst at the same time any intrusive prying in at the windows, could, besides the usual impediment of muslin blinds, be prevented by raising the level of each flat, two steps above that of its external gallery.

2. The several galleries would afford covered walks for bad weather, and an agreeable lounge, where the tired workman could sit and smoke his pipe on a summer evening, his wife usefully engaged at his side, and his children cheerfully playing about him. These galleries could, moreover, be agreeably enlivened during the fine season by flowers, reared in pots or oblong boxes, and especially by climbers, trained along the balustrade and up the columns.

3. The galleries being connected with the ground by staircases at both extremities of the building, would afford a more effectual security against danger from fire than the expensive stone staircases which have been had recourse to.

4. Peculiar facilities would be afforded, in a variety of ways, for drying the linen of the inmates, without the necessity of travelling up and down stairs, as is usually the case in buildings of many stories. I have seen practised in Italy a method of hanging the linen on an endless line passed round pullies, which are placed opposite each other, on the two sides of a street or court-yard. The plan was evidently so successful, that I should feel disposed to give some account of it, but that it may very possibly be already known in England, though I have not had occasion to witness it. This contrivance might be very well managed from window to window, across an ordinary street, by agreement between the parties concerned; though, of course, I should not think of recommending it, save in unfrequented localities and blind alleys. But its adoption would be much more convenient and unobjectionable where there were two series of external galleries facing each other.

5. In buildings possessing no horizontal access from one part to another, and separated, as it were, into a series of distinct houses, with only two families on each flat, the inmates are generally deprived of the convenience of having little articles of household consumption brought to their doors, either by the shop boys, or by itinerant venders; whereas, with the system of external galleries, these persons would ply from door to door throughout the whole extent of a second, or fifth story, with much the same amount of time and trouble as if their customers were all inhabitants of the ground-floor. I may add, that many of the inmates, whose age or infirmities incapacitated them for active occupations, might apply themselves to shopkeeping in the small way, with as fair a prospect of attracting the custom of their neighbours, or neighbours' children, of the same floor, as if all were tenants of a row of cottages.

Circumstances of the nature of those referred to in the foregoing paragraphs may seem trifling in themselves, but they would contribute very much, in the aggregate, to give to apartments in an extensive and city-built lodging establishment, a character of cheerful and sociable homeliness, which buildings of that description are generally very far from possessing.

With regard to the expense of the proposed plan, as compared with the usual mode of building, I am not prepared to give any estimate; but it must be borne in mind that the whole, or the greater part of the space usually occupied by flights of stairs, in the body of the building, which are very expensive when required to be fire-proof, would become productive, by being available for additional apartments; nor can it be alleged that the galleries would be an encroachment on the public way, as they would only occupy the width of the foot pavement, which would thus gain a desirable protection.

I had intended noticing a few other points, such as, for instance, the facilities which would be afforded by the gallery system, for the introduction of economical arrangements with regard to fuel, water, and gas; but I find that these subjects would involve a discussion of pros and cons, relative to the expediency of applying to the occupations and wants of the working classes, those principles of association, and clubship, which have hitherto been chiefly confined to the pursuits and enjoyments of the rich. This is a subject open to controversy, and on which men are seen to disagree whom one would suppose equally possessed of the best information and soundest views; whilst on those points on which their opinions coincide, deeply rooted popular prejudices too frequently present an almost insurmountable obstacle to the adoption of the measures they recommend, even though experimental proof in this country or abroad may have demonstrated their practicability.

A disquisition of such a nature would swell this letter to unreasonable limits. I may, however, be allowed to state my conviction that suitable and well-contrived economical arrangements, such as could easily be combined in the construction of a large metropolitan lodging establishment, and especially in one built with external galleries, might afford the means of effecting a saving of at least 20 per cent. in the usual outlay of the workingman for his daily sustenance;* and that this desirable result need not be confined to men or females living singly, but might be obtained in establishments for families, not only without any proportionate diminution of comfort, and without any infringement on decorum, but with a furtherance of humanizing influences, and of opportunities for intellectual development.

There is another measure by which I believe that a very material benefit might be conferred on the industrious artisan, viz. the formation of regular *ateliers*, or work-rooms, fitted up with the requisite conveniences for such of the manual trades as are susceptible of being carried on in company. This is the case with most of those handicrafts which are usually practised by females; and I consider, indeed, a commodious work-room for needle-women,

* This very useful work, which reflects credit on the sagacity and perseverance of the author, may be procured in London.

† The use of external galleries we should mention is not unknown in England, and has been alluded to before now in THE BUILDER. In Liverpool there is a pile of dwellings, known as Kent-terrace, if we remember rightly, so constructed.—ED.

* See the number of the "Labourer's Friend" for October 1847, page 181.

with an ample supply of sun-light throughout the day, and of gas-light at night, as an almost indispensable appurtenance of a well-organized lodging-house for females.

On the preceding measures, and on others calculated to equalise the demand for some kinds of manual labour, and to ensure to its products a more direct transit from the producer to the consumer, I shall perhaps have, at some other time, an opportunity of entering into further detail; I shall perhaps then endeavour to point out in what manner they might either be adapted to that condensed form which concentrates so many valuable architectural and economic lessons, in the model buildings of the Labourer's Friend Society, or be carried out by the directors of the Metropolitan Association under Royal charter, on a scale of development commensurate with the vast resources which will, I doubt not, be readily placed at their disposal by capitalists, if the latter be properly appealed to, while the fickle breeze of public sympathy is blowing fresh in favour of philanthropic investments.

Twickenham. T* T*

THE ITALIAN OPERA HOUSE, COVENT GARDEN.

We mentioned briefly a short time since, that a great improvement was being effected in the upper part of the auditory, by removing the floor which separated the amphitheatres and the gallery, and forming one general incline, which, under the titles of "box stalls" (the front portion) and "amphitheatre," will give good accommodation to about 600 persons at a moderate price. The appearance of the house is little injured by it; indeed, it gives an effect of space and extent which it had not before. Its recommendation to us, however, is that of providing the opportunity of hearing the finest productions of the finest composers, given by a company not to be equalled in Europe, for those who may not be able prudently to pay large prices for the enjoyment. We would have music as universally cultivated in this country as we would have design: the enjoyment of both is open to the meanest capacities and to the humblest individuals, and we look for the time when it will be considered not a luxury but a necessary, and all be qualified and able to receive it. As was said to Mr. Wyse by an intelligent foreigner, when some doubts were expressed of the possibility of generally diffusing these arts in England: "Music! why music is speaking: Drawing! drawing is writing: both are pastimes only of the common education of every human being."

Several other improvements have been made at the Opera-house under the able direction of Mr. Frederick Gye, (who is now the general comptroller there), especially at the entrances, arrangements for giving back cloaks, &c., speedily;—little matters not beneath the attention of architects who would adapt their buildings perfectly to their destined purpose.

PROGRESS OF THE GAS MOVEMENT.

In so rapidly accelerating a ratio is the gas movement making way, that the necessarily restricted limits devoted to such a subject in The Builder are getting less and less capable of keeping pace with it, even in the briefest record of each and all of its fastcoming minor phases and events; so much so, in truth, that we feel not a little like that worthy wight who raised a regiment of aerial imps, whose *gaseous* forms he forthwith found it far beyond his power to order and dispose of as he wished. We must, however, make at least an energetic and industrious effort to condense as many of them within the limits circumscribed as possible, leaving as many more, it may be, to pirouette upon the point of our Perryan penholder until further orders.

It is scarcely news, to most of our metropolitan readers at least, to intimate now that in London, Lambeth, Kennington, Camberwell, Marylebone, and, in fact, the metropolis at large, the movement downward in price—but upward in prosperity, as we have prophesied before—has fairly begun. The Phœnix, the City of London, and the South Metropolitan, no less than the Imperial and the Chartered Companies already referred to,—all, more or less recently announced a forthcoming reduction of price to 6s. per 1,000 cubic feet; so that what was lately an average metropolitan price of 7s. to 8s., has been already pretty well reduced to 6s., and, in all probability, will, ere long, step further downwards towards the level of public expectation, pitched, as it latterly has been, on the tangible, practical, and explicit basis of Mr. Leslie's evidence of possibilities—namely, 3s., more or less. Alarmed at the movement of the City Sewers Commissioners, and the evidence thus adduced, the City Gas Company have followed the example of others—in *so far* doing what we have so often urged them all to do, even for their own sakes.

Since our last abstract of progress, too, in the provinces, the movement downwards in price has been general. At Woolwich, for instance, not only have the Admiralty obtained a reduction of the charges on their extensive establishment to 6s., but a general reduction to 5s. 6d. has been since announced, along with a notice of increase of dividend to 6 per cent. As the *Daily News*, in announcing this reduction, justly remarks, the beneficial effects of a well-timed competition have been strikingly exemplified in this very case. For many years the charges of the old company were 15s., which, by stiff struggles, were reduced at length to 13s., and then to 11s., when further they declared it impossible to move, until the actual formation of a new company jogged them onward to 9s., which they at the same time declared to be a ruinous price. The new company, however, having been notwithstanding fairly set afloat, with a charge of 8s., to begin with, down came the *ruined* Company—not to a state of bankruptcy, exactly, but—to a general charge of 6s.! The tradesmen preferred paying 8s. to their *own* company, nevertheless, until a stipulated guarantee fund of 1,000*l.* was realized, when the reduction announced, to 5s. 6d., was made, and the dividend, notwithstanding, as we have said, increased,—thus literally fulfilling our repeated prophecy, that with a downward price, we shall see an upward dividend, as indeed the whole of the returns already made to Parliament also evidence, and as the more especially parallel case at Liverpool,—so like in its detail to that at Woolwich,—also gives remarkable proof. In that case, if our readers recollect, the company, after being literally *pulled down* from 45s. to 15s., 12s. 6d., 8s., and 7s., declared that it was *utterly impossible* to make gas at a lower price,—then to 5s., when there was another dead stop, as *it* was declared to be *a losing price*,—then down to something less than a losing price, viz., 4s. 6d., which their own 'chief clerk' at length, in evidence, declared to be a very good reason why they should—raise it again? by no means, but—reduce it even to 3s. 8d.! And, in truth, the *ruinous*, losing, and impossible prices actually realised the highest dividend allowed by their acts, viz. 10 per cent., which was shortly afterwards announced! and that, too, in the face of a constant rise in the price of coal!! But our present purpose is neither retrospective, argumentative, nor illustrative, but simply registrative. We must, therefore, proceed with our record of progress.

While the people at Newark are paying 7s. 6d. to the Company there, the Midland Railway Company, in the same locality, are now manufacturing the article at less than 2s. 6d.! These elements of discontent are rapidly fermenting into a new leaven at Newark.——The Huddersfield registered Company have announced a reduction to 5s.; the Bradford a like reduction from 6s. to 5s.; the Cambridge a like reduction from 8s. to 7s. (Here the Improvement Commissioners as well as the consumers, have caught the infection of discontent, chiefly in consequence of observing that "there has been a most important reduction lately in many large places"). At Basingstoke, Romsey, Salisbury, Whitehaven, et multis aliis, also, deductions have been made of one, two, and even three shillings at once: at Whitehaven it appeared, that "notwithstanding the reduction that took place some time ago, the concern is a paying one." At Basingstoke, the shareholders were told that the effect of a former reduction, "was a large increase in the consumption, more than adequate to the difference in price."

We meant to have comprehended much more matter in our present report of progress, and especially with regard to the active stir which prevails in various quarters, in consequence chiefly of the government surveyors being now again at work in the collection of evidence for and against such bills as those of "The Bristol and Clifton Gaslight Amendment Act," the "Acts relating to the Southampton Gaslight and Coke Company," and the "Southampton Consumers' Gaslight and Coke Company," the "Worcester New Gas Company's Bill," the "Liverpool Gas Companies' Amalgamation Bill," the "Brentford Gaslight Acts Amendment Bill," &c.; but we must content ourselves in the meantime with the mere enumeration.

We cannot conclude, however, without nominal allusion at least to the warm discussion at the Doncaster gas meeting; to the *resolution* of the pavement commissioners at Winchester, to take the hint we gave, by "advertising for tenders for the lighting of the town," in the face of the gas company, and their enormous charge of 11s. which is thus working out its own cure, as the consumers seem now resolved *not* to be contented with the offer or promise of 9s. as a 'reasonable charge;' also to the progress of the Tottenham and Edmonton Gaslight Company, who have taken possession of the works recently erected, and introduced the use of gas to a large extent among private families; and, finally, to the even still recurring introduction of gas into such new, or rather primitive and antiquated localities, or towns, as Bognor, Cradley, &c. Soon, we hope, shall we have the satisfaction to speak of those *private dwellings* into which it has not yet penetrated, just as we now have occasion to speak of antiquated towns like these; and we are glad to recognise such pioneers in *this* good work as Mr. Rutter, whose *brochure* on the "Advantages of Gaslight in Private Houses," now lies before us, and to which we shall have a more appropriate opportunity again to allude.

THE INSCRIPTIONS ON MONTACUTE HOUSE.

A reader remarks,—"In The Builder for January 22nd, in the article on Montacute House, were given 'A few inscriptions on the building, illustrative of ancient hospitality.' They are—

"Through this wide opening gate
None come too early, none return too late."
"And yours my friend."

And—

"Welcome the coming
Speed the parting guest," &c.

Reading Pope's poems the other day, in the satire addressed to Mr. Bethel, I noticed nearly similar lines. Now, I think it improbable that such a poet as Pope should steal from a door, or a "north wall," and *probable* that the builders of the said wall and door, took a hint from Pope. If such be the case, how are we to account for the discrepancy in dates? Montacute House "was commenced in 1580, and finished in 1601." My book says Pope was not born till 1688!

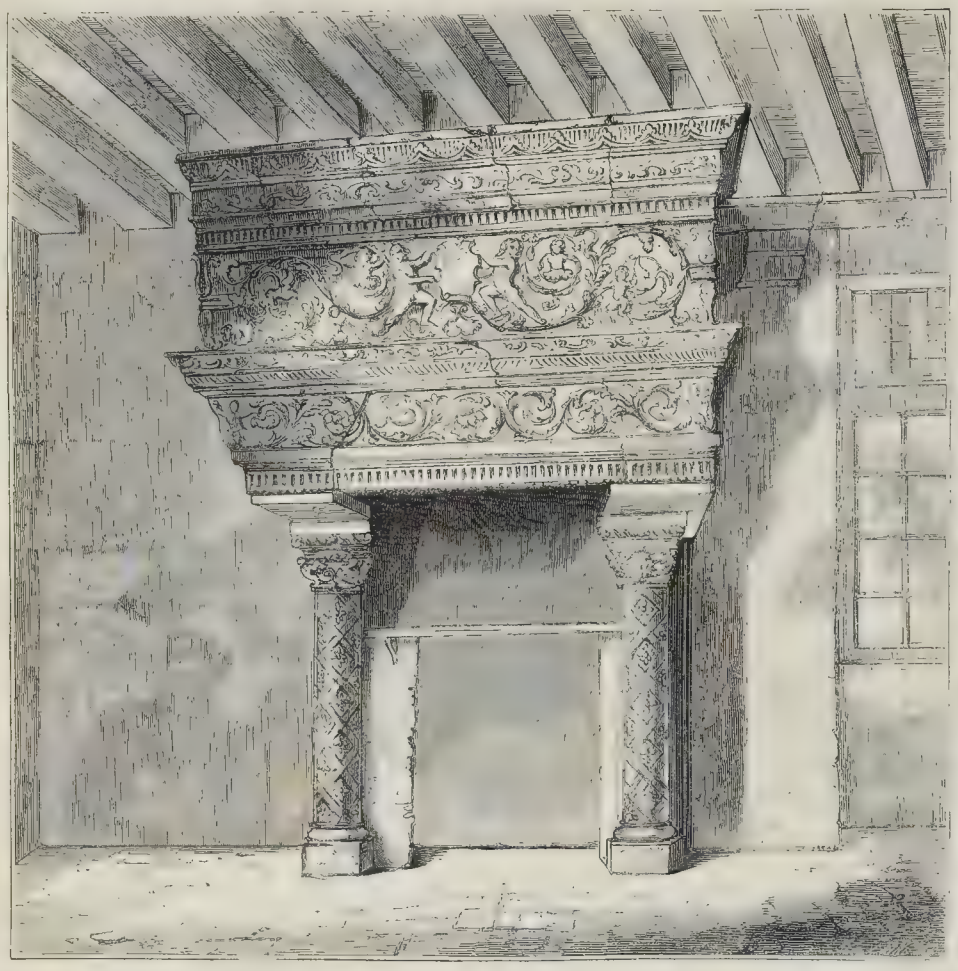
Pope's lines (Imitations of Horace, Book II. satire 2") are,—

"Fortune not much of humbling me can boast;
Though double-tax'd, how little have I lost!
My life's amusements have been just the same,
Before and after standing armies came.
My lands are sold, my father's house is gone;
I'll hire another's: is not that my own,
And yours, my friends, through whose free opening gate
None comes too early, none departs too late;
(For I, who hold sage Homer's rule the best,
Welcome the coming, speed the going guest).
'Pray heaven, it last!' cries Swift, 'as you go on:
I wish to God this house had been your own:
Pity to build without a son or wife:
Why, you'll enjoy it only all your life.'
Well, if the use be mine, can it concern one,
Whether the name belong to Pope or Vernon?"

The inscriptions at Montacute are *incised*, if we remember rightly, and were doubtless copied from Pope after the completion of the building.

It's an ill-wind that blows no one any good.—The disorderly crowds in Trafalgar-square have swept away the hoarding from the base of the Nelson column! It needed a super-natural interposition.

RENAISSANCE CHIMNEY-PIECE AT ORLEANS.



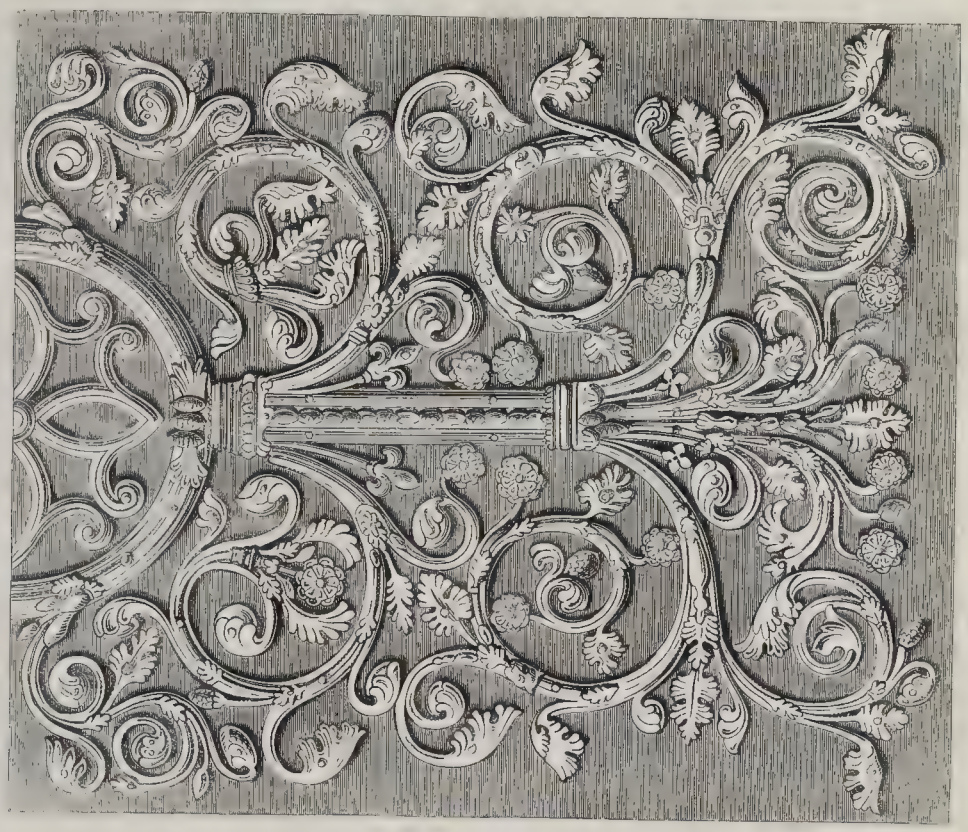
CHIMNEY-PIECE AT ORLEANS.

In a narrow street, near the Market-place, in the very centre of the ancient city of Orleans, called the Rue du Tabourg, and numbered 15, stand the remains of a mansion, which, from the prodigality of its sculptures and carvings, betokens the former abode of some rich and powerful individual. The external front is filled with windows, having very ornate stone dressings, and has a large and small door from the street, extremely remarkable from the high reliefs carved thereon, which completely cover their surfaces. These reliefs are composed of several subjects, in separate compartments, representing events of war, allegorical emblems, processions, and other combinations, in which many figures are employed. Through these doors a passage conducts into an interior court, at the extreme end of which stands an ancient well, still possessing its original ironwork. A few years since the apex of the roofing which covers it was terminated by a massive group of thistles, painted blue, and adorned with gilding. On the left-hand of this court-yard is a gallery supported by three semi-circular arches, based on columns about 8 feet high, the shafts each of a single stone, and having delicately-sculptured capitals of the same design as the engraved chimney-piece. This arcade carries the enclosing wall of the upper part of the house; the ceiling is panelled; and in the centre of each division are emblems in relief of hearts pierced by arrows, flaming torches, a turtle, a sun, a plate laden with pears, in form similar to those known in the Touraine as the *Rousellet*; and lastly, *fleurs-de-lis*. On the side-wall of the colonnade are the remains of two busts, in bas-relief, a third at the end, and in the court-yard a fourth. These are too much mutilated to distinguish the features with accuracy. A leaden water-pipe descends from the parapet of the house to the yard, near the well, and still retains a spiral decoration of brilliant blue, apparently painted in oil, with alternate bands of gilding. The arcade serves as a peristyle to a circular staircase, which ascends from the vaulted cellars through the entire edifice: the dimensions are noble, each step, of a single stone, being 7 feet long: on each landing, carved bosses sustain the vaultings of the ceiling. At the further end of the colonnade, a door on the left leads into the grand saloon, where the chimney-piece stands, of which the annexed engraving is a representation. The saloon is about 45 feet long, by 30 feet in width; all its other ornaments have disappeared, with the exception of a shield bearing three *fleurs-de-lis*, placed as they are at present on the arms of France. This fine apartment is now degraded to being the work-shop of a maker of *sabots*; piles of wood encumber the floor, and the carvers of these rude appendages to the nether limbs of Frenchmen have replaced with their boisterous mirth, the convivialities of the most chivalrous period of ancient France. She curious visitor is reminded of the expected gratuity by an inscription scrawled with charcoal, on the front of the chimney piece, as follows:—"*Messieurs et Dames, qui venez voir la Cheminée, n'oubliez pas la bonne.*"* The ground apartment next the street is formed into a shop, where these wooden shoes are sold to the plebeian inhabitants of the city.

It has been said that this house was built and inhabited by the father of Marie Torichet, others have pretended that it was erected by the Cardinal Briconnet, but according to the tradition handed down by those who have possessed and resided in it, it is believed to have been built, and decorated by Charles VII. The elegance of the construction indicates that it must have been destined for some exalted personage living before 1470. The lavish and delicate sculptures, the ornaments with the *fleurs-de-lis*, and the fruits characterising the produce of the Touraine, all concur in its

* The frieze is much broken, but is restored in our view, which is engraved from a sketch by Mr. Mogford.

IRON-WORK FROM NOTRE DAME, PARIS.



royal origin, and its being adorned expressly for Agnes Sorel, who was born in this province. Her *goût* for the fruits of her native province is displayed by the dish containing the pears, being placed in the most prominent position. This opinion is strengthened by a close examination of the mutilated crests, where a great resemblance is seen in the female head to the one of Agnes Sorel, which is sculptured on her monument in the Abbey at Loches, and in the male head, with the features of Charles VII. as existing on the medals of his reign.

It is much to be regretted that this beautiful relic of the "Renaissance" should be so neglected. Orleans contains several remarkable mansions of this period and style, of which may be named the house built by Francis I. for the Duchess d'Etampes in the Rue de la Recouvrance, and the house of Diana of Poitiers in the Rue des Albanais.

A few doors from the house above described, in the same Rue du Tabourg, is the Maison de l'Annonciade. This edifice contains a small building in the garden, consisting of two rooms, said to have been occupied by the famous Joan of Arc. They are very ornate internally, but were certainly built at least a century after the heroine's exploits.

Lord Northampton's First Soiree, given on the 4th inst., was, as usual, very numerously attended. The generally received belief that the kind and accomplished Marquis will not again be put in nomination for the presidency of the Royal Society, is much regretted by some of the best friends of the society.

ORNAMENTAL IRONWORK FROM NOTRE DAME, PARIS.

The gates or doors on each side of the great entrance to the cathedral of Notre Dame at Paris are adorned with some very elaborate ironwork, the skill shewn in the execution of which, even in this day, is quite surprising, and fully illustrates the mastery which the ancient armourers and workers had obtained over this material. Our plate shews only a small portion of the least decorated part of this ironwork; the other parts are ornamented with birds, animals, grapes, flowers, and foliage. It has been a question as to the date of the execution of this ironwork. The foreign antiquary, Willemin, affirmed it was done so early as the end of the twelfth or the commencement of the 13th century, and this in direct opposition to the statement given by another French writer on antiquities, Sauval, whose work appeared in 1660, and who, in his account of this ironwork, states positively it had been executed about 120 years previously. The style of the ornament certainly leads to the conclusion that the latter is more correct, and as his account is curious, we shall give it in full.

"The ironwork of the two doors has at length been admirably well wrought by Biscornette, the sculptor; the birds and ornaments are wonderful; they are wrought in iron; the manner of working died with Biscornette. This artist worked in iron with an industry almost incredible; he made it simple, tractable, and gave to it all the moulds and shapes that he wished, with a softness and grace which surprise and delight all the blacksmiths. Gayart, the smith to the king (in endeavouring to discover a secret so wonderful), broke some parts of the iron off these doors, and afterwards declared that after all the trouble he had given himself in experimenting upon it, he had become no wiser, and at the same time added, that he had great trouble in using the little iron that he had broken off.

The doors have been made for 120 years, and are admired by every smith,—the foliage is admired for its beauty, and the execution of the work is wonderful,—those in the trade have not yet been able to discover precisely the manner of working; for some think it is of wrought iron, which they call bar iron; others say that it is cast and filed; others pretend that it is beat or hammered, the most clever of our smiths contend that the iron is cast and without solder: one thing is certain, the secret was lost at the death of Biscornette, who was so afraid that they would rob him of it, that no one, as they say, ever saw him work."

Without a close examination of the iron work in question, it might be difficult to determine its exact mode of construction, but from some ancient ironwork of similar description in the possession of the present writer, he would suppose that it had first been cut or sawn out of thin iron-plate, and then beat or punched out in the back into the required pattern.

R.

Lord Morpeth's Speech on bringing in his Bill for promoting the public health (February 10th), is now published in the shape of a pamphlet,* and may be usefully circulated by those who are anxious to aid the sanitary movement. The Bill, it is to be regretted, makes but slow progress through the House. It will probably go into committee on Monday next.

* Ridgway, Piccadilly.

METROPOLITAN IMPROVEMENTS.

Sir,—As an Englishman, I take a pride in London and its public buildings and monuments; and though we cannot expect an Augustus should arise to turn its brick into marble, yet we may perhaps be induced to exert ourselves so far as to remove some unsightly appearances, which are a reproach in the eyes of foreigners. With this hope, I beg permission to bring to notice two such offences against taste in the metropolis.

The first is the ugly stump in the central part of Westminster Abbey, which was intended to bear a tower, but which has never been finished according to the original design. Thus the monarchs of England and the Indies are crowned in a mutilated building! The ashes of the mighty dead, who have exalted this nation by their genius, wisdom, heroism, or powers, are not thought worthy of having a finished shrine to rest in! The house of God must hang down its head in presence of the Houses of Parliament! And whilst Cologne,—a mere village in comparison with London,—is doing justice to the noble design of its ancestors, the foreigner, as he passes along, points to the truncated tower of Westminster Abbey, and says:—"Behold a nation which began to build, and is not able to finish," though a mere trifle is required for the purpose in proportion to our wealth, and compared with the actual demand for Cologne Cathedral.

Now, Sir, what is to prevent us from raising a tower, with a spire of light perforated architecture, upon the central base provided for that purpose? The foundation is sufficient, as those at the western end proved sufficient for Wren's superstructures; and if not, could be made so. And why should not the unorthodox disfigurations of that architect be retrieved and replaced by proper restorations?

The next reproach, which every one proud of his native land wishes to see removed from its chief city, is the want of quays along the bank of the Thames, on each side, in the manner of those on the Seine at Paris. The Thames is nothing more than the *cloaca maxima* of London, into which all the minor *cloacæ* disgorge their filth through the various vomitories that range along its banks; it is, therefore, like sailing up the common sewers when we enter London by the river; and foreigners may well be pardoned if they ask with a smile, "Are we proceeding to the Temple of Cloacina?" when they find themselves inevitably committed to the endurance of its offensive peculiarities. This subject was sometime ago taken up with spirit, but appears now to have subsided.

I would suggest, that instead of the face of the quay or pier towards the river being composed of solid masonry, rising like a wall out of the water, it should consist of a row of arches running along each bank, and forming a façade towards the Thames, like that of a first-rate viaduct in a railway. The advantages would be numerous, and amongst others much space might be gained; for the platform of the quay resting upon groinings and arches, which admit the course of the stream uninterruptedly beneath them, the river would not be compressed within narrower limits than before, nor the power of its tide increased; for the arches might be pushed forward even to low-water mark without injury. By this, also, all the unsightly and unsavoury nuisances which disfigure the banks would be covered over. Staircases also might be contrived within the arches, so as to keep the façade unbroken, and landing piers at the bridges; and, while the effect would be beyond what any other city can show, and worthy of London, the stream of traffic which chokes the parallel streets would be divided, and the delay of transit obviated.

Available space for a double line railway might be gained by such a pier or quay: but it will occur, "What is to be done at the crossings?"—for such a railway must cross the heads of bridges, &c. If no other way should occur, why not raise a second tier of arches carrying the railway, and resting upon the quay, so conveying the railway over the heads of the passing pedestrians, carts, &c. at the crossings,—thus imitating a Roman aqueduct of two tiers or stories of arches, of which the lowest sustains the quay, the uppermost bears the railway. Thus we should have a row of stout piers rising (suppose) from low-water mark, and from them arches springing, surmounted by a parapet, and bearing a platform of stone, which is "*the quay*." Upon these arches but perhaps a little retiring (and not carried up flush with the lower piers and parapet, but receding so as to leave a roadway or pathway along by the side of the parapet), you are to suppose a row of columns or piers rising high enough for the desired object, and bearing the railway from one end of the metropolis to the other, at least from Westminster Bridge as far east as practicable or desirable. The tunnel might form part of the plan, as affording a passage across the river at one end, and the Charing Cross Bridge might supply the foundations of another. But I am forgetting my description. You have, then, first the quay raised on a row of arches at low-water mark; secondly, the railway raised on arches resting on the quay, and passing over the heads of the people at the crossings; thirdly, a row of warehouses, in a good Italian or Roman style, built upon the quay, and rising up behind and above the railway two, three, or more stories, forming an embankment (as it were) for the railway to rest against on that side, and having street buttresses, corresponding to the pillars on the Thames side, for the support of the railway platform. The quay will thus be an arcade, with the exception of a clear roadway or footway between the pillars and the parapet of the quay; and this arcade will have openings into the warehouses, while the railway above will have the same.

As to "the cost," London can do any thing that *money* can command; and though it may appear much, I am persuaded it would even pay as a speculation, such is the amount of traffic.

Palladio.

*** Similar suggestions have long been before the public. We insert our correspondent's letter with the view of keeping such a project alive.

USE OF CEMENT IN CONSTRUCTION.

Sir,—The late melancholy occurrence and loss of life at the Euston-square Station, arising from the nonsetting of the cement used, has induced me to read, with much attention, the evidence reported in your paper. I perceive Mr. Hardwick's opinion to be, "that had the work been proceeded with in a dry season, in all probability the accident would not have occurred, and that it arose from the non-induration of the cement, owing to the excessive wet weather." I entirely differ with him on that point, knowing, as I do from experience, that good cement is never so much in its element as when used in damp weather; and I am prepared to support and prove the correctness of my opinion, either to Mr. Hardwick or any other architect or builder, by joining together with good Portland cement and sand, a given number of wet bricks, and keeping them moist for ten days or longer, and establishing at the end of the time that the bricks cannot, by any fair means, be disconnected at the joints from the cement; on the contrary, the bricks will break, whilst the cement will remain hard and firm in the joints. I observe one of the jurymen states as his opinion, "that had the work been done in April or May, the cement might have set in a few days, but at this season of the year it would not set in several weeks." This gentleman is evidently unacquainted with the nature and power of the material. The truth is, the failure of the works at Euston-square was entirely owing to the bad quality of the cement used; the columns at the station having been set in cement, would not, had it been good, have broken as described in the evidence, nor until coming in contact with the ground, and then only in the three or four pieces, arising solely from the breaking of the bricks. I differ also with Mr. Harwick in opinion, "that good cement should at all times be used immediately after it is prepared, and that by being left long, its adhesiveness is destroyed, *and it becomes crumbly*." The fact is, good cement never becomes crumbly. I have kept cement for four or five years, and afterwards, on its being exposed to the atmosphere, it has set twice as hard as when fresh from the manufactory. Having been practically connected with cement works and building, and made numberless experiments with good Portland cement and brick, from my childhood, I assert, without fear of contradiction, that a cube foot of sound brick, set in good cement for ten days, is capable of sustaining a weight of 50 tons. It matters little which way the bricks are laid, if the material be good; provided the work be well walled and grouted, the structure will be one solid mass.

Apologising for this lengthened intrusion on your valuable columns, induced by nothing but a desire to serve the public, and not to prejudice any individual cement manufacturer, being, as I am, entirely ignorant by whom the cement was supplied for the building at the station,

I am, &c.,
Wm. Aspdin.

Northfleet, Kent, Feb. 11, 1848.

PROVINCIAL NEWS.—BUILDINGS AND RAILWAYS.

The second graving dock at Southampton is completed. —— The plans of the new workhouse at Leicester have been approved of by the Poor Law Board.——The foundation stone of St. Thomas's Church, Coventry was laid on Thursday week; and that of the new church in All Saints district, Liverpool, on Monday week. The latter will be in the pointed style, with a spire and plain exterior: estimated cost, 4,000*l.*; Mr. Arthur Holme, architect; and Messrs. Duckworth, Nuttall, and Burroughs, builders.—— St. Simon's parish church, Liverpool, was to be consecrated the end of last week or beginning of this.——The clearing of cellar occupancies at Liverpool is still going on; about 3,000 have now been vacated, but 11,000 still remain in the occupancy of 27,000 persons. ——The foundation stone of a new Wesleyan chapel has been laid at Cleethorpes.——The building called St. John's Sessional Schools, at South Shields, is nearly completed, at a cost of 1,000*l.*, from working plans prepared by Mr. Thomas Oliver, of Newcastle; builder, Mr. George Young, South Shields. It is a plain edifice, with doors and windows in the modern Gothic style. The roof-interior is exposed in stained and varnished wood work. ——An operative chemist in Louth is said to have invented a self-illuminative railsignal, to be attached to the rail by a strip of lead, and shew by the colour of the light produced while the engine passes over it the nature of the danger ahead. A contemporary also intimates the invention, at Louth, of a fixed machine which shuts off the steam of the engine in passing, whilst it blows the alarum-whistle, and might even be made to apply the break.——In seven appeals to juries in Lincolnshire, the amount claimed by seven landowners, from the Great Northern, was 27,290*l.*, the sum offered was 12,076*l.*, and the amount awarded was 11,850*l.*——More bridges have been giving way before the ordinary test of winter's powers of wind and rain or frost and thaw. One recently constructed at Earley, on the Reading and Reigate line, succumbed on Friday week, ostensibly to a train of earth-waggons, but attributively to a heavy gale of wind and rain during the previous day. Another has also fallen at Hammerwick, near Lichfield, on the South Staffordshire line, now in course of construction.——The masons employed on the Tweed bridge struck work on Monday fortnight; and 160 of them, besides 50 labourers, are still idle. In November the wages had been reduced from 27*s.* to 24*s.* and 21*s.*, in consequence of the slackening in the demand for workmen and the shortening of the days; but now that the working hours are extended, the masons have demanded a return to 24*s.*, which the state of the demand for workmen does not appear to have warranted their employers in acceding to.——The railroad bridge between Hartford and Springfield, U.S., was rebuilt in *one week*, though 200 feet long. Yankee enterprise that! says the *American Sun*. Yankee enterprise truly, which no one, we hope, will seek to excel till the Hartford and Springfield bridge way is *again* open, as it no doubt shortly will be, to a repetition of the same smart experiment, and then our Yankee enterprisers, having no one else desirous to excel them in their own peculiar line, will no doubt feel impelled, by their own indomitable go-a-head-strong impulses, even to excel themselves.

MITCHELL'S SCREW PILE.

INSTITUTION OF CIVIL ENGINEERS.

On the 22nd ult., the president in the chair, the paper read was by Mr. A. Mitchell, "On Submarine Foundations; particularly the Screw Pile and Moorings." Considering that the entire subjects of the various sorts of piling, of solid stone foundations, of cofferdams, of masses of concrete, and the numerous modes adopted by ingenious men for overcoming local difficulties, would occupy too much time, and scarcely possess novelty, the author restricted himself almost entirely to the description of the works executed by him with the screw pile, as that had been chiefly employed for supporting structures on loose sand, or mud banks wholly or partially covered by the sea, where it had been previously considered very hazardous, if not impracticable, to erect any permanent edifice.

The origin of the screw pile was the screw mooring, which was designed for the purpose of obtaining, for an especial purpose, a greater holding power than was possessed by either the ordinary pile, or any of the usual mooring anchors or blocks, of however large dimensions. It was proved by experiment, that if a screw, with a broad spiral flange, were fixed upon a spindle, and forcibly propelled by rotary motion to a certain depth into the ground, an enormous force would be required to abstract it by direct tension, and that the power employed must be sufficient to drag up a mass of the form of the frustrum of a cone reversed, the base being at the surface of the ground, and the section of the apex being equal to the diameter of the screw. The extent of the resisting mass must of course depend upon the natural tenacity of the soil; even in this reasoning it must be evident that a vertical force was calculated upon, but as practically that seldom or ever occurred, the angle of tension and the curve of the buoy cable again gave the moorings greater power. This was found to be correct in practice, and the applications of these moorings became very extensive. An arrangement was made with the port of Newcastle-on-Tyne, by which, for the sum of 2,500*l.*, the right of fixing the moorings in the Tyne was given, and Mr. Brookes, the engineer, showed that last year, whilst in the neighbouring port damage was done to the shipping to the extent of nearly 30,000*l.*, no injury was sustained in the Tyne, entirely owing to the sound holding of Mitchell's screw pile moorings.

It naturally occurred to Mr. Mitchell that the same means of resistance to downward pressure might be used, and he proposed to apply it for the foundations of lighthouses, beacons, and other structures, which, for maritime purposes, it might be desirable to place upon sand and mud banks where hitherto it had been considered impracticable to place any permanent edifices. In the year 1838 a plan for a structure of this nature for a lighthouse on the Maplin sand, at the mouth of the Thames, was laid before the corporation of the Trinity-house, supported by the opinion of Mr. James Walker, their engineer. The nine iron piles, 5 inches in diameter, with screws 4 feet in diameter, were accordingly driven 22 feet deep into the mud, and, with proper precaution, they were allowed to stand for two years before any edifice was placed upon them. The lighthouse was subsequently constructed, and, as was testified by Mr. Walker, had stood perfectly until the present time. Pending the prolation, it was determined to erect a lighthouse to point out the entrance to the harbour of Fleetwood-on-Wyre; and under the advice of Captain Denham, R.N., the screw piles were adopted. The spot fixed on was the point of a bank of loose sand, about two miles from the shore. Screw iron piles, with screws of 3 feet in diameter, were forced about 16 feet into the bank, and upon them timber supports, 48 feet in vertical height, were fixed to carry the house and lanthern. This structure was completed in six months, and it was said had never required any repairs to the present time.

A project was started by the Earl of Courtown in the year 1847, for adding to the length of the pier at the harbour of Courtown, on the coast of Wexford, which had proved an entire failure, from the channel between the solid pier being continually choked up with sand. Iron piles, with screws of 2 feet diameter, to be driven from 11 feet to 15 feet into the sand, and blue clay, were decided to be used in order to form an open jetty, through which the sand could be washed by the current; and the platform could be used for loading and discharging the shipping. The surface was so heavy on the coast that the usual barges, or floating rafts, could not be used for putting the piles down, so a plan was designed by Messrs. Mitchell for projecting a stage forward from the solid part, rigging a large grooved wheel upon the top of the pile, passing an endless rope band around it, and round a pulley fixed 150 feet back; and then, by a number of men hauling upon the bank, a rotary motion was communicated to the pile, which screwed it down very fast. By these means, one bay of the pier, 17 feet long, was finished daily, even in very rough weather. The entire length of the jetty was 260 feet, its breadth 18 feet, with a cross-head 54 feet long, with landing-stages at each end, and two lines of railway throughout. The entire cost of this extension was 4,150*l.*, or about 47*l.* 10s. per lineal yard.

At a meeting on the 29th ult., various communications were received on the same subject, and were discussed at some length. Afterwards a paper was read, entitled "Remarks on the Formation of Entrances to Docks situated upon a Tide-way;" by Mr. J. B. Redman. After illustrating the subject by the example of the position and direction of all the principal dock entrances on the borders of the Thames in the port of London—shewing that the variations in the opinions and practices of engineers had been very great—it detailed the ordinary methods of docking and undocking ships, and the precautions to be taken in constructing entrances which should be best adapted for facilitating these operations; and although it was difficult to lay down any positive rules upon the subject, as the engineer must in almost every case be guided by local circumstances, in all ordinary cases the following general rules were recommended:—For graving docks, an angle of about 45 degrees, pointing up the stream; for wet docks, an angle of about 60 degrees, in the same direction; and a right angle with the stream for building ships. These, it was believed, would be generally found the most available.

THE PHILOSOPHY OF LABOUR.

In the week before last Elihu Burritt, the remarkable blacksmith of America, delivered a powerful address on this subject at Hull. After tracing the progress of man from the exercise of what he termed his primary faculties,—his hands and feet,—the speaker said:—The human mind has given to the world such embodiments of thought, that thousands have half worshipped the divinity that stirred within them, and even called the artist divine. It matters not whether he incarnated these godlike thoughts in canvas or marble, he breathed into the immortal image a living soul, a speaking mind, which will for ever remain behind to commune with the successive generations of men, when his name shall have perished. The Apollo Belvidere and Venus de Medicis are not petrifactions of thought, not posthumous images of a dead mind. No: their cold marble lips for centuries have uttered a voiceless language that has awed buried millions into reverence: they will hold the same sublime converse with millions yet unborn. Are these works divine? Let me point you to others of higher antiquity, of more direct divinity, a speaking statuary that conversed with Noah in the Ark, and all his descendants. Look at that axe, hammer, hoe, and spade. In their iron lips is a living speech, which has been audible to all ages and generations of men. They are things inspired with more divinity than all the marble statuary in the world: yes, and with humanity too, for they have worked for man as well as talked. Before sculpture had hollowed out a mortar to grind his corn, when the earth was one vast uncultivated wilderness, they went out and laboured with him in the field and forest, in the ditch and in the mountain: they helped him to get his food and feed his children, and make them a cover from the storm. They are the fathers of all statuary, painting, and architecture; and invested with just the more divine dignity than they, as they possess the more faculty to do for man; therefore, of all human works, those he has endowed with a kind of creative capacity, or a faculty for labouring for his comfort, are most entitled to the quality of divinity and the veneration of mankind: for they are not only his doing, but his faculty to do what he could not do before. Let us look in upon a man while engaged in the very act of adding to his natural strength these gigantic faculties. See him yonder bending over his stone mortar, and pounding, and thumping, and sweating to pulverise his flinty grain into a more esculent form. He stops and looks a moment into the precipitous torrent, thundering down its rocky channel. There, a thought has struck him. He begins to whistle; he whittles some timber, for he learned to whittle soon after he learned to breathe. He gears together, some horizontally, and others perpendicularly, a score of little wooden wheels. He sets them agoing, and claps his hands in triumph to see what they would do if a thousand times larger. Look at him again. How proudly he stands with folded arms, looking at the huge things that are working for him. He has made that wild raging torrent as tame as a horse. He has taught it to walk backward and forward; he has given it hands, and put the crank of his big wheel into them, and made it turn his ponderous grindstone! What a taskmaster! Look at him again. He is standing on the ocean beach watching the crested billows as they move in martial squadrons over the deep. He has conceived or heard that richer productions, more delicious fruits and flowers may be found on yonder invisible shore. In an instant his mind sympathises with the yearnings of his physical nature. See! there is a new thought in his eye. He remembers how he first saddled the horse; he now bits and saddles the mountain wave. Not satisfied with subduing this proud element, he breaks another into his service. Remembering his mill-dam, he constructs a floating dam of canvas in the air, to harness the wings to his ocean waggon. Thus, with his water-horse and air-horse harnessed in tandem, he drives across the wilderness of waters with a team that would make old Neptune hide his diminished head for envy, and sink his clumsy chariot beneath the waves. See, now he wants something else; his appetite for something better than he has grows upon what it feeds upon. The fact is, he has plodded about in his one-horse waggon, until he is disgusted with his poor capacity of locomotion. The wings of Mercury, modern eagles, and paper kites, are all too impracticable models. He settles down upon the persuasion that he can make a great iron horse, with bones of steel, and muscles of brass, that will run against time with Mercury, or any other winged messenger of Jove,—the daring man. He brings out his huge leviathan. Sets it upon the track. How the giant creature struts forth from his stable panting to be gone. His great heart is a furnace of glowing coals; his blood is boiling in his veins; the strength of a thousand horses is nerving his iron sinews. But his master reins him in with one finger, till the whole of some western village, men, women, children, and half their home and cattle, sheep, poultry, wheat, cheese, and potatoes, have been stowed away in that long train of waggons he has harnessed to his foaming steam-horse. And now he shouts interrogatively—"All right?" and applying a burning goad to the huge creature, away it thunders over the iron road, breathing forth fire and smoke in its indignant haste to outstrip the wind. To ameliorate our physical condition has been the inspiring object of every intellectual attainment. It has led to the discovery of every principle of natural philosophy and science; it has inspired every conception of taste, prompted every act of patriotism and Christian philanthropy. It was not to indulge a few mere intellectual abstractions that the ancient shepherds and sailors clambered up into the blue heavens and constellated the stars; they wanted them for guide-boards to guide them by night over the plains of the east and the unchartered waters of the ocean. If Phidias and Praxiteles were only bent on a mere diversion of the imagination, neither of them needed to have touched a chisel. The man who created the Apollo Belvidere looked into the mountain side, and saw the silver-

bowed deity invested in all his godlike attributes in the unquarried marble. But he could not bear to see him hampered there in a shroud before his mind's eye. He seized his chisel, and with indignant strokes, he tore away the ceremental marble, and let out the god before his body's eye, to be worshipped by millions, who, if they dared, might even touch his marble flesh. All the beautiful orders of architecture and creations of the pencil, all the conceptions of the beautiful in nature and art, and humanity, are inventions extorted, as it were, from the mind, to extend and increase the pleasures of sense.

INTERNAL ARRANGEMENT OF PARISH CHURCHES.

AT a recent meeting of the Northampton Architectural Society (Lord Northampton in the chair), after a lecture on "Glass-painting," the Rev. Thomas James read a paper on the "Internal Arrangement and Fitting-up of Churches."

Starting with the principle that all plans for church fittings should keep in view the fact that our churches are houses of prayer, Mr. James proceeded to state, that all the sittings should be alike, or, if there were any distinction, the advantage should be given to those who were most peculiarly the objects of the Church's care. There should be no secrecy, and, therefore, no doors; no reclining backs to tempt people to lounge. The seats should be all open, low, straight-backed, all alike; with kneeling places facing the east. The seats should be sufficiently broad, because, although the luxuries of the drawing-room were inappropriate in a church, yet a state of absolute discomfort was no help to devotion. The old oak seats were inconveniently narrow, and the rail above pressed uncomfortably against the back. A book-board is advisable, not so much for the book as for the arms to rest on when kneeling. Whether there should be a continuous kneeling-board or a hassock was disputed. The seats, however, should be closed beneath. Mr. James then proceeded to describe the mode in which seats should be arranged in different descriptions of churches. He concluded this section of his subject by observing, that from twenty to fifty per cent. additional accommodation might be obtained by having open seats. The pulpit should be on the north side of the chancel arch, and of a half-polygon shape, and low. Mr. James advocated the use of the lectern, of which the most beautiful form is the eagle. He recalled to the recollection of some of his hearers the fine one in the church at Oundle. The font should be the first object to catch the eye on entering; it should not stand in the centre, as is frequently the case, but against one of the western pillars. If there is room there should be at least three steps, and a projecting stone for the priest. A pavement of warm-coloured sandstone, of irregular sizes, he thought better than the white flags or the black and white squares, which have too domestic an appearance. The best and cheapest paving is of encaustic tiles, which should be laid diagonally. The pavement of the chancel should be richer than that of the rest of the church, and the arms of the benefactors would form appropriate ornaments. All shams are to be avoided. All canons and texts should be written intelligibly. He need scarcely say a word against galleries. Public opinion had condemned them; they were generally the refuge of the petty aristocracy in towns, and of the disorderly in villages. Nor was the organ an excuse for having one at the west end. The best position for the organ was on the ground towards the east, at the end of the aisle; being brought more into the body of the church, it would conduce to congregational singing. Some mistakes have been committed in throwing open the chancel-arch too much. The chancel itself, where there is sufficient room elsewhere, should be without any seats for the congregation. Where rood-screens and side-screens exist, they should be repaired and retained, but never introduced. They should be considered in an architectural and archæological, not in an ecclesiological view. The old sedilia, where they exist, should be restored to use, and where they do not, they should be introduced. Every thing in the shape of altar-chairs is objectionable, as partaking too much of a domestic character. Mr. James concluded by observing that his object was to stem the tide of mischief which had set in with respect to church alterations. He admitted that the Architectural Society had done good, but it was almost a question whether it had not done an equal amount of harm, in inducing repairs by persons who understood nothing of the right principles upon which they should be conducted. Many churches, he found, had been tampered with, and left in a worse condition than they were before—worse, because the great outlay and the substantial character of the work left little chance that it would ever be undone. He would rather see churches left untouched than restored half-right, half-wrong, as was the too prevalent fashion.

CONDITION OF ARCHITECTURAL STUDENTS AND DRAUGHTSMEN.

SIR,—All who have studied architecture must know that the student who is about to enter the profession has a work of great difficulty before him. He is taken rough from school, and placed in the office of an architect, who receives him for a term of four or five years at a high premium; his occupation for the period of his articles is to copy drawings, and perhaps occasionally make out fair drawings for competitions, &c., but in nine cases out of ten this is the only instruction he receives during the period. We know, from experience, that an architect in full practice has little time to spare to instruct his pupil, or to point out to him the course of study he should go through, or the books he should peruse (and under such circumstances ought not to take pupils into his office), so the only information which he obtains is gleaned from the head clerks of the office, and is usually quite insufficient to compensate him for the time lost and the money paid, or to fit him for such a profession as architecture. Is there no way to remedy such an error? Will the profession allow such an evil to exist without aiding, as far as they can, to remove it? Something must be done to improve the system. Look to him when the student is out of his time, a young architect,—what are his prospects? He is ill-fitted to ask for pay, being able to do but little, and finds a difficulty in procuring an engagement. Sooner than lose what little knowledge he possesses, he enters an office as an improver, not thinking of the injury he is inflicting on his more advanced brethren in keeping them from being employed at a salary.

The young man who has been fortunate and industrious, and has spent his spare hours in study and reflection, will find the pecuniary recompense from an office comparatively nothing when he considers the money he has spent in learning his art, and can only trust to exertion and a lucky star to lead him to fame. The student must push on and waste no time, but something should be done to make his course easier and more profitable. Before closing these remarks, I would suggest the establishment of a society for the relief of those who are out of employment. Many of the profession and the younger branch would be glad to render their aid in supporting such an institution, particularly those who are in office, as they themselves at a future day might require the aid of the society's funds. We find there is a society for merchant clerks, as also the provident law clerks, and why should we feel too proud to establish the architects' clerk society? J.

*** What has become of the memorial forwarded to the institute some time ago, begging the council to assist in the establishment of an architects' benevolent fund?

ARMY AND NAVY CLUB-HOUSE, PALL MALL.—The new building, from the design of Messrs. Parnell and Smith, and of which we gave an engraving some time since,* is about to be commenced. The following is a list of the tenders delivered for the carcass:—

Lee	£21,890
Armstrong and Smith	21,355
Lock and Nesham	21,200
W. Cubitt	20,750
Baker	20,450
Trego	19,656

* See p. 519, Vol. V.

Correspondence.

SEWERS IN BERMONDSEY.

SIR,—I see in my last number of THE BUILDER, that Mr. Drew says he is not aware of any complaint having been made of the filthy state of the ditches at the back of the nunnery at Dockhead, Bermondsey. I assure you there has been a continued outcry for years for a sewer in that district, and concerning the filthy state of the streets thereabouts, and Mr. Drew must know that the Commissioners, when applied to, have always said they had no funds for that purpose. Rates and taxes have been paid for these streets for at least sixteen years, during which time they have been in the same filthy state as at present; and the ratepayers think that they are not dealt justly by, especially when they hear that the Commissioners are about to pay their clerk 1,900*l.* for compensation for a part only of his office, which sum, if properly applied, would be sufficient to clear the mud from every poor man's house in Bermondsey. Hoping that you will find room for this in your journal, that this statement of facts may follow Mr. Drew's assertion, so that the inhabitants may not be condemned as well as neglected.—I am, Sir, &c.,

Bermondsey. JOHN LUGG.

REVIVAL OF MONUMENTAL BRASSES.

SIR,—We were somewhat surprised to see in THE BUILDER, of Saturday, the 4th inst., an account of the revival of ornamental brasses, by Mr. Archer, written in a manner which would lead to an inference that he alone had conduced to such an end. Now this is far from being the case, for if the merit of their re-introduction belong to any, it must certainly be ascribed to Messrs. Hardman, of Birmingham (under the direction of Mr. Pugin) by whom a great number have been executed. And that *we* may claim some share in the matter will be allowed from the fact of our having executed nearly forty brasses, amongst which are many effigies, with canopies, &c. Mr. Archer's first brass at Caius College cannot be called a revival, as it is scarcely more than a large etching, and not in the spirit of the "olden time."—We are, Sir, &c. J. G. and L. A. B. WALLER.

20, Charles-street, Middlesex Hospital,
March 9, 1848.

Miscellanea.

AN EXHIBITION OF BOOK-FINISHERS' DESIGNS was held by a committee of the London Book-finishers' Association, on Monday evening, at the Plough Tavern, Museum-street, where there was a good display of rubbings from ancient and modern specimens of the art, and of new designs, both original or modern, and also imitative of those elaborate decorations with which the learned monks of old delighted, themselves, to illuminate and adorn their biblical treasures. Where variety and taste, as well as ingenuity, were so generally displayed, it might be invidious to distinguish any one of the modern specimens which most struck our fancy; but amongst the ancient, there is less occasion for reserve, and we may therefore remark, that the one specimen amongst all of these which we most admired, was a rubbing from the boards of an Irish book nearly eight hundred years older than any other in the room. In this preference we believe we shall be borne out by many of the intelligent practical men present, as well as in our next selection of a geometrical design, with a quiver in the centre, from amongst the 'Diana' patterns. A member of the committee delivered an able and interesting address on the history, the capabilities, and the prospects of their art, as a high and elaborate branch of decorative art in general, and in course of his observations on the *esprit du corps*, the taste, and the pride, which animate some, and ought to animate all, of his fellow-workmen in the execution of their more elaborate and original designs, he took occasion to refer them appositely to some remarks in THE BUILDER, on the retrogradation of certain other arts, and on its causes. This exhibition, as the first of its order, promises fairly for the future advancement of a tasteful branch of decorative art.

Jardin D'Hiver in Scotland.—The Caledonian Horticultural Society propose to construct a winter garden at Inverleith, somewhat on the plan of that in Paris (?). A plan, designed by the superintendents, has been approved of generally by the garden committee. It forms a quadrangular structure, and is so contrived that one side only of the quadrangle may be erected at first, 140 feet in length by 35 in breadth. The heating is to be accomplished by means of hot water.

The New White Paint, of which a temporary mystery was lately made, and the basis of which we anticipated to be either antimony or bismuth (the latter a metal proposed by Regnault to be classed with antimony itself), formed the subject of a paper read by Mr. Forrest, the discoverer, at the Liverpool Polytechnic Society, on Monday, last week, when he announced his intention to make a present of it to the public, intimating, at the same time, that it consisted of white oxide of antimony (argentine flowers, as it used to be called by the old chemists), and that it had many advantages as an excellent body paint, superior to white lead and much cheaper, inasmuch as antimony might be obtained in abundance for about 12*l.* a ton, while lead costs 24*l.* 10s. He also pointed out its greater permanency of colour, and its capability of being spread over a much larger surface than an equal weight of white lead. Indeed, it is not only lighter, but may be made more subtle; and it was its superiority in these and other respects that led us to regard it as a likely substitute for lead. It is rather singular, too, that the old chemists called antimony *their* lead, maintaining that, in some of its properties, it bore a near affinity to lead.

Polygonal Decorations.—Greek Vases.—During one of the recent discussions at the Society of Arts, on the construction of Greek vases and the production of beautiful forms, already mentioned by us, Mr. Russell, the secretary, observed,—It is continually alleged as a fault of art in our day, that instead of boldly creating forms and trusting to our own minds, and carrying out those feelings according to what we consider the enlightened principles which we have struck out for ourselves, we are contented to take for granted that the ancients were artists truly unapproachable, and as such we can never hope to equal, much less to excel, and therefore the best thing that we can do is to abandon altogether originality, and give ourselves up to the study and copying of antique forms. He then pointed out the effect of a design upon the mind and senses in the case of Polygonal art, and called attention to the effect of a design standing out from the wall or pavement which, if felt by the hand or foot, is perfectly flat. He next proceeded to point out the forms of the tessera and geometric figures which had hitherto been used in combination to produce design, and pointed out the beauty and variety of design which might be obtained by the combination of a form of tessera, which, although not new, had not up to this time been used as the base of a pattern. The figure which was pointed out as most applicable to mosaic decoration was the triangle of Plato, any number of which might be arranged round a point, and made to cover an entire surface to form bands either horizontally, diagonally, or any variety of diamond figures; as degrees, the sides of the triangle bear a peculiar ratio, namely, 30, 60, and 90—whereas where figures of inharmonious ratios are used the same variety cannot be obtained. Afterwards Dr. Harding made some remarks as to the uses to which the various cups and vases excavated by him had been applied, and gave the following quotation from an ancient Greek play, as illustrating the purpose to which the lecythé had been applied. The play is one in which a young man is represented as jeering an abandoned old woman, and saying—

"But you old wretch, I greatly dread your lover."

"Who?"

"Why that first of Artists."

"Who is that?"

"He who for dead men paints the lecythé."

Another quotation, given as pointing out the use of these vessels, is as follows—

"You left me like a corpse laid out, only uncrowned, and with no lecythés on me."

Projected Works, &c.—Tenders have been called for by advertisement, for the repair and restoration of Ware Church, Herts; various branches of artificers for the ordnance department; the erection of a new church at Bristol; a parsonage house in Durham; six almshouses at Ely; a lock-up house at Hartlepool; iron railing and gates for the parish of Isleworth; the construction of several oval sewers at Bristol; and the supply of 5,700 tons of wrought-iron rails, 2,000 tons of cast-iron chairs, and 51,000 sleepers for the Shropshire Union Railways.

Royal Institute of Architects.—On Monday night last an ordinary meeting was held: Mr. C. Fowler, V.P., was in the chair, and Mr. A. B. Blenkarn was elected an associate. Mr. Fergusson read a very interesting essay on the ancient Buddhist architecture of India, which was illustrated by a large number of drawings. He said the subject was one of extreme complexity, and he must assume that none there knew any thing about it. If they did, they must have had access to information not generally known, for before he visited India he had read every work that was published on the subject, and obtained all the information that could be had, and yet when he got there he found all that he had done was of no use. What Mr. Fergusson put before the meeting was the result of his own observations, and our readers will doubtless be glad to have some of the information in his own words: this we will give them in another number.

Smoky Chimneys.—Sir: From observation and practice I find the cause of smoky chimneys to be the descent of air down the flue, which is often attempted to be cured by placing cowls of different shapes on the tops of the flues, and at other times by placing horizontal pipes under the floors and under the hearthstones to bring in air: this frequently fails, as the weight of air down the flue is too powerful for that introduced by the horizontal pipes. I have always found that to effect a certain cure the draft to the fire must be powerful, and I have cured the most obstinate smoky shimneys by the following method, viz., by introducing an air trunk of zinc, wood, &c., from the top of the chimney-stack down to the side of the fireplace. In new buildings preparation could be made at the commencement, by forming a second and smaller flue by the side of the smoke flue. This would save expense, and prevent the deformity of the house by cowls.—Wm. Rowe.

The Burial Question.—The exposure of the vault or cellar under Enon chapel, Clement's-lane, Strand, in which during sixteen years some 10,000 bodies have been deposited, to spread disease and death throughout the neighbourhood, has considerably advanced the downfal of the revolting system of intramural burial. No one can realize, without a visit, the horrors of this den, over which, be it remembered, numbers of persons were congregated every week for divine service, while, at another time, the chapel was actually converted into a "ball-room!"

Door-springs, of new invention, have been patented by Mr. Cotterill, of Birmingham, the principle of which, according to an informant, consists simply of a spiral spring, inclosed in a cylinder acting on a piston-rod, to which the opening of the door gives the momentum, and it does double duty by the addition of a joint at the point where the spring is at its utmost depression, by means of which the backward action of the piston is checked, and the door kept open at pleasure.

The New Houses of Parliament.—On Thursday in last week, Sir R. H. Inglis brought forward his motion for the appointment of a Committee to inquire into the state of the works, &c., but withdrew it (after a debate), with the understanding that Lord Morpeth would advise her Majesty to issue a commission for the purpose.

Blind Builders in Wales.—The following is a list of the tenders given on the 28th of February, for building a national school at Abergavenny:—

Williams, Pontypool	£1,590	0	0
Danniel, Crickowell	1,350	0	0
James, Newport	1,325	0	0
Bowen, Pontypool	1,300	0	0
Evins, Abergavenny	1,220	10	0
Jones, Abergavenny	1,086	0	0
Garnstone	1,054	9	2
S. Jones, Abergavenny (accepted)	977	10	6

Construction of Sewers.—A manufacturer at Newcastle-on-Tyne, announces a new material for the construction of sewers. Six feet lengths of a sewer 3 feet 11 inches high, and 2 feet 6 inches wide, are put together in four pieces of this material, and if to be subjected to much hydraulic pressure, are secured by galvanised iron hooping.

TENDERS

For erecting the new British Lying-in Hospital and a house adjoining, in Endell-street, Long-acre. Messrs. Fuller and Gingell, architects:—

T. Burtenshaw	£6,238
J. Thompson	6,666
Heast and Moon	6,056
M. Patrick	5,985
R. Robinson	5,900
Cooper and Davis	5,740
W. Hill	5,628
W. Higgs	5,584
R. and E. Curtis	5,318
J. Glen (accepted)	5,148

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

Tuesday, March 14.—Institution of Civil Engineers, 8 P.M.

Wednesday, 15.—Society of Arts, 8 P.M.

Thursday, 16.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

Saturday, 18.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

Received.—"R. R.," "L. and N.," "J. R. H.," "E. J. W.," "J. J.," "Competitor," "W. H.," "T. L.," "Dr. McC. (next week), "T. B." "J. R.," "Six (?) Years' Subscriber" (we do not know), "Col. M.," "J. T." "J. T. A.," "A Subscriber," "W. C.," "W. W. W." (we will visit the building), "Queror" (we cannot conveniently reply), "E. I." "B.," "F. J.," "A. B.," Brighton (the register office is not available for the new invention named,, "Architect's clerk," "Christo" (the request would doubtless be complied with), "E. C. X."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

ART UNION OF LONDON: incorporated by Royal Charter.—The Subscription Lists for 1848 will CLOSE on the 31st inst. Each Prize-holder of the Annual Distribution will be entitled to SELECT FOR HIMSELF a Work of Art as hereinbefore. Every Subscriber will receive for each Guinea an Impression of "The Prisoner of Chillon," engraved by T. Lupton, after F. H. Wehnert, now printing, and a quarto edition of Milton's "L'Allegro" and "Il Penseroso," illustrated by Wood Engravings by thirty leading Artists. Specimens of the engravings may be seen at the office.

GEORGE GODWIN, }
LEWIS POCOCK, } Hon. Secs.
4, Trafalgar-square, March, 1848

PUBLICATIONS.

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THE BUILDERS' FRIEND, published in a concise form, so as to fit the pocket book.

It shows, in one line the relative prices plank, deals, battens, and timber, bear to each other, from 2*d.* to 15*l.* the hundred. Any person about building will easily discover which is cheapest for him to buy.

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By a PRACTICAL SURVEYOR.
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RAISING THE TUBULAR BRIDGE OVER THE RIVER CONWAY. The most stupendous engineering work ever undertaken, the tube measuring 412 feet in length, and weighing 1,300 tons, and lifted in one mass. The following beautiful Engravings, prepared under the superintendence of the Engineers of the Chester and Holyhead Railway, will appear in

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1. The Tube on the Platform, with the Pontoon for floating it.
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In addition to the above large engravings, will appear illustrated details of all the machinery employed in raising the Tube, showing the Great Hydraulic Ram, &c., with a section and details of the Tube, illustrating its peculiar construction.

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KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or polished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of Fire and the attacks of Vermin.

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For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 136, DRURY LANE.

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WARD and HART, Honduras Wharf, Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire-Bricks, Lumps, Tiles, Clays, &c., &c., have got an extensive and superior stock, and invite Builders, Gas Companies, and others to inspect it, and to purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large arrival of first-rate Stourbridge Welsh, and Scotch Fire-Bricks now landed from Lime Kiln Tiles, so admirably adapted for Malting, &c. &c. Stock Bricks, Dutch Clinkers, Windsor and other Green Tiles, and Bricks, FOUNDERS' LOAM and MOULDING SAND, RED SAND, RED and WHITE Lime Raised, Balla ts, Cent or Country Pan, Plain, Ridge, and Paving Tiles; Chimney-pots, Drain Tiles, Pipes, &c. &c. to make Drains.

*** A quantity of Welsh Bricks now in the River.

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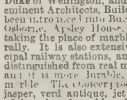
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24th February, 1848.

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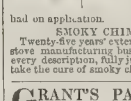
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Twenty-five years' extensive experience in all the branches of a stove manufacturer, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

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WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested exclusively throughout the Kingdom for the last seven years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

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The Patent Pots have proved to be the most effectual invention ever yet discovered, and also the cheapest, for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

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Inquiries from the Country to be addressed to Messrs Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Land of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will effectually establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price 2l.—Works, 15, Wellington Street North, Strand.

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The Public are respectfully informed that LECTURES on the following subjects will be given in the course of the present Quarter:—

H. M. NOAD, Esq., on Electro-Magnetism and Magneto-Electricity.—G. F. RICHARDSON, Esq., on Geology, illustrated by Dissolving Views.—J. L. HATTON, Esq., on the Vocal and Instrumental Music of S. Bach, Handel, Mozart, Beethoven, Meudelssohn, W. Sterndale, Bennett, &c. &c.—THOMAS COOPER on the Life and Genius of Robert Burns and of Lord Byron. Mr. HANNA, on some of the British Poets of the present Century.—C. R. CHEVERTON, Esq., on the Chemical Properties and Physiological Effects of Ether and Chloroform.—HENRY SMITH, Esq., Musical Entertainment.—H. HERSEE, Esq., on the Use and Abuse of Satire.—W. HUSTER, Esq., on Trial by Jury.—E. G. SALISBURY, Esq., on the Causes of the French Revolution.—W. BALL, Esq., History and Progress of the Ballad Literature of the Kingdom, and on our Ballad Literature, Ancient and Modern, Serious and Comic.—Rev. C. L. BALFOUR, on Self-Culture, and on Popular Fallacies and Social Anomalies.

Prospectuses, containing particulars, may be obtained at the Library of the Institution. A. M'FARLANE, Secretary.

THE FRENCH REVOLUTION and FRENCH PAPER HANGINGS

Messrs. MARKS and Co. beg to inform the Trade that the greatest tranquillity exists at present in all the Manufacturing Districts; that their new Spring Stock, embracing every novelty, is at the warehouse, at the West End premises in Bl. 22, Wardour-street, Soho, a number of expressly-made original designs, printed here, free of duty, at prices varying from 3d. to 6s. per piece of twelve yards long.

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PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be employed with economy, durability, and general utility either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 3rd, 10th, and 17th of October, and 11th November, 1848, and 13th January, 1849. Lists are sent free. Tiles, 9s. per cwt. net; 2s. per square yard; Pipes, 2s. per yard; Ogee Gutters, 3s. per yard. Applications may be made by letter, if they want the prices in Staffordshire or London. — Address 4, Wharf, Macclesfield-street, Soho, City-road.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Denston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at their depôt in the Company's office, 193A, Piccadilly, from Ten a.m. to Four p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Denston, which is within a mile of the Stadbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications may be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 11, 1847. These machines may also be seen at Mr. Stuart's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Millhill, Leeds; Messrs. Hammond and Fuchs, Frenkenbury, Staffordshire; Messrs. Hammond and Son's, Dublin; and Mr. John Cunningham, Newton, Limerick, County Clare.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.— N. DEFRICS, 10, Hungerford-market, St. Martin's-lane, and 118, Argyle-street, Regent-street, begs to call your attention to his GAS METER; he need only be requested to say, that he has been in the gas meter line for upwards of 30 years, and are not affected by Heat, Damp, or Frost. They may be obtained from all of the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS. — The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are leading to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs and in GEORGE and JOHN DEANE'S Show-Room, at the Monument, the scientific principles and the most suitable style, and as every thing is got up in their own workshops, G. and J. DEANE can guarantee their productions. Estimates and Plans are supplied gratis. All Plans and Estimates for the DOMESTIC and JOHN DEANE, Gas-fitter, opening to the Monument, at King William-street, London-bridge.

ELARD'S ART EXPOSITION, for the Promotion of English Talent, for Manufactures and Commerce, 5, New Bond-street. The interests of Art should at that instant shall be placed before the public, and to form of British Design, and manufactures, in order that the progress must at last lead to a happy result. Arrangements are connected with the Fine Arts, and all those pursuits which require elated and patronised. "Great Britain" may be again the station proportionate to her rank in Manufacturing skill.—London, adjoining the Circus.

TO BUILDERS, PAINTERS, AND OTHERS

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.

70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.

*** An Apprentice wanted.

ZINC WORK!

MESSRS. F. and J. HARLAND beg to call the attention of Build ers and others to the following list of prices, for cash:—

9-inch Pipe ..... per foot 4d. | 3-inch Gutter .... per foot 4½d.
2½ ditto ..... 4d. | 4-inch ditto ..... 5d.

Including fixing

Flats Covered and Cisterns Lined from 4d. to 6d. per foot superficial; Cornice Gutters, 5d. to 7d.—No. 3, Cumberland place, Newington, Surrey, opposite to the Fishmongers' Almshouses.

N.B. Orders by post punctually attended to.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS. Manufactory, 99, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed under the date of the 17th of January, 1848. Years, for Improvements in Revolving Shutters of Wood and Iron. The Novelties of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hanging and Shutting the Edges of Wood Lattice with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear or any other complicated machinery employed by other makers.

The Builder.

No. CCLXVII.

SATURDAY, MARCH 18, 1848.

THE degree of exactness to be looked for in what are called "Architects' Estimates," is a question involving several considerations, and which leads often to much difficulty. The same ignorance touching the architects' functions and position, to which we have often alluded in other matters, has on the one hand, brought most unjust obloquy on the profession, in respect of the inaccuracy of their estimates, and on the other, has led individual members of it to practice deception and act systematic falsehoods for their own advancement. An actual occurrence affords a more popular means of illustrating errors and evolving views than abstract reasoning, and we will, therefore, put before our readers the particulars of what followed a competition of designs a short time since. Our attention has been called to this particular competition several times by parties interested in it, but circumstances have led us to avoid referring to it till now.

In April last, the governors of the Pawnbrokers' Charitable Institution, invited architects, through our pages, to submit designs for a set of alms-houses. They stipulated with the architects who applied for particulars, that the building was not to cost more than 1,500*l.* to 2,000*l.*, and that the author of the most approved design, if not employed to superintend the building, should be content to receive the sum of *twenty pounds* for his drawings. Thirty-two designs were sent in, and at a meeting on the 6th of May, one of them was selected by ballot as the most approved, and found to be by Messrs. Elmslie and Lee. Two others were then balloted for, as next in merit, and to the authors of these, Mr. Woodman and Mr. Cooper, the sum of ten guineas each was awarded.*

At the meeting it was said that the first-named architects had stated that if their design was accepted, they were prepared to introduce builders who would carry it out for the sum stipulated, namely, 2,000*l.* It was accordingly moved and carried unanimously, that they should be employed to superintend the building, provided they obtained a tender to execute it for the sum named, from parties who should be approved of by the committee.

A sub-committee was afterwards appointed to make the necessary arrangements with the architects, and their first act was to inquire of the latter whether they would charge for the working drawings and specification required to estimate from, in the event of the lowest tender exceeding the amount prescribed, and the consequent abandonment of the plan?—and if so, how much? After some correspondence, the architects proposed, in that event, to charge thirty guineas for the working drawings, to which the general committee raised no objection. Ultimately, however, on being further pressed by the sub-committee, the architects agreed by letter that "if no tender were obtained to the approval of the committee," they would "not make any charge for their services."

Five builders were selected, and it was arranged that the quantities should be taken out by one surveyor; that the builder making the lowest tender, below 2,000*l.*, should execute the work, and pay for the quantities; but that if the lowest tender exceeded that sum, and the works were not done, the committee should pay for the quantities.

Four of the builders sent in tenders, namely, Messrs. Grimsdell, Cubitt, I'Anson, and Curtis;—the highest was 4,200*l.*, and the lowest, Messrs. Curtis, 3,794*l.* (including fence walls and cellars =700*l.*).

The cost of taking out the quantities,—mark this, good Mr. Committemen of all classes,—was *seventy-three pounds*: a fair and ordinary charge.

At a meeting on the 16th of November, when the foregoing particulars were made known, and the sub-committee wished to know how they were to act, much difference of opinion was expressed. One member thought the contract should have been put to public competition, because he had known a case where tenders being called for, the highest was 6,000*l.*, and the lowest 4,000*l.*, and he was able to state that the builder who executed it for the lower sum had paid himself well by the transaction. Another clenched this by referring to the tenders sent in for a certain Town-hall, whereof the lowest was exactly half the amount of the highest.

Some thought they ought to strive to get more money, and carry out the plan, as it was generally liked; some, that it should be reduced in size to meet the funds in hand; but another (Mr. Kelday), taking the right view of the case, in one aspect, pointed out that it would be most unfair to the other competitors to accept these plans with the information then before them. They might be the best submitted, but if the other competitors had allowed themselves the same latitude in regard of expense, they would doubtless have sent in designs of a higher character: they had sent in plain designs, not perhaps from deficiency of talent, but in order to keep within the specified outlay. He did not think it right, therefore, that the advantage should be given to those who said they could produce a builder to execute the building for a certain sum, and then drew back from that agreement. The truth of this was felt, and the matter was adjourned for consideration.

On the 26th November the committee met again, and a vote of censure on the architects being proposed, a long discussion ensued. One member remarked that this practice of saying a building could be executed for a sum much smaller than was really the case, was very commonly adopted by architects upon similar occasions. Some were anxious to keep the drawings, but employ other architects to carry them out. A few were for a fresh competition and another selection, but the expense of *taking out the quantities* again was an obstacle to that course.

Yes; twenty or thirty architects might have been allowed to make designs, to spend long hours putting on paper the result of years of expensive study, without compunction: a twenty pound note, or nothing, as the case might be, would have got rid of the *successful* candidate if not needed after all. But *to take out the quantities*, to estimate what the creation of the architect's intelligence, not to say art, would cost in fulfilling, could not be done without outlay of money, therefore the fresh competition was to be avoided. The same consideration, too, prevented application to the authors of the second and third selected designs.

A very praiseworthy anxiety was manifested that the building they were about to erect should be creditable to them: more than one speaker admitted that they were of course aware when they selected number one, that it could not be carried out for the money named, but then they were justified in depending on the architect's statement.

Mr. Kelday, however, stuck to his motion: they had started at the outset, he said, by propounding certain conditions to men of talent, members of a liberal profession, and it was not just to those (be they few or many), who had attended to these conditions, to select the work of one who had so far exceeded the limits of expense. Ultimately the vote of censure was passed, the fact that nothing was to be paid to the architects duly recognised, and a sub-committee appointed to obtain plans from one or more architects, with the significant remark that next time the architect himself should be made to pay the expense of *taking out the quantities*, in the event of the lowest tender exceeding the amount of his estimate.

All this is exceedingly instructive; and what it teaches is so plain as scarcely to need a comment.

Ought we to blame the committee for their rejection of the selected design? Certainly not. We should otherwise stultify all our denunciations of committees on other occasions, who, prescribing a certain sum, have selected designs which obviously could not be executed for it, and so acted most unjustly to the honester or better-informed competitors. Committees, by constantly determining in this way, have led many architects to consider that it is of no use stating honestly the sum they believe the due execution of their design would cost,—that their only chance of success in a competition lies in the practice of a deception. That competition committees have themselves brought about this melancholy state of things, is, however, no defence for those who so conduct themselves.

But there is another aspect under which architects' estimates must be viewed,—and that is, as we said at starting, the degree of correctness which should in justice be expected in them. An architect's estimate, for which, by the way, no one ever contemplates paying him, should, in justice, be regarded only as an approximation. To be very far from wrong in a *bonâ fide* estimate, shows a want of a certain kind of knowledge which an architect ought to possess, but to expect that he shall, without adequate remuneration, go through a tedious and lengthened process of calculation, or pay the large sum which he must pay if he employ another to do it for him, is manifestly wrong. In the case before us, it was seen that the process which was considered necessary to enable the builders to arrive at an exact estimate,* cost more than 70*l.*, and no one questioned the correctness of this charge. The sum which the successful architect was to receive, if not employed, was 20*l.*! Even if employed, the commission would have been but 100*l.*,—for design, speci-

* We mentioned the award at the time (p. 235, vol. v.) with the remark, that we had received various complaints against the decision, but avoided insertion of them as we had not seen the plans.

* The differences between builders found, in many cases, even after this calculation, are, our readers know, sufficiently strange. The following list of tenders for six villas, near Fleetpond, Hants, forwarded by a correspondent, a few days since, affords a pretty specimen of careful estimating:—

Boxall, Guildford	£2,357
Smith, Guildford	2,342
Fathers and Loe	1,980
Hall and Sons, London	1,835
White, Hartley-row	1,736
Charlton, Hartley-row	1,042

fication, working-drawings, and superintendence, so that it is quite clear, no detailed estimate was to be paid for.

Even in private practice entire disregard is exhibited of the value of an architect's services, and the profession is constantly maligned for not doing well what the members of it are not paid for doing at all. An employer, after having instructed his architect for the preparation of plans, and made the design on paper exactly what he requires, bids him say about what sum the building will cost. He has not the slightest idea of paying for an accurate calculation,—would refuse to do so if the charge were made; and the architect, whose time is his stock in trade—his all, cannot afford, therefore, to give more than an hour or two to the inquiry, and trust to his judgment for arriving at the approximate cost. In nine cases out of ten the opinion given is borne out much more fully than could be expected,—remembering, moreover, that a man may be a very good architect without having that special and particular knowledge of the value of materials, which a rigorously exact estimate requires. A general knowledge of this he is bound to have; but the particular knowledge, requiring, as it does, much time, can scarcely be looked for in one who makes his profession as a fine-art his especial study. Nevertheless, when, in the tenth instance, the architect's hasty estimate is exceeded in execution, an outcry is made, and the truth of the conviction, that no dependence is to be put in architects' estimates, seems placed beyond a doubt.

Here, then, would seem to be two opposing difficulties; but our reflective readers will be able to reconcile them, and will not be led to say that one part of our present paper answers the other. They will see that an architect's estimate under ordinary circumstances, should not be considered as more than an opinion—evidence, it is true, of his good judgment in this respect, or otherwise—but not to be viewed rigorously, as if he had been employed and paid to make all the necessary calculations. At the same time, it will be clear to them—or we have written in vain—that if a committee in offering a building to competition, prescribe to architects an exact sum for its cost, they are bound to select a design wherein this most fundamental regulation has been properly attended to.

ON THE ANCIENT BUDDHIST ARCHITECTURE OF INDIA*.

To obviate as far as possible the difficulty arising from the extreme complexity of the subject, I propose confining what I have to say this evening to the Buddhist architecture only, rejecting for the present all other styles. It is the most ancient and most easily circumscribed, besides being, I think, the one most generally interesting to Europeans; and if I can define to you correctly its position, in time and space, so as to give you a clear idea of when it arose, and in what part of India, I shall not despair communicating to you some interesting information on the subject.

Before, however, proceeding to do this, there are one or two points to which I would wish to call your attention. The first is to beg of you to discard from your minds all idea of the primeval antiquity of Indian monuments, though you have seen this asserted in every treatise that has hitherto been written on the subject. There is no fact in the whole range of the subject so clear to my mind as that the Buddhist monuments are the most ancient, and the founder of the religion died only 543 B.C.; but even this is too early, for the religion did not become the religion of that state till more than three centuries from the time, when Asoka, the greatest of Indian monarchs, was converted to it; and the earliest monuments of any sort that we have in India belong to his reign, or are subsequent to the year 250 B.C. This I look upon as an indisputable, and hitherto undisputed fact:—of course monuments of an earlier date may hereafter be discovered, but it is scarcely likely: at all events, I know that no one that I have seen or heard of, has any pretension to an earlier date. That the people were civilised, and had buildings before that time, is equally certain, but they must have been slight, and constructed of wood; and, indeed, all the earlier caves shew how little they had advanced beyond wooden construction at the period they were constructed, as I shall have occasion to shew in the sequel; and besides this, we have the collateral evidence, though only negative it must be confessed, of the silence of the Greeks, who surely would not have omitted all mention of them had any buildings of importance existed at the time they were so familiar with that country.

There is another generally received dogma I must beg of you to banish from your minds, that there exists any similarity between Egyptian and Indian architecture. I believe it to have arisen only from the error just pointed out regarding the supposed antiquity of the Indian monuments, and consequently having two styles very old and very mysterious, and of one of which, at least, writers knew very little, it was natural that they should be classed in the same category, and a resemblance assumed, till further knowledge pointed out the fallacy. Had architectural criticism, however, been conducted on more philosophical grounds, the error never could have existed, for men would then have known that when architectural similarities exist, we may predicate similarities of race as certainly as we are in the habit of doing from similarities of language; and that when two distinct races occupy the different countries, similarities of architecture are as inseparable as those of language. But of this more hereafter.

There is still one other point I must bring to your notice before proceeding to the architecture, which is this: that from the earliest times, India has been inhabited by two distinct and separate races; the one, as far, at least, as we know, aboriginal, inhabiting nearly the whole of the southern part of the peninsula, and forming the substratum of the population even in the northern parts: who they are we do not know, for no affinity for their language has been discovered among any other people in the world. So far as we yet know, they stand utterly alone, and though I think I can trace some slight resemblance, as I am not going to speak of their buildings, I shall not trouble you with them now.

The other, a Brahminical race, came into India as strangers and conquerors, I believe about 3000 B.C. They came across the Indus, and gradually extended their settlements all along the valley of the Ganges; and, as the superior and more civilized people, the influence of their arts, literature, and institutions is felt down to Cape Comorin, though their language *is*, or rather only *was*, spoken to the north of the Vindhya mountains. This I have endeavoured to express on this map.

Whatever difficulty we may have regarding the affinities of the other race, we have none regarding this one, as they are a branch of the same Indo-Germanic family to which we ourselves belong; and if you draw a straight line on the map of the world from the mouth of the Ganges to Iceland, it will pass directly through the centre of these settlements, leaving Persia, Greece, and Rome on the one hand, and Russia and Scandinavia on the other, all which belong to this great family of the human race.

The Buddhist religion, as we now know it, is essentially a religion of the Sanscrit or Indo-Germanic race, and seems at an early period to have extended through the greater part of these tribes, though, by a strange fatality, it is not professed by a single nation of that great family at the present day; and there does not exist in India proper, an individual, certainly not one establishment of Buddhists, but it is still the religion of China, Siam, Burmah, and Thibet, and of almost all the Tartar race. But even among them, though their language has no affinity with Sanscrit, the Buddhist scriptures are preserved in the old Pali of India, which is merely a dialect of the Sanscrit, and I myself have heard the priests of Buddha in China, repeat their prayers and hymns in this extinct tongue without their understanding one syllable they were saying.

It is more than probable that Buddhism, or something very like it, existed long before the age of Sakya Sinha, but at all events no distinct trace of it is found in India till his time. He was the son of the king of a petty principality, at the foot of the Himalayas, one of the last of a long race of kings who had held supreme power in that region, and we have, even now, the names of 120 of his forefathers who succeeded one another on the throne of Ayodya; his race, however, had fallen into decay, and been superseded by another, who had usurped the power, when Sakya Sinha—that was his proper name—left his father's court, became an ascetic, and after preaching and teaching for forty-five years, died at Rajagriha, 543 B.C. Perhaps it will fix the date better in your minds, if I state that he was cotemporary with Confucius in China, Cyrus in Persia, Solon in Greece, and the Tarquins in Rome; in short, of all those great men who ushered in that great epoch of the world's history which we know as that of the Greek and Roman civilization.

As I said before, his religion languished for more than three centuries from the time of his death, sometimes in favour with the people and princes, sometimes neglected, perhaps persecuted, till Asoka did for it what Constantine did for Christianity—he made it the religion of the state. This Asoka was the grandson of Chandragupta, who is identical with the Sandracottus of the Greek and Roman historians, and who usurped the throne of India, vacant apparently in consequence of the defeat of Porus by Alexander the Great, or at least of some internal convulsion occurring at that time.

His conversion, in the eleventh year after his accession and the seventh after his inauguration, is one of the most celebrated events in the history of this religion; and he himself signalized it by inscribing fourteen edicts, containing the principal doctrines of the faith, on a rock in Orissa; and a second copy, slightly varied, of them, on another rock in Guzerat, and a third copy has lately been found in Afghanistan: besides these he set up pillars or laths, in various parts of his dominions, at Delhi, Allahabad, in Tirhoot and other places, inscribed with short edicts, to the same effect. some five or six of which still exist. In the rock edicts, one of them mentions his having engaged his allies, Ptolemy, Antiochus, Alexander, and Megas, to tolerate, if not to favour his doctrines in their countries, a circumstance which not only fixes his date with certainty, but, coupled with the spread of the edicts, proves the extent of his power and alliances at that period.

When first promulgated, no religion could have been more free from idolatry or polytheism, or materiality of any sort, than this one; indeed, so much is this the case, that it has often been called atheistic, and by those who were well acquainted with its tenets, though this has been disputed by others.

It is true, images of Buddha and saints afterwards became very common, but only in modern times. In the more ancient buildings nothing of the sort exists, and there is no more certain proof of antiquity than their absence; and, on the contrary, the more frequent and prominent they become, the more modern the building is certain to prove; till at last the religion sank into a polytheistic idolatry, almost as corrupt as that of the Hindoos themselves, and perished in toto, after being the religion of India for nearly 1,000 years, or from B.C. 250, and A.D. 750: it existed some time longer, it is true, but in a languishing condition, and about the period of the Mahometan conquest disappeared altogether.

One of the earliest forms of Buddhist worship is that of relics, which gave rise to the other principal forms of architectural utterance. One of the most celebrated of these relics now is the left-eye tooth of the founder, which immediately after his death was conveyed to Cuttack, and kept there for some eight centuries; on the country being invaded, however, by some strangers, the daughter of

* Read at the Royal Institute of Architects, Monday, March 6th.

the king concealed this most precious treasure in her hair, and escaped with it to Ceylon, where it was received with all due honour, and enshrined in a magnificent casket. When we got possession of the island, we immediately took charge of the palladium, a guard was appointed to watch over it, and the key of the chamber where it was kept was never out of the possession of the chief commissioner of Kandy. As you will see by the last papers from the East, we have got tired of the charge, and the new governor, Lord Torrington, has handed over possession of it to the priests, to take care of for themselves.

These relics were always enshrined and kept in topes or dagobas, of one of which I have a drawing here. A tope is a tumulus or, to speak more correctly, it bears the same relation to a tumulus that a stone altar does to a stone coffin, or sarcophagus,—the one is meant for the burial of a body, the other is a simulated tomb meant to contain a relic, which may be a bone, or a whole skeleton, or a vessel, or bit of cloth—any thing, indeed, that has become particularly sacred.

A tope consists always of three parts—first, a circular base or *drum*, a *dome*, and lastly, a *tee*, or ornament on the top, supporting an umbrella of state, sometimes there are nine of them. These often vary in height, the oldest being the lowest, and the tendency being always to make them taller and taller as we descend in the series.

The principal relic is always deposited in a small chamber, exactly under the centre of the buildings, at the height of the springing of the dome. Sometimes a second and third deposit has been found, one above another, which led the celebrated German geographer Ritter to propose the theory that the topes were like the Chinese towers, built in three, six, or nine stories, a conjecture that shewed he was in the right path of inquiry, though I believe that he was mistaken, the true explanation being, that when a second similar relic was found, instead of building a new tope, it was placed in a chamber on the top of the old one, and a new casing added to the whole, in this manner, and so on, with a third or fourth if requisite. This was the conclusion M. Masson arrived at, from his extensive researches among the topes in Afghanistan,—and in Burmah such is even now the current belief of the priests. I have here, for instance, a drawing of the famous pagoda of Rangoon, said originally to have been a small building, but increased successively, to contain the staff of one Buddha, the water dipper of a second, the bathing garment of a third, and eight hairs from the head of the last.

When the great tope at Manikyala-Taxila, in the Punjab, was opened by General Ventura, the principal deposit was found surrounded by coins of a king, known to have lived about the Christian era: an upper one was surrounded by those of the Assacidæ. The principal relic was contained in a small gold cylinder, inclosed in a copper one, and consisted of some fragments apparently of amber, in a brown liquid, though it has never been correctly ascertained what they were.

In all the larger structured topes, the tee has been destroyed, but we have abundance of representations of them in the sculpture of the caves and their paintings, and also in the rock cut topes, to know what they were. In the oldest caves they consisted of a cubical basement, supporting one or three discs, or umbrellas of wood; one of these still exists at Carli, though probably from fifteen to eighteen centuries old. At Ajunta we have the same form repeated in stone, and a model of one was found in the chamber of a tope in Afghanistan, now in the museum of the India-house, with nine discs. Afterwards the tee became all-important, the domical basement having gradually gone out of use, and the nine-storied towers, such as the famous porcelain tower at Nankin, are merely exaggerated tees, without the topes they were once meant to adorn. I have not drawings here sufficient to point out all the steps of this transformation, but I have seen every step of it, and have here a drawing published some years ago by the Asiatic Society, in which you will see a tope surrounded by a nine-storied one of almost the exact form of those in China. The circular inclosure that surrounds, or at least did always surround, these topes, is another peculiarity, I must not omit to mention. In the instance I have selected for illustration, that at Sanchee: it consists of upright pillars, about 11 feet high, joined at the top by a transverse piece, and between each pillar there are inserted three bars of stone,—a peculiarity, as far as I know, that does not exist in any other structural building *now standing*, but it must have been very common, for, as a moulding, this singular form exists in every ancient cave or building I am acquainted with, and is by far the most common moulding found.

Owing to the facility with which it can be removed, this inclosure is not found in any of the topes in Afghanistan; but in Ceylon, where topes are still respected, almost all of them have it. The pillars, however, are not generally joined at top, but stand in one, two, or three concentric rows, round the monument. In some instances almost more important than the monument itself, as in this one of the Thupuramaya.

Sometimes these circles became the principal or only object at an Amravati, on the Kistna, which is only a large circle, of large sculptured stones, some of which are in the India-house,—in the centre of which there is now a tank, but whether that is the original design or not I cannot say.

Another peculiarity of the Buddhist religion is their veneration for sacred places, to mark which they frequently erected towers, similar in form to topes, but in the ruined state in which they are now found it is difficult to detect the difference till after the trouble is taken to open them, when, no relic existing in the centre, the explorer, after all this vain trouble, discovers that he has been working on a stupha, which is the proper name of these monumental towers, while dagoba is the one that, were I not afraid of multiplying hard names, should be applied to those that contain relics.

The gateways are another peculiarity of this monument deserving notice, as they are the only ones now standing in India, and from their top-heavy form it is wonderful they have stood so long. From their form, it is evident they must be copies of wooden erections; indeed among the frescoes of Aunta there is represented a wooden one, very similar in form to this. The wooden one, however, may be merely a cheaper form of accomplishing the object wanted, in which case this must be considered as an elaborate Trilithon.

They are all covered with sculpture of the most elaborate kind, representing emblems and the objects of Buddhist worship, but, owing to their antiquity, no images of Buddha himself.

One of the four has fallen, and as it contains historical bassi-relievi, representing, among other things, a siege of a town, in which the dress of the warriors and their arms, as well as the forms of the houses, and other interesting peculiarities, exist, I wish much it could be conveyed to England, as it would convey a very different idea of Indian art to the public than anything that has yet been brought to this country.

Be this as it may, these gateways are the originals of the Pailoos of the Chinese, or, as they are usually called by Europeans, triumphal archways, which generally stand in the market-places of towns in China.

Another class of Buddhist monuments to which I must now call your attention are the chaityas, or churches of that religion. In India we know them only as caves, and in consequence I will always call them chaitya caves. The finest and most perfect one in India is that at Carli, of which I have here a plan and section; it is 102 ft. 3 in. in length internally, and 45 ft. 7 in. in width. Like all these caves, it bears a striking resemblance in disposition to the choir of old Norman churches—consisting always of a centre and two side aisles, terminating in a semicircle, in the centre of which is placed the altar, which, in this instance, is always a tope or dagoba: whether these rock-cut examples contained relics or not I cannot say,—certainly not in their interior, for if the rock were once opened, the fracture could not be concealed. But they all shew traces of being covered with woodwork and ornaments of some sort, and the relic may have been placed in a chasse of some sort in front of the dagoba. In the most modern ones, a figure of Buddha stands in front of it, but the existence of this is a certain sign that we are arrived at an age when idolatry had superseded the more purely Buddhist doctrine of relic worship.

To the chaitya caves I shall return presently when speaking of their construction, and shall therefore now pass on to the only remaining class of monuments with which I will now trouble you, and these are viharas, or monasteries, which always accompany these chaitya caves. Generally, there are three or four, or more monasteries to each church, and often the monasteries exist alone, without any chaitya cave in the series, though the converse is, I believe, never the case.

The earliest of these viharas are mere cells, cut in the rock, where one or two ascetics might dwell—one of the most singular being the tiger cave at Cuttack, which is a rock cut into the form of a tiger's head, the expanded jaws forming the verandah, and a doorway where the throat should be, leading to the cell.

In the next stage they became a long cell, with a long verandah; then gradually the cell became a hall, supported by four, twelve, sixteen, or twenty-four pillars, with the cells arranged round them. In this case, however, opposite the entrance is always placed a sanctum, in which is a figure of Buddha, as an object of worship: and in the more modern times side-chapels are also provided, in which are statues of inferior saints. Generally speaking, the walls and roofs of all these monasteries are decorated with fresco paintings, representing either historical subjects, as battle pieces or great ceremonials, or scenes from the life of Buddha, or of the peculiar saints to whom the Vihara may be more particularly dedicated.

J. Fergusson.

THE ITALIAN OPERA HOUSE, COVENT GARDEN.

A correspondent remarks, "last week you spoke generally of the object and effect of the alterations at the Italian Opera House. It will not be uninteresting to your readers if this week you record what work those alterations involved, and the short time in which they were made. Such notices prepare architects and builders for similar works, and let them know how much can be done in a little time when absolutely necessary." We willingly follow out the suggestion.

The parapet, roof, and ceiling of the refreshment room being in extent 62 feet by 22 feet (out and out), were removed, and a new ceiling and an entirely new building, raised on the old walls, to a height of 32 feet to the ridge. The second amphitheatre and gallery, with two boxes on each side, were taken away, and a new amphitheatre reconstructed at a much greater angle, capable of holding upwards of 600 people, an area about 57 feet by 47 feet. The south wall (supporting the roof of the theatre and carpenter's workshop), was pulled down to the extent of 54 feet in length by 30 feet in height, and 3 feet 6 inches thick. The roof and floor were shored up, and a timber truss, 53 feet span, introduced, into which the timbers of the roof and floor were reframed. The order was given on the 8th February. The works commenced on the 9th; were completed and certified by the official referees on the 7th March, and the last instalment due on the contract paid on the 8th!

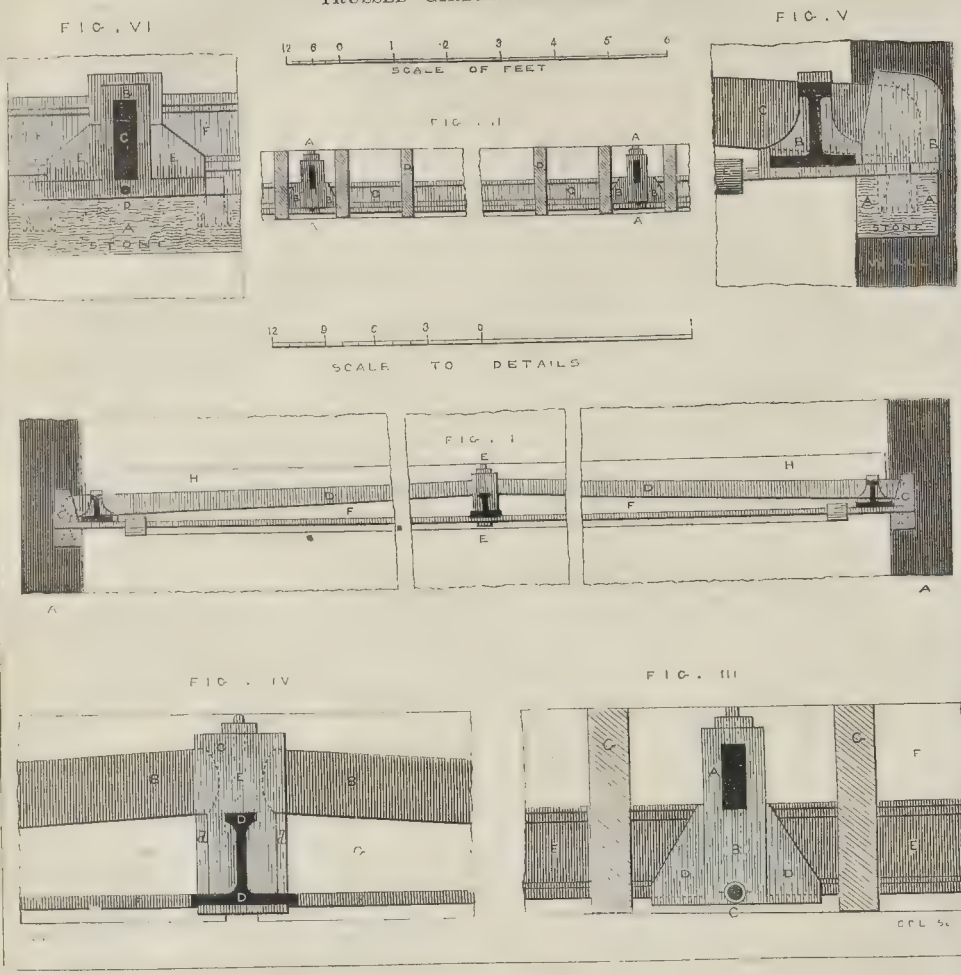
When it is remembered that the whole was executed at a height of 60 feet from the paving line of street, without in any way interfering with the body of the theatre, the only approaches being up a narrow passage and the old gallery stairs; and we take into consideration the wet weather at the end of February and commencement of March, which retarded the progress of the works, it will be seen that some credit is due to the parties concerned, for the short time occupied.

Mr. R. J. Hodgson was the architect employed, and Mr. Holland the builder.

An Erudite Bricklayer.—A bricklayer, who was employed by the parochial authorities of a village in the Western district to erect, or as it is technically termed, hang two coppers to supply the poor with soup during the severe season, sent in his bill in this form:—

"The genteelmen of —— dr. to John Jackson,
To hanging 2 *coopers* to make soup for the pore."

TRUSSED GIRDER FOR FLOORS.



CONSTRUCTION OF FLOORS.

SIR,—Since the time of Nicholson and Tredgold, no one has attempted practically to elucidate the principles of construction generally as applied to building purposes, though, since they wrote, extensive improvements have taken place. Adverting to carpentry, the works of the before-named authors treated in their time so ably, on the advantages of scientific construction as applied to practical carpentry, that for some time they left little or no room for others, but as science has made rapid strides towards perfection, it cannot for a moment be supposed that so important a branch of the mechanical art as we are alluding to should remain in *statu quo*. Without any intention of endeavouring to supply the deficiency, the following may not be without value to a certain class of your readers, although perhaps others may view it impatiently.

The carpenter who understands his trade must have devoted considerable time and application to acquire that information, and it frequently occurs that to him is intrusted the management of carrying out the architect's designs. The mason, the bricklayer, and other artizans must study the most practical, efficient, and economical means of working and applying their various materials, but the business of the carpenter being so connected with practical geometry, to him usually the others apply for the making of the centre-moulds, fixing the bond timber, and other matters connected with the construction of a building.

Geometry being the science which considers the properties of lines and angles, as formed according to some given law, also the construction of figures corresponding with given data, it is requisite that the mechanic should make himself thoroughly acquainted with it.

Without the aid of this branch of knowledge, he will be unfit for any undertaking whatever, and so long as he is ignorant of the methods of geometrical construction, he must remain under the control and direction of a superior in his own class. The uses of geometry are not confined to carpentry. Indeed, there is no mechanical profession that does not derive considerable advantage from it. One workman is superior to another in proportion to his knowledge of it.

By practical geometry and architectural dynamics, our predecessors in the art of building discovered the way in which their materials were affected by gravity, and were enabled to economise them and reduce their quantity; yet many of their edifices, after 500 years, are more sound than some modern buildings which have not subsisted fifty years, and which contain five times their quantity of material.

It frequently occurs that the carpenter evinces great sagacity in the use of temporary shores and strutting, while buildings are being underpinned and repaired or altered, and it is strange that the same person who exhibits this sagacity, and who finds out pretty correctly which way the force of gravity will move during the temporary jeopardy of old buildings, should so entirely neglect the means requisite for preventing those extensive derangements which leave many of our new buildings, intended to be permanent, mere heaps of ruin, warped, cracked, and distorted.

A late esteemed author states that a child by delicacy of hand, poise and counterpoise without cement, tenon, joints, or glue, can raise up a fabric of cards, but the grown builder, staggered and lost amid his mortar, cement, tenons, spikes, holdfasts, nails, screws, glue, cramps, and braces, forgets that providence by which a small quantity of materials may be made to hold up firmly without any of these additional means of union.

The ancients piled up the stones composing many of the best works of their day without cement or such auxiliaries, and several of them still exist without flaw.

Cements or pegs made use of in a fabric the materials of which would, without them, by gravity, assume some distorted form, are less employed for strength than to counteract the ignorance of the fabricator. These things should be used to make a small quantity of materials rightly placed perform the same duty as a larger quantity of them would without such aids.

In the basement story of a building, if the walls be strong and the foundations good

there cannot be too small a quantity of timber used; indeed, none should run round as continuous bond, or in any other situation where it is liable to rot; it should only be inserted when absolutely requisite as wood-bricks where necessary for fixing the joiner's work to, paying particular attention to avoid it in the party walls. A 9-inch party wall of stock brickwork, bonded only with iron hooping and of good structure, will resist fire as well as most 18-inch party walls built as at present. Wood lentils should be avoided as much as possible; if used, they should not be much longer than the width of the openings, and each with an arch sprung above it, reaching from end to end of the lintel, so that if it be destroyed the brick arch above it will remain sound to support the weight above.

Little of the constructive department of carpentry is required in our modern erections in the basement story (and the less the better). Probably the carpenter's first essay would be to ascertain if the walls are perfectly level for the reception of the plates, &c. The next consideration will be the floors, which are either single or double, according to the magnitude of the building: those called single consisting, as most of your readers know, of a single tier of joists, laid from wall to wall, either longitudinally or transversely. Double floors are formed of girders which receive the flooring joists above, and ceiling joists below, in all their various forms. In forming single floors, the most usual way is to firmly fix the joists from front to back of the building, which in small houses having short bearings require no trussing, or, if any, that which is technically termed herring-bone trussing is generally sufficient; but in houses of larger dimensions, or where the bearing becomes greater, or the thickness of the flooring joists a consideration, a different sort of truss should be introduced, of which there are several; and the object of the present communication is to describe, by means of the accompanying diagrams, one which has been found very sufficient for the purpose, composed of wrought and cast iron as a support to the wood.

Fig. 1.—Assuming I.I. to be the bearing or span of the joists between the walls, the bars, DD, are inserted of malleable iron 3½ inches by ⅞ or ¾, and which are fitted into a cast-metal king-head, with connecting shoes for support of cast-metal cross bearers, and a projection, to be tapped for a union joint to be connected with the tension rod. AA, brick walls; CC, cast-metal shoes; DD, trusses which are strutted from the joists on each side to keep them from springing, and secure them in their proper position; E, cast-metal king-heads, with shoes for cross bearers, orifices for bolts, &c.; FF, tension rod, with union joints; HH, joists.

Fig. 2.—Transverse section of floor; AA, cast-metal king-heads, with bolts, &c.: BB, shoes for cross bearers; CC, cross bearers; DD, floor joists.

Figs. 3, 4, 5, *and* 6 are details, one-eighth real size.

Fig. 3.—Transverse section of metal head, joist, &c.; A, cavity for receiving truss; B, bolt; C, tension rod; DD, shoes for receiving cross bearers; EE, cross bearers; FF, strutts; GG, floor joists.

Fig. 4.—Is the elevation of the cast-iron head, it will be perceived the under flanges of these bearers are a little wider than the shoes, to allow the floor-joist a better or larger bearing upon them; BB, trusses; C, cast-metal head; D, section of shoes for receiving cross bearers; E, king-bolt; *dd*, flanges of shoes; FF, tension rod; GG, joists.

Fig. 5.—Elevation of the shoe fixed to a stone plate 2 feet 6 inches or 3 feet long; the ends of this shoe are cast in form of dovetails, and are run into the stone with lead, a small bar of iron should then be fixed in a similar manner from stone to stone, either on the face of the work or on the top of the bed of it; to connect these stones as bond all round the building—A, stone plate; B, iron shoes; C, iron truss; D, tension rod; E, union joint.

Fig. 6.—Section of the same, A, wall-plate; B, metal shoe; C, cavity for iron truss; D, tension rod; E, shoes for cross bearers; F, cross binders next wall. From the construction of this floor it becomes nearly fire-proof, as the principal supports, bonds, &c., are of stone and iron, consequently if ignition should take place, it is confined to the floor joists and boards only. B.

SOME NOTES ON CHURCHES AND CHAPELS.

The alterations in *Westminster Abbey Church*, in the practised hand of Mr. Edmund Blore, are nearly completed, and, however much we may differ from the authorities as to the mode in which additional room for the public should have been obtained, we must bear testimony to the goodness of the work. The new stalls which surround the choir, are exceedingly well executed by Ruddle, from Peterborough. The canopies and finials present considerable variety. The stained glass in the south transept is finished, but the windows are at present covered up, and will remain so until the church is again opened for service. The ancient monuments in the abbey call loudly for conservation, and the modern ones for removal. The chapter-house continues in a disgraceful, not to say dangerous condition. It is to be hoped that the remarks which have appeared in The Builder, on the decaying state of the external stonework of Henry the Seventh's Chapel, and the possibility of applying a preservative solution (quoted far and wide by contemporaries), will lead to some such step. The necessity is urgent.

The new church of *St. Mathias, Bethnal Green*, designed by Messrs. Wyatt and Brandon, in the Byzantine style, was consecrated about a fortnight since. It is built exteriorly of brick, with stone dressings, and consists of nave and aisles, tower and chancel. The nave has at the west end a large wheel window, and a projecting porch. The tower is on the south side, projecting from the aisles: it is square in plan at the bottom, but takes an octagonal form above, and is surmounted by a slated spire. The pillars, separating the nave from the aisles, carry moulded arches, which support the clerestory. The capitals of the pillars are varied in design. The roof is of timber, of open work, and stained dark oak. The chief feature in the church is the chancel and semicircular apsis at the eastern end, the floor of which is, as usual, raised above the level of the church. The ceiling of the apsis is domical in form, has an opening for light at the top, and in a narrow frieze running along at the spring of the ceiling, is this inscription, "A new commandment I give unto thee." The floor of the apsis is of red and black tiles, excepting in the centre, immediately in front of the communion-table, where the tiles are more ornamental. The reading-desk is of wood, and is open. The pulpit, placed on the north side of the church, is of stone, and is novel and effective. There is a large gallery at the west end, and at the north and south sides are narrow galleries, supported on iron cantilevers. The church, in the interior, is 117 feet long, 50 feet wide, and 40 feet high, to the pitch of gable. The cost is said to have been about 4,500*l*. Mr. Holland was the contractor.

On Shrove Tuesday a small Roman Catholic church, called the *Church of St. John the Baptist, at Hackney*, was opened for Divine worship. It consists of a nave, north aisle, chancel, and sacristy, with a bell-cot and spire of Caen stone, 90 feet in height, at the west end, and has withinside more decoration than is usually found in Protestant churches. The altar is richly carved in Caen stone; and there is a sepulchre, piscina, and sedile, in the chancel. The rood-screen is of carved oak, with the rood, and figures of the Virgin Mary and St. John. It has a stained-glass window, by Messrs. Ward and Nixon. The roof of the nave is open, and the ceiling of the chancel is emblazoned in colours and gold; the panels are powdered with stars, and contain monograms of the Holy Name, the Virgin, the Four Evangelists, &c. The church is built of Kentish Rag and Hassock, and in style is of the Decorated period. The total cost, including altar, stained-glass, rood-screen, &c., and all fittings, was about 2,000*l*. The architect is Mr. W. W. Wardell, of Bishopsgate-street; and the builders were the late firm of Fisher and Son, of Stratford, Essex.

South Hackney New Church, under Mr. Hakewill, is making considerable progress, and is to be ready for consecration in June. It is a handsome and extensive structure, in the early English style, with transept, large chancel, and tower with broach spire at west end. The intersection of the cross and the chancel are vaulted; the rest of the church has open timber roofs. Polychromy, in a moderate degree, will be resorted to.

We have just seen a lithograph of a *Congregational Chapel* about to be erected in the Queen's-road, *Reading*, from the design of Mr. Poulton, which shews that the Congregationalists of England are also becoming anxious to give an ecclesiastical character to their sacred edifices. The style is Early English; with a turret and pinnacle at the four angles, a triplet window and slightly projecting doorway at the west end, and a high pitched roof. Rag-stone walls and Bath-stone dressings are to be used. Schools of similar character are to be added at the east end; and the cost of the whole is estimated at between 3,000*l*. and 4,000*l*.

The restoration of St. Lawrence's Church, in the same town, is being proceeded with. Several frescoes have been discovered on the east wall of the chancel, of a very interesting description; one of them, representing the "Transfiguration," is said to be beautifully executed. An early English couplet window has been brought to light in St. John's Chapel.

The appointment by the Church Building Society of supervising architects, noticed in a late number, is not relished. We have received several letters on the subject, and give the following as representing all. It is signed "An Architect," and says:—"I cannot help troubling you with a few remarks on a paragraph which appeared in your last number but one, stating that the Church Building Society had appointed several architects to advise on restorations, and to superintend the works for which grants were made by them, independently of the architect appointed in the usual way. Now, it appears to me, that such interference is not only an insult to the profession generally, but also the means of wasting the society's funds. Architects, as a body, will not submit to such an infliction; if they do, they will find themselves (however able) the mere agents of a clique, who are not a whit more capable of judging of geometrical proportion and "lateral thrust" than they themselves are. Again, what a field it opens for petty interference and annoyance,—to say nothing of its tendency to cram these co-operators down the throats of the public. We are well aware that no two men agree perfectly on all points in matters of taste, and therefore architects in this case will be considerably fettered in their judgment by differing in opinion with the paid advisers of the society. If this scheme be carried out, all the church restorations undertaken by the Church Building Society must be guided by the opinions and tastes of some half-dozen architects; this must not be, and the sooner the society abandons the notion the better."

"THE RIGHTS OF LABOUR,"

OR THE WAR-CRY OF THE FRENCH REVOLUTION.

The Bourbons and the bourgeoisie are at a discount in the capital of France,—the blouses at a premium. The safety-valve of talk tied down,—instantaneous was the explosion; and disintegrated fragments of the very boiler of the great machine of state—the getter-up of its steam—the source of its power—the people—or the idle "populace," rather than the busy people—the red-hot fuel, rather than the mere scalding steam,—in short, the very dust itself kicked up—was forthwith found to fill the palace of the deserted Tuileries, and strew the benches of the abolished House of Peers. And so, too, the still more rash than skilful engineer has found his "firm seat" on the engine—boasted of even on the eve of this astounding crisis—useful only in his headlong flight to a quieter realm.

Paris—France—is writhing in the pangs of labour—most emphatically speaking, most significantly—Labour, even the labour of a new, uncertain, and mysterious birth, of unrealized, if not even unimagined shape,—a caricature, it *may* be, gross and terrible, of the "rights of labour," as was the bloody fruit of the first revolution, of the no less vaunted "rights of man."

The unfettering of industry from its anomalous trammels is a great and important problem—but not for solution in the midst of the hurry and the tempest of political revolution. It involves in itself a social revolutionary movement, to be cherished and matured by peace, deliberation, unity, and time, alone; and by some far more staid and sober-minded men than the populace—now ruling France.

There 'communism' is in the ascendant, not among the merely speculative alone,—not merely pervading the various classes of operatives,—but active, administrative, legislative, in the very government of the Republic. Louis Blanc, the president of the incipient Industrial Administration of which Albert, the quasi-'workman,' is the 'vice,' is well-known as a 'communist,' and earnestly keeps preaching sheer utopianism to the working classes, and promulgating its principles and practice in the formal decrees of the Government,—undertaking to "put an end to the long and iniquitous sufferings of workmen,"—"by whom and for whom" the revolution has been carried; and inviting and exhorting them to come and form a portion of the Committee of Workmen at the Palace of the Luxembourg; thus stirring up extravagant hopes to the highest pitch of possibility, and all this, too, while it even appears that the desires or demands of the workmen themselves at first were limited to such more or less immediately practical and attainable objects as a ten hours' work bill, and a restriction of wages to a certain minimum. The Government, however, not contented to keep their promises within the bounds of their tangible powers or prospects as a mere provisional, temporary administration, have been launching out into Elysian fields, with the visionary light of which the poor workmen have their eyeballs dazzled; and no wonder, therefore, that they have been displaying a decided *penchant* for associating in the Champs Elysées: but a sham Elysée all will prove to them we fear. One class and corps of operatives and others of the industrious classes, after another, have been rushing to the seat of Government, all demanding more and more preposterous legislative intermeddling with their several trades or businesses, or for direct pecuniary aid, or permanency of employment and increase of wages. Thus the paviours (an important class of operatives, seeing that "the citizens of Paris," as *Punch* observes, "take up their freedom with paving stones,") have modestly demanded double wages, for which the other trades, if they have any sense or penetration, ought to feel extremely indebted to the paviours, seeing that the ability, or the animus, of the Government was thereby brought at once to the test, which, alas, they could not stand. In place of yielding to the very moderate demand of the paviours, the provisionals "employed journeymen masons to repave the streets." The omnibus drivers and conductors fared much better than the paviours, as their demands of higher wages and lower fines were at once decreed. The river porters followed the example of the omnibus administration. The waiters in caffés and restaurants immediately struck, and the rulers were visited by the hairdressers, the calico printers, the drapers' clerks, the steelworkers, poulterers, sailors, the very fishwomen, *et multis aliis*. The shopkeepers, of whom there are 40,000, demand a reduction in rents, and why should not the building trades and the landlords demand a rise in that same essential element of their prosperity?

The government have really, however, displayed an earnest design to benefit their constituents. They have shortened the hours of labour, they are founding immense establishments to provide employment for "the people," and they mean to undertake vast public works, and to throw open various *spectacles* for their amusement. The national workshops already afford employment, or wages at least, to more than 10,000 operatives, but how long all this can last it is hard to say. Meantime the interests of *employers* are scarcely even thought or dreamt of, although merchants and small traders have had their decrees issued from the wholesale manufactory of the edicts, and other manufacturers and merchants have been knocking at the doors of the Hotel de Ville, or mean to do so.

An ominous demand for the abolition of "middlemen," will not be long, we fear, confined to the limited class of contractors to whom it is pretended yet alone to apply. The communists or socialists, it ought to be generally known, regard ALL as obnoxious "middlemen," who stand, as masters, traders, merchants, or otherwise, between the various classes of workmen, or "producers of wealth." Such middlemen must all, they say, become the mere paid servants of the wealth producers, not their paying masters, nor the parasitical consumers of, or profiters by the wealth, or work, or produce, of the working classes. If these communist or socialist principles, in short, continue to prevail, or even to struggle, and be recognized in the movement at Paris, the republic will be torn to shreds between the commercial and the operative classes, between the capital and the labour, between the Boulevards, as it were, and the Faubourg of the city.

We the less reluctantly expatiate on the prospective, or at least the possible, evils to be dreaded from this altogether unparalleled revolution, considering that the alarum is already ringing from almost every quarter, even in our own ears. In the horror of anarchy, however, and in the love of social order, which the experience of the past has generated, we trust for a peaceful termination to so ominous a commencement, and we do earnestly hope, that that termination *will* bring along with it the permanent and real improvement of the working classes, and the establishment of their true interests *in accordance with the best interests of their employers*, and of the mercantile and trading community at large, as well as with a sacred regard for the rights of capital and property.

ART FOR THE ELEVATION OF MANUFACTURES.

AT a recent meeting of the Decorative Art Society, the respective position of British and Foreign manufactures, in relation to their artistic merits, formed the subject for observations.

Mr. Dwyer remarked that the distinguishing difference between them, would be found to arise from the greatly diffused appreciation of superior designs among foreign manufacturers, together with the well-sustained mode of teaching drawing to all in every town of importance on the continent; while, in England, these things are, as yet, but too slightly cared for by the million. He referred to a recent visit to an extensive iron-foundry in Leicester, where, in reply to such questions as, "How do you obtain designs—do you employ a modeller?" it was said, "No; when we want anything new, we either set up a different arrangement and combination of parts from our own numerous moulds, or we get newer specimens from a *papier-mâché* manufacturer." Thus, there was not one person engaged in this factory, where design is very important, nor who felt this element of success worth caring for. It was satisfactory, however, to see some instances springing up around us where education of a character suitable to the employment is provided for the youth by the employer, on the most attractive terms. Messrs. Cubitt's establishment was mentioned as one, where a drawing-school and an architectural library are provided, as well as the teaching of arithmetic, and other matters, free of charge to those, young and old, employed by them.

It was said that the paper-stainers, who employ many boys, would find an advantageous result in providing the means for teaching them drawing and the principles of colouring. It was also said (by others) that the number of designers employed by the English manufacturers has greatly increased within the last few years, and that, although we have a profusion of mediocrity in talent shewn in the transfer and copying of patterns, from one material or fabric to be applied to another, a great and general improvement is taking place. Mr. Donatty urged that drawing should be taught in our national schools. He wished that the walls of the school-rooms could be decorated with a few good prints having a useful tendency.

It was remarked that the capitalist or master manufacturer too often knew nothing about artistic merits, and rely on their own intuitive taste in the matter of design, considering, in their speculations, that if some persons don't like them others will. Mr. Cowtan then stated that, with reference to paper-hangings, the system of manufacture in this country is different from that of the French, who often employ a chemist, and always an artist, to mix and distribute the colours, which are applied chiefly by women and youths under such superintendence; whilst in England the colours are prepared and laid on by the uneducated but dexterous workman. At the present time the best kind of "flock and gold" English papers are equal in every respect to the same kind produced in France; but in the manufacture of flowered and many-coloured patterns we do not obtain the perfect gradation of tints which is peculiar to the French manufactures. He was also of opinion that, since the admission of French papers under a reduced duty, the English manufacturers have had more regard to a reduction of the cost than to the production of better designs; and he thought that teaching boys, as alluded to, is exceedingly necessary, especially as the application and mixing of colours are in this country left in the hands of such persons when they have acquired a mechanical proficiency in printing.

THE NEW THRONE IN CANTERBURY CATHEDRAL.

ON Thursday next, the 24th inst., the inhabitants of Canterbury will have an opportunity of witnessing a ceremony which has not taken place in their cathedral for nearly 300 years: we refer to the installation of the new archbishop, which is appointed to take place on that day. A new throne having been lately erected in the cathedral, with some pretensions to notice, we could not find a more fitting time to give a view of it to our readers.

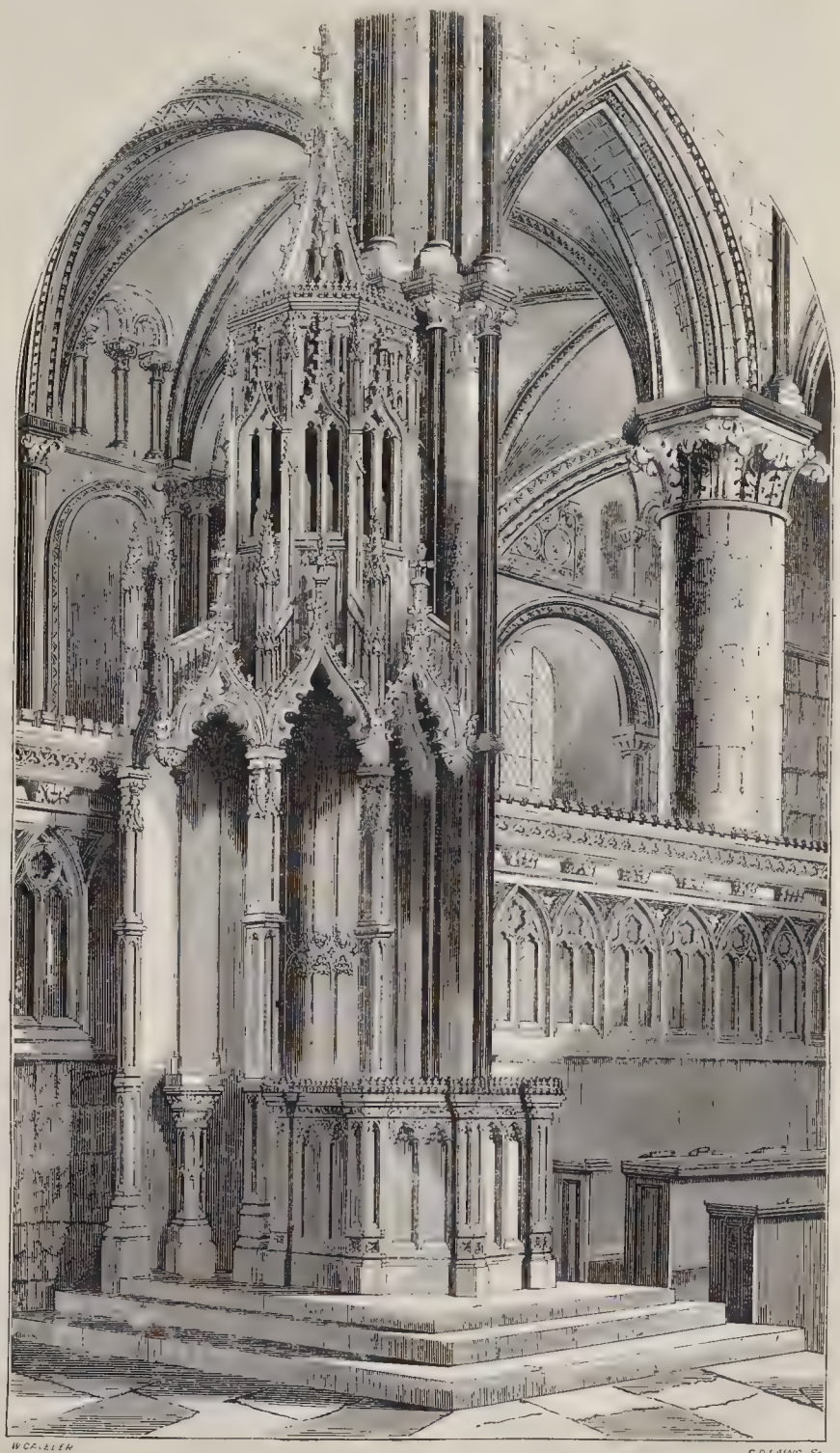
We have frequently had occasion to mention the improvements that have from time to time taken place in this cathedral. Twenty years ago it required very extensive repairs to put it in order,—like many of our cathedrals, it had been allowed to go on neglected until the matter became too serious to admit of any further delay. The dean and chapter of that time at once came forward to remedy as far as was in their power the neglect of their predecessors—aad a serious work it proved: the whole of the nave, choir, and transepts, requiring a large outlay to put them into anything approaching a proper state. By great exertion this was done under the direction of the present surveyor, Mr. Austen. One of the western towers was also completely rebuilt, and the buildings which entirely inclosed the west end of the cathedral cleared away so as to afford a good view of that portion of the building; many other repairs not generally noticed, but which were requisite to the well-being of the edifice, have from time to time been executed: the pinnacles of the centre tower and other small parts have also lately been repaired.

After doing so much of a substantial character, the dean and chapter turned their attention to what may perhaps be termed the furniture of the cathedral, and the most important object of that nature was the archbishop's throne. The throne lately removed was a tolerable specimen of oak carving, good in itself, but quite at variance with the surrounding architecture. The throne newly erected stands on the south side of the choir, at the angle formed by the upper transept. The design was by Mr. Austen and his sons, and the carving was executed partly by English workmen and partly by men from Belgium and Cologne. As will be seen by the view, the throne is highly enriched, and it may be noticed that it bears a general resemblance to many of the shrines in Italy, particularly to one at Verona. The total height is nearly 40 ft., the width at the base about 8 ft., and the cost of its erection about 1,200*l*. Opposite to the throne, a pulpit of stone has been placed; this is not a very favourable specimen of art, but still is superior to the oak box it superseded.

It is said to be in contemplation to remove the oak stalls by Gibbon, at the west end of the choir, now occupied by the dean and canons, and to replace them with some of stone, more in harmony with the general character of the building.

THE ARCHBISHOP'S THRONE,—CANTERBURY CATHEDRAL.

MR. AUSTEN, ARCHITECT.



THE EDUCATION OF THE HAND AND EYE.

This was the subject of an essay read by Mr. G. Wallis, at a *conversazione* lately held at the Royal Institution, Manchester, when he very properly urged the desirability of every person knowing how to delineate simple forms, and referred to the inefficiency of the mode of teaching generally pursued. It was really astonishing, he said, how little of true principles were obtained in the general practice of teaching drawing; but this, though at first sight it might be attributed to the drawing-master, was, in reality, the fault of the pupil and his parents. The pupil is determined that, from the outset, he will draw nothing but houses, men, horses, &c., and the parent is equally determined that the child shall commence at once to fill the family portfolio with drawings in the *album style*, which, if the pupil cannot execute himself, of course it is the duty of the master to execute for him, so that it is all the same thing. By this the master retains the pupil, the parent obtains certain drawings, or supposed specimens of the child's genius, but the latter, though he may make drawings, rarely learns to draw. Now all this arises from a misapprehension in both parent and pupil as to the real purposes of the art of drawing. It is no fault of the drawing-master, unless they choose to blame him for the misfortune of being compelled to cater to this misapprehension; for if he dared to attempt to teach upon a true and proper principle his classes would soon be empty. The truth was that all intelligent drawing-masters *knew* better, but feared *to do* better. No parent expected that when his son began to learn Latin or Greek he would come home at the end of the first quarter, and read even a dozen lines of Virgil correctly, or translate the argument of the Iliad, yet it was something very like this to expect the same boy to come home with a portfolio of pretty pictures at the end of the same period of time.

Mr. Wallis then directed the attention of his audience to what he proposed to call the eight primitive motions of the hand in drawing, each of which was totally distinct from the other, and under the various heads of which all lines might be classified,—viz., four right lines, the perpendicular, the horizontal, the diagonal left, and the diagonal right; four curves, comprised in the circle, the upper convex, the lower convex, the upper concave, and the lower concave. These were his alphabet of form; and he was satisfied that no person could draw with accuracy, unless he could delineate them, and these were the elementary lines which every child should be carefully taught at the outset. But in saying this, he did not desire to impress upon them the notion that the very young child was to be constantly kept at these lines, or strictly carried through a geometric course, though he believed from experience that in older pupils such a course was desirable; but what he desired to insist upon, was the fact, that in these eight lines we had the key to all form. The question then arose, what should be the next step, supposing a proper degree of exercise had been given to the hand in drawing these primitive lines? He had no hesitation in [illegible] to [illegible] objects, but reduced to a plane in the first instance, [illegible] in what a perspective [illegible] to be exhibited upon, only served to perplex the pupil, and drive him from the study in despair or disgust. In order to explain his meaning, Mr. W. produced some dried leaves mounted on paper, and crossed by the two primitive lines, the horizontal and perpendicular, to assist the pupil in judging of the proportion of the various parts of the leaf, and also of the nature of the curves forming the outline. Those kind of examples, he maintained, were within the reach of every man, and they were better examples than the hand of any man, whatever might be his talent, could produce of their particular kind.

Assessment of Gravesend.—Tenders for the survey and re-assessment of Milton and Gravesend having been sent in, that of Messrs. Burr and Son, of Rochester, has been accepted. The work will be commenced immediately.

A NEW PEN.

Dr. Spurgin, one of the directors of the Polytechnic Institution, and to whom the public is already indebted for several ingenious inventions, has just now patented a new pen, which promises to have important advantages, without being in any degree costly. These are the retention of a large quantity of ink, sufficient, for example, to write a letter without again dipping the pen, and the prevention of corrosion. Capillary attraction and galvanism are the principles involved, and the means employed are very simple. Within a common iron pen, a small plate of zinc, bent to follow the line of the pen, is secured by points of solder at a short distance from the former, by means of which the ink is securely retained, and a galvanic current is kept up.

The progress of the manufacture of *gold* pens, in America, will serve to show the extent of business which may be done in an article of this kind when successful. The *Charleston Courier* (U.S.), says the first gold pen was made [illegible] in 1833, and now the principal manufacturer of them employs a capital of 80,000 dollars in the undertaking. In the manufacture of pens, the gold is first rolled out in ribbons, and then cut with a die to the proper shape, the points put on, and then ground down to the required nib. The points are of iridium, a new metal found with platinum. The points are all imported, generally without the ceremony of an introduction to the Custom-house, and cost from 7 to 55 dollars per ounce. The pens and cases sell from 10 to 30 dollars per dozen. It is not easy to make an estimate of the number of pens manufactured per annum, but it is probably not less than 1,000,000, of which one manufacturer, Bagley, makes nearly half. A person who had not thought of the subject, would scarcely suppose that 800 lbs. of gold were used up every year in America in the manufacture of such a trifling article as pens, a business unknown ten years ago—yet such is the fact. A statement of the *tons* of iron worked into pens in England, every year, would be even more startling, and would show that Dr. Spurgin's improvement, simple as it appears, may, if it fulfil its promises, be more productive than some larger matters.

The endless ladder invented by the same gentleman for raising materials in the course of the erection of buildings, has been used, and is being used in various quarters, but through the mismanagement of an agent, brings nothing to the inventor. Unluckily this is too often the case.

EXPRESSION IN SCULPTURE.

Sir,—An exquisitely chiselled form, without drapery, figures in the catalogue of a collection recently visited, as "Modesty;" yet she looks at you as much as to say, "What do you think of me, now I am naked?" I quarrel not with an occasional want of drapery, but with this indelicate stare (or as indelicate demission of the eye), which clearly shews us that the lady must know that we are inspecting her. Now, Sir, I feel a conception within me of what sort of statue I would make if I were a sculptor, or which I could ever love to look upon. It is this:—Along with that spotless form, and far more engrossing, I see some lovely or striking trait of mind, that the sculptor had for one moment caught, and quick as thought transferred to stone, and fixed it there for ever. The figure appears but that moment (the moment of rest) to have ceased assuming its present attitude, the purpose of which is unmistakeable. She is clearly unconscious that mortal eye is upon her, therefore she does not look upon us; else were the charm broken, and she no longer real,—for since Eve fell, the secret charms of body and mind are not to be seen together. As we gaze we feel, and scarce without compunction, that we are illicit peepers, stealing our enraptured glance at the secret thoughts of that pure being, thus utterly unconscious that eye is upon her—thoughts which she would no more profane, if she knew it, by exposure to others, than she would the virgin charms of her undraped person.

She is apparently of the exact size of life. Her features are of no school cut, but exactly appropriate to the character of emotion described; other features being really incapable of it, in the intensity displayed, and therefore undeceiving the correct eye.

If we have a group, or a male figure, we require the same idea of entire unconsciousness of our gaze, a sort of fairy veil to protect intact, unsullied, the fine thought described. The mind of the figure or figures must be unmistakeably fixed on a definite object,—a Coriolanus must not fume *at us*, as if we were the plebs, or he becomes a strutting actor; but a Napoleon may stand encased in his own cold dignity, although the world be by. Our age excels in delineating expression to its nicest shade. The power has indeed been too much abused to low caricature—but since it exists, we may expect yet to see it displayed in statuary, unequalled for delineating the mind.

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THE GAS MOVEMENT—COST OF GAS.

To the Commissioners of Sewers for the City of London.

Gentlemen,—On the 10th February last, in your Court-room, some experiments were made with my gas burner against the bat's-wing. I have to call your attention to the first of them.

You will not fail to remember that Mr. George Lowe, on behalf of the Chartered Gas Company, provided the meters; that he took the choice of meter for either burner—that the officers of the Chartered Gas Company hung up a dark cloth on the wall, at the back of my burner, to prevent reflection—that Mr. Lowe brought his own photometer—that the gas was not purified under my process, and admitted to contain some ammonia.

After a tedious hour in preparation, Mr. George Lowe's experiment was completed. I take from your minutes the results both as to consumption and distances of each burner from Mr. Lowe's photometer.

The mean of two experiments as to consumption of gas was—

	Tenths of a cubic foot.		Tenths of a cubic foot.
Leslie's burner	46·2	The bat's-wing	55·2
	Inches.		Inches.
Distance from Mr. Lowe's photometer.....	146·75	Distance from Mr. Lowe's photometer.....	140·75

The excess of gas wasted by the bat's-wing is thus shewn to be 19·16 per cent.

The excess of light from the diminished quantity of gas is shewn by squaring the two distances from Mr. Lowe's photometer, the square of the bat's-wing being 19,810, the square of the distance from my burner being 21,538, shewing a greater intensity of light from my burner of 8·76 per cent. These facts on your records have entirely escaped the notice of the reporters for the public press; they were elicited by the experiments of my opponents. You will do me the favour to remember that you have not yet seen my experiments.

Here there is demonstrated an enormous waste of gas, as well as a great loss of light, all paid for by the citizens of London. This "waste of gas" will ultimately turn out to be a splendid source of dividend to the shareholders of the Chartered Gas Company (and other companies too), when they are wise enough to look a little more into their own affairs.

Mr. George Lowe, civil engineer to the Chartered Gas Company, has been appointed by her Majesty's Commissioners of Woods and Forests, under the 9th and 10th Victoria, c. 106, to inquire in cases where applications to Parliament are intended for new gas works, or extensions of old gas works, The parties and witnesses are examined upon oath before "the court,"—"the court" reports to the Woods and Forests, with the evidence taken, and both are printed by order of the House of Commons. I have purchased the whole of these reports, and all the evidence. I have selected one case as worthy of your especial attention: it cannot be excepted to by my opponents, because Mr. George Lowe, civil engineer to the Chartered Gas Company in London, was metamorphosed by the Act of Parliament into being "the court" at the Session-house at Liverpool, on the 13th day of February, 1847, when and where he was

"monarch of all he surveyed." I have another equally important reason for selecting this case, it shows a great amount of intellect in the management of the Liverpool Gas Company, and the consequent flourishing condition of the enterprise, that although the charge to the inhabitants is only 4s. 6d. per 1,000 cubic feet, the dividend to the shareholders is 10 per cent., and the quality of the gas so advantageously (to all parties) supplied, is described in the following words in the Liverpool report, bearing the signature of "George Lowe."

"When the quality of the Liverpool gas is tested by the quality of that burnt in other large towns and the price paid for the two, the former being 4s. 6d. per 1,000 cubic feet and the latter 7s. per 1,000 cubic feet, the reference being had to quality alone, the other (the Liverpool gas) would be relatively worth 14s. per 1,000 cubic feet."

The report and evidence shew that it is obligatory on the company to use the best coal and make the purest gas; "that the Company have so done is universally admitted." That the coal used is exclusively cannel coal, at 15s. 6d. per ton; that the yearly average produce from each ton is 9,600 cubic feet of gas, and 13 cwt. of coke; that 211,500,000 cubic feet were made in the previous year, and all accounted for to the shareholders except between 10 and 11 per cent.

On this latter portion of the evidence the report, bearing Mr. Lowe's signature, thus comments:—"In fact, it has been over and over again proved that the leakage is greater than can be accounted for; and that, though it is nominally only 10 per cent., there is as much as 20, and even 25 per cent. of loss which cannot be accounted for."

The report also contains an analytical statement of the 4s. 6d., the cost to the inhabitants of Liverpool of 1,000 cubic feet of gas, in which you will perceive that "the waste" is included; it is as follows:—

		Pence.
Coal		17·83
Labour		3·85
Lime		0·59
Repairs of works		1·18
Repairs of mains		0·86
Repairs of retorts		2·68
		26·94
Credit—Coke, tar, &c.		4·85
		22·09
Add 10 per cent. (?)		2·20
		24·29
Add salaries and office charges		4·25
		28·54
Tools	0·67	
Cartage, waste	0·10	
Ropes, blocks, paint, cement, engine caps, and yard charges	0·62	
Rates and taxes	1·10	
Interest and commission	0·60	
Law charges	0·25	
Bad debts	1·43	
	5·45	
		33·99
£10 per £100-share dividend		20·15
		54·14

I will not occupy any more of your valuable time, but again request you to bear in mind that you have not yet seen my experiments in the purification and combustion of gas,—that any evening mutually convenient I shall be most happy to see as many of your court as it may be agreeable to, at these offices, for that purpose.—I have the honour to be, Gentlemen, your obedient servant, John Leslie.

Offices, 59, Conduit-street,
March 14, 1848.

THE MERITS OF POINTED ARCHITECTURE.

The opinion of pointed architecture expressed by Mr. Kerr, in his paper on Greek Architecture,* has moved the anger of some of our readers. One correspondent thus writes:—

What! Is the magnificent front of York;—the light elegance of the lanterns at Glo'ster and Ely;—the wonderful balance of support and pressure at the Lady Chapel of Salisbury; and the delicate embroidery of Henry the Seventh's Chapel,—to be charged with 'an ever present *crudeness, and perversion, and lack of grace*?'

Let him pace the solemn aisle or lofty nave, while the warm rays of the setting sun shine soft through the noble windows, chequered and varied by the tracery, piers, and monuments, into a play of tints, which is never to be found in the uniform structure of the Greek; or view the deep shades and softened lights which the pale moonbeam lends to the varied outlines of Salisbury,—or walk along the traceried cloister of Glo'ster, while the solemn anthem fills the vaulted space, and spreads over the soul a soft reverence and deep delight, and is, as it were, re-echoed by every line, by every shade of the lovely pile;—let him view these, and then speak of 'an ever present crudeness and perversion, and *lack of grace*.'

Let it not be supposed that this is the mere effusion of a Romish superstition, or an enthusiastic attachment to the form of religion, that gave rise to these structures;—it is not so. It is written by one who has enjoyed such scenes as he has so feebly attempted to present, and who, in the remembrance of them, still feels that there is, in the elegant and noble Gothic, if not all the accuracy of the Greek, yet a whole more poetic, and I may be excused for adding, to me more lovely.

E. I.

* See p. 99 *ante*.

METROPOLITAN COMMISSION OF SEWERS.

A general meeting of the Metropolitan Commissioners of Sewers was held on Thursday morning, last week, Lord Morpeth, M.P., in the chair. Several accounts were presented from the Finance Committee, and ordered to be passed, with the exception of a bill of 90*l.*, from the late Holborn and Finsbury Commissioners of Sewers, for three months "*tavern expenses*," which charge was altogether rejected.

It was agreed that power be granted to the committee to appoint an assistant surveyor, practically acquainted with land drainage.

It was ordered that 460 feet of sewer be made in the Marylebone and Finchley-road; and 860 feet of 12-inch pipe be inserted in an open ditch, receiving the drainage of many houses in Gloucester-street, Shoreditch.

Upon the application of the Great London Drainage Company for permissive powers from this Commission, the following resolutions were reported from the General Purposes Committee:—

"That the refuse matter contained in the sewers of the metropolis should remain under the control of the Metropolitan Commissioners of Sewers."—"That any profits obtainable from such refuse matter should be appropriated, under the sanction of the Commissioners of Sewers, to the diminution of the rates."—"That the Bill of the Great London Drainage Company now before the House would entirely appropriate to this private company, without any compensation, the whole produce of the metropolitan sewers."—"That this Bill would have the effect of entirely superseding the Metropolitan Commission of Sewers."—"That, in the opinion of this commission, no plan of applying the contents of the metropolitan sewers ought to be entertained until the general survey and levels have been completed."

Mr. Chadwick, in support of these resolutions, said it was fortunate for the shareholders in this and similar schemes, that an intervention had been carried on through the powers of this court. By this plan the directors proposed to realise a profit of 50,000*l.* by the refuse of towns, and this was to be done without any return or compensation whatever to the ratepayers. One of the companies proposed the abrogation of two main lines of sewers, through a district where the proportion of sewage matter was only as 1 to 500 of water, and this produce was to be applied to land already surcharged with water. The machinery, too, proposed for effecting this object was excessively expensive, as the estimated cost of one tunnel was 25,000*l.*, whereas it appeared, by the evidence of their own surveyors, that even this could be done at something less than 7,000*l.* The shareholders, therefore, ought to felicitate themselves on the stoppage thus given to wasteful expenditure.—Agreed to.

The clerk reported that, within the last month, the contributions for sewers in the Westminster division amounted to 576*l.* 15s., the largest sum ever received in a like period. He then presented the balance-sheet for the whole of the districts embraced in this commission, which was as follows:—

	Bal last Ct. £.	s.	d.	Cheques drawn £.	s.	d.	Bal rem £.	s.	d.
Westminster	2,420	5	1	1,495	1	2	925	4	9
Holborn & Finsbury	1,553	16	1	230	0	0	1,323	16	1
Tower Hamlets	9,497	14	1	410	0	0	9,087	14	1
Poplar	321	11	1	45	0	0	276	11	1
Surrey and Kent	2,402	7	1	1,331	8	2	1,070	18	11
Greenwich	91	9	3	23	15	0	67	14	3
Total balance							£12,751	19	2

A long memorial was presented from Mr. Stallwood, of Calthorpe-street, Gray's-Inn-road, charging the late Holborn and Finsbury Commissioners of Sewers, generally, with the grossest mal-administration of the funds of the public; and, in particular, with having, during the last thirty years, spent of that money no less a sum than 12,917*l.* *in tavern expenses alone*; that a silver breakfast service had also been purchased for the use of the commissioners out of the rate-payers' money; that the expense of collecting the sewer-rate was more than double that of the poor-rate; that the office expenses for the year ending 1846 were 2,450*l.*, besides several other charges of wasteful expenditure. The memorial concluded with a remark, that it was highly derogatory to the character of gentlemen to apply the moneys collected in many cases from the very poor to eating and drinking at the most expensive taverns; that a strict inquiry into the funds should be instituted, and the silver breakfast service sold for the benefit of the rate-payers.—Referred.

Mr. R. L. Jones presented a report from the district medical officers, on the disgraceful state of Holloway, which was referred to the surveyors.—The Hon. F. Byng, seeing the surveyors for the Surrey and Kent division present, wished to know why such foul and extensive open ditches at Dockhead had been allowed to exist so long.—Mr. Newman said it was a cesspool for a number of tenements, and was not a sewer or a ditch. The agent of the owner of the property had been frequently asked to cleanse it, and he had believed such had been done within two months. The Hon. F. Byng said he had seen it only a short time since, with filth in it six feet deep, and that for at least half a mile in length.

On the 16th the commissioners met again; but we must postpone our notice.

Miscellanea.

Quick Work at Drury-lane Theatre.—The transformation of our national theatre into a circus for French horse-riders was effected with much skill, under the direction of a practised architect in these matters, in a singularly short time. The pit has been covered over to the level of the stage, and a circle formed, partly on the stage and partly over the pit, while the rest of the stage, to a considerable extent backwards, is occupied by rising seats sufficient to contain a large audience, and an orchestra is constructed high up at the back, from under which the performers, bipeds and quadrupeds, enter the arena. The front of the dress-circle, against which the last row of spectators in the pit necessarily lean, is boarded up and covered with red cloth. Shoring to a considerable extent was of course required, under both stage and pit, yet the whole of the work was accomplished in the short space of *five days*, by Messrs. Soward and Son, of Tottenham-court-road. In cases of this sort, the architect is wholly in the hands of his builder: the main thing he has to do, after having arranged his plans, or rather *not* to do, is not to change his mind. Those who carry out his plans with energy deserve praise.

Improved Bell-hanging.—A short time since we noticed Parker's patent "annunciator" for hotels, mansions, &c., whereby only one bell is required, and the particular room is indicated by a number appearing on the face of the machine. It seems to be a very ingenious and efficient arrangement. In consequence of that notice we have received a letter from Lincoln, signed John Middleton, stating that he has been in the habit of effecting the same thing for a long time past, and pointing to the Palatine Hotel, Manchester, where his arrangement has been in operation for two years, and the Great Northern Hotel, Lincoln, where, in a short time, may be seen forty-four rooms, on two landings, all communicating with two bells. He says,—"I have no intention of patenting my method, and any person is at liberty to examine it, and either carry it out in its integrity or make such improvements as their ingenuity may suggest." At the Holt's Arms Inn, Birmingham, an electric telegraph has been established to supersede bell-ringing. The object is to avoid any trouble to the visitors who frequent the house in calling for refreshment, as indicated on the dial-plate. By turning a handle, which communicates with the wires, the party is enabled to order any refreshment he may require without troubling the servant, and can even request the appearance of the landlord or landlady, as may be requisite!

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the several artificers' works to be done in erecting the church of the Holy Trinity at Abbots' Leigh; for the erection of an additional wing to the Littlemore Asylum, near Oxford; a lock-up house at Sunnyside, near Hartlepool; a sea wall, 1,000 feet long, with an esplanade, at Ventnor; a stone bridge in Radnorshire; also for laying down footways and paved gutters of Rowley rag-stone at Bromsgrove; for flagging and curbing on footpaths at Bromsgrove; for warming and ventilating additions to Devon county prisons; for the execution of the whole work of a station-house, goods' shed, &c., at Annan, Scotland; and the formation of one and a-half mile of the Taff Vale railway (Rhondda branch); also forthwith for making a survey plan and valuation of the townships of West Dean, Monmouth union.

D'AUBIGNE'S IMPRESSION OF LONDON.—On approaching the capital (on the Dover Railway) my wondering eyes looked down from the carriage into innumerable narrow streets of small houses, all of uniform and mean appearance, blackened with coal-dust, and shrouded by a smoky atmosphere. Such is the gloomy avenue which leads to the delightful parks of the metropolis, its superb squares, magnificent bazaars, and rich palaces. What crowds in the streets, what bustle, what hurry! These carriages, public and private, almost as numerous as the foot-passengers; that dazzling display of every production of British industry and of the most distant lands; those forests of ships, motionless in their immense docks; the steam-boats, which, like a weaver's shuttle, incessantly ply up and down the Thames with inconceivable rapidity, taking up and setting down at every pier a fresh cargo of breathless passengers;—every thing you behold tells you that you are now in the capital of the commercial world. If the German feeds upon the ideal, the practical is the characteristic of Great Britain; I say Britain, because most of what I say of England is applicable to Scotland also. Reality, action, business, bear sway in the politics, the industry, the commerce, and, I will even say, in the religion of the English, yet this practical tendency which characterises England is not selfish, as might have been expected. The large scale on which the people work gives a certain scope and grandeur to the imagination. The habit which the English have of forming into parties, and of looking constantly at themselves as a nation, is opposed to a narrow selfishness; and a most elevated sentiment struggles with this vice in a large portion of the people. Perhaps one of the things that strikes a stranger most on his arrival in London is, not the nobility, but the common people: their strength, their energy, their quickness, their skill, their civility, and above all, their calmness and silence during their unceasing activity. They are all alive to what they are about, and they are clever at it: you can see this in the carriages, the ships, and especially the railroads. The skill with which an English coachman drives you through the streets of London, among thousands of vehicles, without ever jostling you, is inconceivable.

FALL OF RAILWAY ARCHES.—On Wednesday week, seven out of thirteen brick arches, forming part of a viaduct erecting at Manchester by the Lancashire and Yorkshire Railway Company, to connect the lines of that company with the London and North-Western line at Ardwick, gave way. Eight of the arches had been erected before the winter. The centres had been taken from six of the arches, when the seventh arch sprang upwards from the centre and fell, followed momentarily by the whole of the other six. The contractors are Messrs. Noel, Hemingway, and Co. The loss will be about 1,000*l*. The thickness of the masonry was half a brick less than that usually adopted for arches of the same kind, but the accident is attributed to want of scientific knowledge or judgment in the ballasting. On Saturday the entire viaduct over the river Nidd, at Knaresborough, which was nigh being completed, fell in with a tremendous crash. It consisted of four arches (the centres of which had not been removed), each 50 feet span and 80 feet high. The cause remains yet to be explained.

AN ARCHITECT'S OPINION OF THE WINDOW TAX.—At a late meeting in Reading, to petition against the light and health tax, already alluded to in our pages, Mr. W. Brown said:—To talk of taking the duty off glass and retaining the duty on windows, is a left-handed piece of legislation, and a complete putting the cart before the horse. It is not the glass that pays the duty—it is not the opening—it is the light that passes through the opening. It is a misnomer to call it a window tax: it is a light and air tax; not artificial light, but the light of nature—the pure, the holy light of heaven. That is the name by which it should always have been called, and then for very shame it would long since have been repealed. How, then, the taking the duty off glass can be a benefit when the very means are retained which prevents your using it, I am at a loss to imagine. It reminds me of the story of Tantalus holding out the prospect without the possibility of enjoyment. As to the effect the window tax has upon the construction and appearance of buildings I am perhaps better qualified, from a long extended practice as an architect, to form an opinion, than most here present, and I do not hesitate to say that its practical working in this respect is most injurious. Parties for whom I have prepared designs for the constructions of dwelling-houses on a small scale, have first of all inquired whether they were so arranged as to exclude the window duty; and although I have informed them that as few windows as possible consistent with health have been provided, but still more than the Act allows, the answer has been that they would not let if subject to the window duty, and with regret I have been compelled to exclude all light and air from those places which most require it, and where mephitic vapours are chiefly generated. In larger buildings the same question arises, and I have reluctantly sacrificed appearance and cheerfulness without, and healthiness within, to keep down the number of windows. It was this that first drew my attention to the baneful working of this Act—it was this that made me wage war against it. As to the inconvenience felt by those who reside in houses thus constructed, I can speak personally. And here, if you are careless of the matter yourselves, I would claim your attention on behalf of the women of England, who have no voice in the matter, but whose natural protectors you are. They, from their habits and avocations, spend much more of their time within doors than men generally do, and are therefore entitled to be fully supplied with light and air in the exercise of their domestic duties.

DRAINAGE OF THE METROPOLIS.—The following is the title of a bill about to be introduced into Parliament on the part of the Great London Drainage (late London Sewage) Company, by Mr. H. Drummond and Mr. B. Baldwin, viz.:—"A bill to afford means for effectually draining the metropolis; to preserve the Thames from the impurities at present passing into it, by diverting them into subterraneous main channel sewers, and to collect all the produce of the sewers for application to agricultural purposes." The preamble of the bill is to the following effect:—"Whereas it is expedient that powers should be granted for more effectually draining and cleansing the city of London, and the parts adjacent thereto, which lie within the limits hereinafter mentioned, and that provision should be made for interrupting and collecting the sewage water, sulliage, soil, and other refuse matters now discharged within the said limits, through the various sewers, drains, and culverts, into the river Thames, and for adapting and applying the same to the purposes of agriculture, whereby the health of the inhabitants of the metropolis will be greatly promoted, and a valuable manure produced." There are forty-two clauses in the bill.

TO TRANSFER ENGRAVINGS TO WHITE PAPER.—Place the engraving for a few seconds over iodine vapour. Dip a slip of white paper in a weak solution of starch, and when dry, in a weak solution of oil of vitriol. When dry, lay the slip upon the engraving, and place them for a few minutes under a press. The engraving will thus be reproduced in all its delicacy and finish. The iodine has the property of fixing on the black parts or ink of the engraving, and not on the white. This important discovery is yet in its infancy.

COMPETITIONS.—Plans are wanted for a new church in the parish of Edmonton: no specific terms; also designs for the Stonehouse Mechanics' Literary and Scientific Institution: no premiums, but the usual commission.

ANOINTMENT AND INDURATION OF PLASTER, STONE, CEMENT, AND PASTEBOARD.—A patent has been granted to Mr. William Hutchison, of Barnsbury-park, Middlesex, marble merchant, for a foreign method of rendering plaster, pasteboard, porous stone, and other substances, impervious to wet, frost, vermin, or other destructive agencies, and for mashing paper, rags, hemp, ropes, and even hay and straw, and preparing them into substances useful for sheet-roofing, pipes, tiles, &c. The plaster, porous stone, mashed hay, &c., are first shaped as may be desired, then perfectly dried, so as to be highly absorbent; then boiled in a mixture of rosin and oil, grease, &c., or pitch and coal tar, for a time, varying according to their thickness or bulk, and then dried again, and finished off by polishing, &c., according to the nature and purpose of the article. The absorbent mixture may be tinged with various mineral or vegetable colours, or the substance be prepared of a black or other dark colour, as with the pitch, &c. Chalk, alabaster, busts, and even soft and porous wood, may be also treated in the same way, but all must first be dried, so as to ring like metal, and be afterwards boiled in the unguent till it is thoroughly absorbed.

ILLUSTRATIONS OF "DOMBEY AND SON."—Messrs. Chapman and Hall have recently published four *portraits*, to accompany Mr. Dickens's admirable story of "Dombey and Son,"—namely, Alice, Edith, Florence, and Little Paul. They are drawn and partly engraved by Mr. Hablot Knight Browne (*Phiz*), and have very considerable merit. Every buyer of "Dombey" should add them to the volume.

INSTITUTION OF CIVIL ENGINEERS.—At a meeting on the 7th instant, the discussion upon Mr. Redman's paper, "On Dock Entrances," occupied the entire evening, so that no paper could be read. The speakers examined the merits and defects of the several dock entrances in the Thames and in other situations; and the general result appeared to be, that although the engineer must be guided by local circumstances, yet that in situations where the river was sufficiently wide and the position of the land permitted, an acute angle pointing up the stream was the best for docking vessels with the flood. That the reverse would be the best for undocking ships. In ordinary width of rivers, therefore, the end would be attained by forming a bay sufficiently deep to render the water still in front of the dock, the wing wall being so much splayed as virtually to give the directions up and down the stream, as circumstances required. Mr. Chubb exhibited an iron box for the transmission of money, bullion, &c., on railways.

DISCOVERY OF LEAD IN CUMBERLAND—PATIENT SEARCH REWARDED.—Recently a fine large vein of lead ore was discovered in the manor of Hartsop, Patterdale, of which the Earl of Lonsdale is lord. It was found by a poor man, a miner, named Hodgson, who, for upwards of twenty-five years, felt convinced that there was a vein in the manor, and who, from time to time during that long period, has searched, and, at last, found it, and who has been presented with a share of it, as a reward for the discovery. The ore is said to be of the best quality.

IRISH MARBLE.—The vessel *Victoria*, arrived in the river Thames from Galway, has brought, as a portion of her general cargo, the large quantity of fifty-three tons of marble, the produce of the county of Galway, Ireland.

CAMBRIDGE ARCHITECTURAL SOCIETY.—At a meeting held on Friday evening, March 3, a paper, communicated by the Rev. P. Freeman, Principal of Chichester Diocesan College, "On Proportion in ancient Gothic Architecture," was read by the rev. president. It was illustrated by numerous diagrams, and contained an examination of the theory propounded by Mr. W. P. Griffith, in his work on this subject, recently published, with an extension of its principles to the case of classical buildings. The president also read some interesting letters on the subject, which he had received from Mr. Dobson.

HAMMERSMITH UNION COMPETITION.—We understand that Mr. R. P. Browne's plan has been chosen as the best. The arrangement is nearly the same as in the Greenwich Union. Twenty-six sets of designs were sent in.

A SURVEYOR IS WANTED in a day or two for the Hereford Turnpike Trust, with a salary of 250*l.* to 300*l.* a year.

TENDERS

Delivered for a church and parsonage-house to be built at Penge, near Sydenham station:—

	Church.	House.
Kenat and Moon	£5,800	£1,590
Pritchard	5,224	1,680
R. Robinson	4,838	1,815
Curtis	4,572	1,629
Higgs	4,446	1,505
Myers	4,058	1,519

For baths, &c., for the establishment in St. Martin's-in-the-Fields:—

Bramah and Prestage	£2,290	0	0
Burbidge and Healy	2,219	19	10
Mather	1,656	12	4
Freeman Roe	1,551	0	0
Cottam and Halten	1,494	0	0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, March 20.—Institute of British Architects, 8 P.M.

TUESDAY, 21.—Institution of Civil Engineers, 8 P.M.

THURSDAY, 23.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY 24.—Archæological Association, 8½ P.M.: Architectural Association.

TO CORRESPONDENTS.

"*Half-Acre.*"—The letter contains no reason why the addition may not be made. Take proper advice.

"*Constant Reader.*"—Apply at the school, Somerset-house.

"*J. W.*"—There is a copy in the library of the Institute of Architects.

"*Old Subscriber.*"—We have not time to supply such individual information as he asks for.

Received.—"J. I." "Feltham," "H. B." "P. H. F." "S. S." (shall appear), "J. C." "J. F. W." "A. B. H." "J.T.W." "Novice." "H. B." "C. R." "W. R. D." "A Reader." "J. H." "Revue Generale de l'Architecture," No. 9, vol. 7. "People's Library of Science and Art," Nos. 1 and 2 (Blakelock), "Principles of Geometry, Mensuration, Land Surveying, &c." for schools, &c. By Thomas Tate. Longman and Co. "Second Report of Metropolitan Sanitary Commission."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

NOTICE to ARTISTS and MANUFACTURERS of the USEFUL and ORNAMENTAL ARTS, and to PATENTEES of NEW INVENTIONS, especially of WORKING MODELS which can be put in motion.—ROYAL POLYTECHNIC INSTITUTION, as originally established in 1838.—The Directors beg to acquaint the above parties that the Institution, during the present month of March, will RECEIVE DEPOSITS of WORKS of MERIT in cases of construction and exhibited with greatly increased advantage to the depositors. It is determined as far as may be practicable, that a separate table or class case, shall be appropriated to each Depositor who forwards illustrations of the process of his manufacture with his finished work. Parties will be furnished with full particulars at the Institution, 309, Regent-street; if by the metropolitan, from eleven to one o'clock.

The INSTITUTION will be RE-OPENED to the Public early in April next. R. I. LONGBOTTOM, Secretary.

GENERAL PRACTICAL SCHOOL OF ART, at the New Gallery, 79, Newman-street, Oxford-street; Mr J. M. LEIGH, Master. The above School is now open of a Morning, with Classes for Ladies and Gentlemen. Prospectuses, &c., may be obtained at the Gallery; and of Mr. R. W. HERMAN, Hon. Sec., 24, Green street, Grosvenor-square.

ESTIMATING BUILDERS' WORK.

MR. REID, Author of "The Young Surveyor's Preceptor," continues to give PRIVATE and CONFIDENTIAL INSTRUCTION in Measuring and Estimating every description of Builders' Work, and making out and Valuing Bills of Quantities. Mr. R. also takes a select number of Young Pupils to instruct in Drawing, Measuring, Estimating, and in making out Builders' Accounts, and qualifies them conditionally for Salary Clerks in Builders' and Surveyors' offices. Terms very moderate. 38, Red Lion-square, Holborn.

TO ARCHITECTS, -COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Backgrounds, Landscape, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield street, Oxford-street.

TO ARCHITECTS, BUILDERS, &c.

P. DOWLING, Modeller and Scagliola Manufacturer, begs leave to say that he continues to get his Work up in such a superior style, with low Prices, and with such expedition, that he is the recipient of patronage. Specimens to be seen at No. 19 Bruce-lane, in the following Capitals of the different Orders: Centre Flowers, Trusses, Consoles, Friezes, &c. &c.

P. D.'s style of Scagliola both in imitation of Marble, inlaid with a brilliant Polish, which produces an article superior to any yet offered to the public.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall, or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 83, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge-road the Grove, Southwark. At the above Works the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual.—The Trade supplied.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron. HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouth pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Flues, Oven-bars, Inside, Outside, and Ash pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c., all of the best description, at very moderate prices.—CAST-IRON UPSETS

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for Large Mansions, with patent appliances on scientific principles, which insure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

The fitting up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars.—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£1 6s.	£1 18s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Eligible do., at 5½d., and 6d. do.

Manufacturer of WOLFE'S ON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 9d. per inch. Registers, 6½d., 7d., 8d. per inch

Cottage Ranges, with Oven and Back Boiler, 2 ft., 38s.; 3 ft. 2 4in., 3 ft. 4, 4s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, Cast Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

5½.	6½.	8d.	10d.	1s. 4d.	1s. 10d per 1,000.
3d.	4d.	5d.	8d.	10d.	2s. 6d.

Best Sheet Floor Brads, 1s. per cwt. Best Patent Sash Line.
Best Town Glue 35s. Do. 30s. Arch, 32s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 56, Chancery-street, Finsbury-square. Lists of Prices had on application at the Warehouse, if by letter pre paid, inclosing postage stamp.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black-ground Registers, Kitchen Ranges, &c., &c.

Black Registers, from 6½ per in. and upwards.
Bright ditto, with Black and Bright Bars, 8½ per in. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright.—

4 ft.	3ft. 6 in.	4 ft.
£2.	£1. 15s.	£2. 5s.

All orders made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

R. FULKES, Wholesale Ironmonger, Stove and Range Manufacturer, 91, Park-street, Camden Town, London.

Best Cut Clasp Nails, 1s. per cwt.
Best Cut Lath Nails, 1s. 6d. per cwt.
Best 6-inch Mortice Locks, with large Brass Furniture complete, 2s. per dozen.
Best Patent Brass Patent Sash Pulleys, 3s. per dozen.
Best Butt Hinges, 2 in. 6d. in. and 3 in. 9d.

1s. 2d.	1s. 6d.	2s. 6d. per dozen pair.

Cabinet Stoves, 9d. per inch
Register Stoves, 8d. per inch
Best Self-acting Ranges, fitted complete—

3 ft.	3 ft. 6 in.	4 ft.
£2. 17s. 6d.	£2. 7s. 6d.	£3. 15s. 6d. each

Orders from the country, containing a remittance or Post-office order (made payable at the Camden Town Post-office), forwarded immediately.

TO BUILDERS AND CARPENTERS.

BURT and POTTS, York-street, Westminster, Wholesale and Retail Ironmongers, Smiths and Stove Manufacturers. Delivered free within five miles.

Cast Iron Rain-water Pipes—

2 in.	2½ in.	3 in.	3½ in.	4 in.
1s. 1d.	1s. 3d.	1s. 5d.	1s. 8d.	2s. 2d. per yard

Sheet Floor Brads, 1s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 7½d. and 7d. per inch, and upwards.
A variety of Best Black Ground and Bright Register Stoves.
Elliptic Stoves, with inside back, 9½d. per in.
Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£2.	£2. 5s.	£3. 15

Iron and Steel of every description

IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading from Baker-street, Portman square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:

Best Patent Cut Clasp.

4d.	6d	10d	20d.	per 1,000.
6d.	8d.	1s. 4d.	1s. 10d	"

Cast Butts.

2 in.	2½ in.	2¾ in.	3 in.	
11d.	1s. 3d	1s. 4d.	2s.	per doz

Also Best Patent Sash Line.

3	4	5	6	per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.	

Every other article equally reasonable.

Catalogues of Prices can be had on pre-paid application, inclosing postage stamps.—Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors.

SMITH and ENGLISH, ENGINEERS, BUILDERS, MACHINISTS, IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,

PRINCES-STREET, LEICESTER-SQUARE, LONDON.

CAST-IRON PIPES, for Gas, Water, or Drainage, 1¼ to 12 inches diameter, with every requisite connection. Lamp Columns and Sewer Grates of various patterns. Wrought-iron Tubing of an approved manufacture. In stock at KELLY and WHITE'S, Iron Wharf, 66, Bankside, London. Girders, Columns, and Castings of any description to pattern or drawing.

RAIN-WATER PIPES, Heads, Shoes, and Elbows. Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c. Gas and Water Pipes from 1¼ inch. to 12 in. in diameter, with Bends, Branches, Stopcocks, and Lamp Columns: also Hot water Pipes, with all the usual connections. A large stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

IRON FOUNDRY, 9, Brick-lane, Old-street, St Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Copings, Balcony Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cauldrons, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns, Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soil Door, particularly suitable for internal work, and perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen cord has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is already accommodated to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No 163, Fenchurch-street. W. T. ALLEN, Agent, or retail of G. and J. DEANE, 88, King William-street, and E. PARKS, 149, Fleet-street; also, of all respectable Ironmongers.



DR. ARNOTT'S CHIMNEY VENTILATOR.

E. EDWARDS, Stove Maker to her Majesty, 20, Poland street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. each. Sketch and prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

GRANT'S PATENT ROTARY WIND-GUARD, for the prevention of Down Draughts and cure of Smokey Chimneys, by discharging a Strong Current of Air at the Mouth of the Flue. The attention of the Public and the Trade is respectfully solicited to this simple Apparatus. The Patentees guarantee its effecting the purposes named. Let the wind flow from what quarter it may, it is said to be a derangement; can be easily and cheaply applied, and does not in any way interfere with the Sweeping the Chimney. —Manufactured by the Patentees, LAMBERT and GRANT, 21, Elizabeth-street, Eaton-square.





WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively, throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

In letters from the country to be addressed to Messrs Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

ELDRED'S ART EXPOSITION, for the Promotion of English Talent, for Manufactures and Commerce, 168, New Bond-street.—The intention is as far as possible that constantly shall be placed before the public all productions of British design and manufacture, justly shewing the great improvement that has lately been introduced into manufactures connected with the Fine Arts, and if these productions are appreciated and patronised, "Great Britain" may assume an Artistic station proportionate to her rank in Manufacturing skill.—London, adjoining the Clarendon.

LAMBETH POTTERY.

DOULTON AND WATTS, STONE POTTERS,
HIGH-STREET, LAMBETH, LONDON,

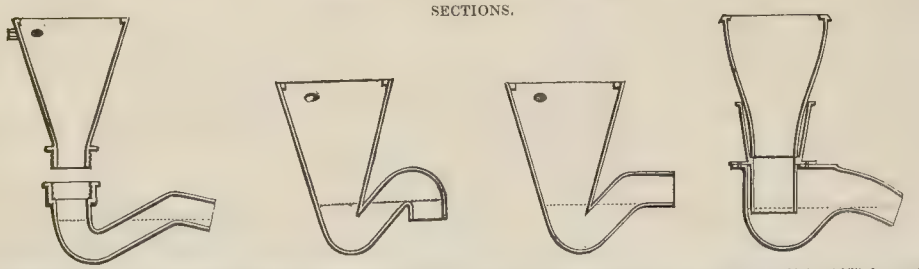
MANUFACTURERS OF CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE-WARE,

PRICE 7s. 6d. EACH.

No. 1. No. 2. No. 3. No. 4.



SECTIONS.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary enquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction: they are cleanly and imperishable; requiring no metal fixings; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4, is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

TUBULAR DRAINS IN GLAZED STONE WARE,

MANUFACTURED BY

HENRY DOULTON AND CO., POTTERS,
HIGH-STREET, LAMBETH.

The only perfect mode of forming house drains is by the use of GLAZED STONE WARE TUBES. The material of which they are composed is imperishable, impervious to moisture, and cannot corrode; they are easily laid down, and are now offered at such prices as to admit of their universal application. From their anti-corrosive nature these tubes are well adapted for the conveyance of water.



PRICES OF STRAIGHT TUBES WITH SOCKET JOINTS.

In 3 feet lengths.		In 2 feet lengths.				
2 in. bore, 4d.	3 in. 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per foot.

TESTIMONIALS

From MESSRS. ROE *and* PHILLIPS, *Surveyors to the New Metropolitan Commissioners of Sewers.*

DEAR SIR,—I would respectfully recommend the building profession generally, in uture to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.—I am, Dear Sir, yours truly,

JOHN PHILLIPS.

Mr. H. Doulton.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

JOHN ROE.

Mr. H. Doulton.

Extract from the Evidence of HENRY AUSTIN, Esq., *Consulting Engineer to the New Metropolitan Commission of Sewers.*

I believe that a very considerable part of the question of a perfect system of drainage of towns lies in the consideration of the best material to be used in the formation of drains and sewers, and that any attempt to found a general arrangement in construction of brick will retain many of the present errors. *The glazed pipes are to be preferred in every point of view.* From their even and glassy surface there is a great reduction of friction, and consequent increase of the flow with the same quantities of water which admits of their size being materially reduced. . . . With equal inclination they will keep themselves clearer of deposits, and consequently be free from the present offensive effluvia of the brick sewers and drains, and being perfectly impermeable, all soakage of the neighbouring ground is prevented, and foul emanations from this source obviated. . . . They would forbid the harbouring of rats, and no longer form the channel for the entrance of these disgusting vermin into our houses. . . . They would be much more quickly and economically laid than brick drains, and would afford security against much of the defective and careless construction which now characterizes drainage works. . . . They would require much less excavation both from diminished size and less thickness of material, and they could be laid in loose and treacherous soil, where brickwork would fail without great caution and expense. . . . The pipe drains would never want repair. They would be, in fact, of everlasting durability. The drain pipes of ancient Rome are at the present day perfect, although of far inferior material to vitrified glazed stone ware. . . . They would not only be far less expensive, but they would be what brick drains never can be, perfect in efficiency.

The Builder.

No. CCLXVIII.

SATURDAY, MARCH 25, 1848.

WRITERS on architectural history have never failed to dwell on the extraordinary activity displayed by the church builders of the mediæval period, and the great number of structures with which England was covered, almost as if by magic. "The land was as one vast workshop" has been echoed and re-echoed, and the strongest words used to impress this fact on their readers. An examination of what remains, scattered over our beautiful, and notwithstanding the income tax, still "merry England," shews that all our notions on this head, gained from these verbal statements, fall far short of the truth. Fanaticism, ignorance, and time have done their work with a vengeance; but still in the valley and on the hill,—in hamlet, village, town, and city, stand the beautiful monuments of the "dark ages," full of pleasant memories, beauty, and holiness. Misdirected zealots, penurious owners, improving churchwardens, and parish road-menders were beaten hollow and gave in, after a tough fight. To count those edifices which remain is still scarcely possible; many of them are yet not catalogued. But better times have come: the beauty of these structures, their value as works for imitation and as historical landmarks, are more fully recognized than they were, and will, it may be hoped, lead to their continued preservation.

Mr. Edmund Sharpe, in his work just now completed, under the title of "Architectural Parallels," intended to shew the progress of ecclesiastical architecture in England through the twelfth and thirteenth centuries, by means of a series of parallel examples,* affords a striking proof of the extent of our architectural riches. In this very admirable work, which claims from us the most prominent and emphatic notice that we can give, the illustrations embrace fourteen abbey churches of such great beauty and extent, that it might be supposed all England had been laid under contribution to produce them; yet on examination they are found to be, with two exceptions, all from one county, namely, Yorkshire.

A few words from the author's prospectus will best explain the nature of the undertaking:—

"As the design of this work is to exhibit, in the order in which they occurred, the *progressive changes* that took place in our national architecture during its most interesting periods, the subjects have been so selected as to present *parallel* instances of the manner in which the *same feature* was treated by the builders of different ages. Thus one portion of the work is devoted to the illustration of four or five interior compartments of the different churches selected, commencing from the earliest, in which so much of the building remains perfect, and descending to the latest; another portion to the illustration of four or five exterior compartments; a third to the transverse sections; a fourth to the east ends; two plates present the profiles of the different piers; others those of the capitals and bases, arch-mouldings, ribs, window-jambs, and so on. The perspective views are generally taken from the same points of view; and the details drawn, as far as is practicable, to the same scale. The whole work, therefore, comprises, as its title implies, a collection of such *parallels*.

The advantage of thus placing in juxtaposition and in chronological order the same parts of different buildings designed, as the abbey churches were, for the same purpose, and remaining, as they almost exclusively do, without subsequent alteration or addition, will at once be apparent to those who are interested in the study of ecclesiastical architecture."

The list comprises Fountains, Kirkstall, Byland, Whitby, Rievaulx, Netley, Tintern, St. Mary's at York, Bridlington, Guisborough, Selby and Howden; and these are fully set forth in 121 lithographic plates, in tinted outline, each 18 inches by 12 inches,—unusually large. They are capitally drawn, and make the details perfectly clear.

Great praise is due to Mr. Sharpe both for the idea and the way in which it is carried out. However interesting and valuable the illustration of the smaller buildings, such as parish churches are, as evincing frequently much ingenuity, originality, and good feeling, and often containing individual features of great beauty, it is in the larger conventual and cathedral churches that we are to look for the best record of the history of the art, and it is in these buildings, raised up for the same purpose, and remaining, as they almost exclusively do, in the condition they were in when desecrated, that we are to trace the progress of architecture. Departing from the practice of our day which is, to give the best and most obvious of many, rather than the whole of one,—to skim rather than dive,—our author has seized a speciality, and worked it thoroughly. Such a course is costly and laborious, and withal the buyers of such a book are necessarily fewer than of more general works: there is the greater reason, therefore, why the persons to whom such works are of real importance, should aid in rewarding those who have sufficient spirit, energy, and ability to produce them.

The plates may be put together in two ways, namely, first, keeping all the illustrations of each separate building together, and, secondly, arranging them in such a manner as "to present parallel examples of the manner in which the same feature was treated by the builders of different ages." The latter is the right way to make the collection fulfil its purpose, and when so arranged, an examination of it becomes most interesting and instructive.*

Those who are conversant with architecture will know, from the dates over which the work extends, that it embraces the transition from Norman (with the semicircular arch prevailing), the early English, the transition to Decorated, and the first examples of the latter style. The illustrations begin with Fountains and Kirkstall, where we find in a Norman nave the main arches which carry the clerestory pointed, all the other arches being semicircular, and ends with the magnificent east end of Howden, displaying the crocketted gables, traceried windows, and ornamental niches of the decorated style. The gradual progress is apparent. The thick walls and shallow buttresses of the Norman builders are seen to give place to thinner inclosures, with boldly-projecting buttresses where strength is needed. Narrow lancet-headed openings at first suffice for light and appearance; then three or five are gathered together under one embracing arch, the centre opening being elongated, the better to fill up the space so circumscribed. To lighten the spandrells thus left between the high central light and the lower lights on each side, openings are made in them, and the result is a three-light window, with an approach to tracery in the head. Later in the style (the early English) geometrical forms are introduced to diversify and strengthen the heads of windows, and imperceptibly lead to the beautiful flowing tracery which distinguishes the decorated period, the chief glories of which belong to the fourteenth century.

We shall hope to see similar parallel illustrations of the buildings of this latter style and of those of the perpendicular period, with their,—

> "branching roofs
> Self-poised, and scooped into a thousand cells,
> Where light and shade repose, where music dwells
> Lingering—and wandering on as loth to die,
> Like thoughts whose very sweetness yieldeth proof
> That they were born for immortality."

Mr. Sharpe's work is at present under a disadvantage, inasmuch as it has no letter-press. At the instance of several of his professional subscribers, the author has been induced to prepare for publication in a separate form, and as a supplement to the "Parallels," the full-sized drawings of the profiles of all the mouldings contained in the work, having their subordination, and the joints of the stonework marked upon them. He hopes, with reason, that this—the first work of the kind on such a subject, will be found to be a useful adjunct to the "Parallels," although not essential to the scheme of his work, the object of which is to present a general and comprehensive view of the architecture of the twelfth and thirteenth centuries, and its regular progress, rather than to supply the architect with a stock of promiscuous detail. Still, of these details it will be found to present a very valuable collection.

With this supplement the letter-press will appear in the shape of a separate volume, containing a detailed description of the buildings illustrated, and a general review of the progress of church architecture through the twelfth and thirteenth centuries. We shall then return to a consideration of the work; and, in the meantime, offer the warmest commendation and thanks to Mr. Sharpe, for the great service he has rendered to the art by the publication of this important and beautiful work.

ON THE ANCIENT BUDDHIST ARCHITECTURE OF INDIA*.

THE Dagobas, Stuphas, Chaityas, and Viharas, mentioned in the first part of my communication, are the four principal forms of Buddhist architecture, and the only ones it is necessary, or that I have time, to particularise. But I must now say a few words regarding the architectural forms and peculiarities of the buildings themselves.

First, then, with regard to the pillars. All pillars in India were originally square, and set up as such; the angles are then cut off at a certain height, so as to make them into octagons; the operation is again repeated, so as to make sixteen sides. Sometimes I have seen thirty-two introduced; but more often when this is attempted this division becomes circular, and remains so. Another peculiarity is the bracket capital, which is universal, and does not exist in any other style that I am aware of, though for trabeate architecture it is, I feel convinced, not only decoratively but constructively a great improvement in the mode adopted by the Egyptians or the abacus of the Greeks.

The entablatures are generally only repetitions of a wooden beam, serving as an archi-

* See p. 135 *ante*.

* "Architectural Parallels; or, the Progress of Ecclesiastical Architecture in England, through the Twelfth and Thirteenth Centuries, exhibited in a series of Parallel Examples, selected from various Abbey Churches." By Edmund Sharpe, M.A., Architect, Lancaster. London: John Van Voorst.

* The similarity of the general form and arrangement in buildings extending over a considerable period of time, and at the same time originality and beauty of the special differences, are very striking. The width of all the churches given, ranges between 60 feet and 70 feet: with only two or three exceptions, the extent of the transept, from north to south, is double the width of the church.

trave; and in the caves the whole wooden construction is generally repeated.

Another peculiarity is the entire absence of an arch of construction, not only in these Buddhist, but in all Hindoo buildings down to a very late period. When first I saw their curvilinear forms, and what I could not but think were discharging arches over all the openings, I felt convinced that the knowledge of the arch must have extended to this country at a very early period; further researches, however, have convinced me that such was not the case, but that they are all copies of curvilinear-roofed wooden buildings; indeed, in the oldest caves the wood used actually remains, as at Carli, though of course used only as an ornament; and in the modern caves we have identically the same forms repeated in the rock, but so minutely copied that even the mortices, dovetails, and pins of the carpentry are minutely copied. Even in the present day, after the long experience of the arch-building Mahometans, the Hindoos never willingly use an arch, though they frequently cut the faces of their stones in the forms of arches; and in some of the oldest Mahometan buildings it is quite curious to observe, where they employed Hindoo builders, how they constructed the large pointed arches their style required on their own horizontal principles. I have seen an arch 20 feet wide and 40 feet high so built. I need scarcely add, it is now very much crippled, and most of those around it have fallen in. Had the Hindoos had their own way, they would have laid one long stone-beam across the opening, which, constructively, would have been the best form; but the Moslems required their own pointed form; and as the rude warriors would not, or could not, be their own masons, they were obliged to put up with what their conquered subjects could do for them.

Another peculiarity, the last I shall mention, is the mode in which these caves are lighted. At first I was inclined to believe it was a peculiarity of cave architecture, and arose from the necessities of that mode of making temples; but now I am convinced that it was also used in the structural originals from which they were copied. In the Chaitya caves the whole light is introduced through one great semicircular or horse-shoe opening or window immediately over the entrance. To a person approaching the cave this is partially concealed, if it was not wholly so, by an external screen, which originally supported music-galleries, and was covered by woodwork and wooden ornaments. From its exposed situation this has in every instance perished, but the mortices and holes are almost sufficient to enable us to restore it. Sometimes, I have reason to believe, the space between the inner and outer screens is at least partially roofed, so that a votary approaching and entering the temple would always stand in comparative gloom and shade, when a strong flood of light would from some unseen opening be thrown from behind and above him on the altar and the priests that served it. Even now, in their denuded and ruined state, the effect is most magical; and when all the arrangements were complete, I am convinced it must have been the most artistic mode of introducing light hitherto invented.

One of the most perfect specimens of lighting is universally acknowledged to be the Pantheon at Rome; it has the advantage, like the caves, of having only one opening, and that high enough not to catch the eye; but it admits the rain, and, besides, the light is a wandering light, sometimes resting on one altar, sometimes on another, and often on the devotee himself, which it never should do.

Owing to the difficulty of managing such large openings in our northern climate with the means they had at their command, our mediæval architects missed this invention, and dispersed their openings almost equally over their buildings. For the display of painted glass they were right,—for white light this Indian one is a far better plan.

I mentioned above that if we are to look for synonyms for Indian architecture, it must be among similar races, speaking the same language and professing the same religion—not among the Coptic Egyptians, whose system and race differ so totally from that of the people we have just now been talking about. It would take long to enter fully into this subject, but there are one or two points I would like to bring to your notice, if only to shew the direction in which I conceive such researches should extend.

The first is the similarity of our own Stonehenge to the monuments I have just been describing. That building consisted originally of an outer circle of stone, about 100 feet in diameter, encompassing an inner choir, of a horse-shoe form; between these two is a circle of smaller stones of a different character, and within the inner circle a fourth of like nature; the great circles consisting of the usual Sarsen stones of the neighbourhood; the smaller circles are of porphyry, or indurated potstone, that must have come from Cornwall or some distant locality: and it must further be remarked, that while the two great circles are perfectly symmetrical and regular, these do not seem ever to have been completed, or to be symmetrical with themselves or the monument in which they are placed.

Beyond the outer circle, in front of the principal and the western entrances, are detached stones, either alone or in pairs, too distant to be shewn here.

When I first visited this monument, after my return from India, the whole appeared to me so clear and intelligible, on the supposition of its being a Buddhist monument, that I have in my own mind no doubt whatever of the fact, though it may not appear to others so clear as it does to myself.

The outer circle I take to be just such an inclosure as surrounds the tope at Sanchee, with its gateways and stambas; the inner I take to be a Buddhist choir, like that at Carli and everywhere else in India; the intermediate circles I take to be *danams*, or *donums*—gifts or offerings to the temple; and I should mention that, not only at Sanchee but elsewhere in India, almost every pillar of the circles bears a short inscription, importing that the column or pillar is the gift of so-and-so; as Samanerasa danam—the gift of Samanera; Dhamagaliksasa mata danam—the gift of the mother of Dhamagaliksa, &c.

According to the same theory, the detached stones in the avenues and opposite the gateways not only become intelligible but necessary; indeed, there is no point about it that does not appear to me intelligible at once.

It may be asked what proof have we that Buddhism ever reached these shores; and though I cannot enter into this question now, I may mention what I believe is scarcely doubted, that the Woden of the Scandinavians is the Buddha of the Indians, from whom our Wednesday takes its name; and that the religion extended to and existed in the North, from whence the Teutonic element of our population came, and if they brought their language, it is not to be wondered at that they brought their religion also.

Had I been wishing to illustrate this point only, I could have brought forward examples much more like Stonehenge than anything I have yet alluded to, for there exist in India rude circles of large stones which present no recognisable difference from those in this country, as well as the simple but elaborate circles such as that of Amrabati, to which I have above referred—but I merely mention it incidentally, and have not, therefore, thought it worth while to get any drawings for the purpose.

The other and last point to which I will allude does not strictly belong to Buddhist but to Jaina architecture, which, however, is only corrupt Buddhism, and so similar to it in many respects, that the difference is scarcely recognisable. It is their mode of forming domes, which is always done by placing eight pillars in the angles of a regular octagon; the angles are then cut off by additional architraves, so as to make a polygon of sixteen sides. Sometimes this operation is repeated, so as to reduce it to thirty-two; but in small domes, a sixteen-sided polygon is near enough a circle for all practical purposes; and the dome is raised on this by concentric layers of stones, laid in horizontal bands, projecting beyond one another till they come to a point.

The eight pillars, however, are never allowed to stand alone, but the plan is reduced to a square by the addition of one pillar at each angle, and, generally, the figure is further extended by the addition of two or of four pillars on each face, and again of two, and so on. By this means the building obtains a central point under the dome of great magnificence, which is approached by four aisles, broader than the others in the ratio of 10 to 7, or of the square to the hypothenuse of a right angled isosceles triangle, which, as far as my experience goes, is the most pleasing proportion yet hit upon. In Gothic buildings, when the centre aisle is twice as high as the side ones, the proportion 2 to 1 is more suitable, but here they are all of the same height, and, consequently, such a proportion would be unpleasing.

You will see that the arrangement is that adopted by Sir C. Wren, in his famous interior of St. Stephen's, Walbrook; and so far as he followed accidentally this Indian type, he was successful. The defects of that beautiful building arise from his not fully appreciating the elegancies to which the plan he was using might lead. His dome is too large—the walls parallel to the colonnades—and there is a want of harmony in the design between the different parts, which has often been remarked, and certainly hurts the general effect.

It is not, however, so much to refer to this, that I have alluded to this mode of building, but to point out the similarity that exists between this style and that of a tomb at Mylassa, in Asia Minor, which must be familiar to you all from the illustrations contained in the Ionian antiquities of the Dilettanti Society. So identical is it in construction and form with these Indian buildings, that if its details—which are Greek, or rather, Roman—were so time-worn as to be undistinguishable, had I found the building on the banks of the Ganges, instead of the shores of the Mediterranean, I would have sketched it without remarking that there was anything peculiar or unusual about it.

It may, perhaps, be suggested that I am going far to look for a similarity, which, like that of St. Stephen's, Walbrook, may be accidental; but this is not the case, for Mylassa is on the borders of Lycia, and the only buildings known which at all resemble those singular hog-backed tombs brought to light by Sir Charles Fellows, are a class of buildings common in India, but not such as I could easily have collected had I known of their existence when I was in that country. Indeed, all these chaitya caves are rock-cut copies of buildings, with curvilinear wooden roofs, exactly similar to those of these tombs, and about as far removed from direct imitation of their wooden originals as these are. A curvilinear form for a wooden roof is in itself so singular, that when we find it so prevalent in this country, I think we are entitled to guess, at least, at some similarity or common origin.

But what renders this view of the matter still more probable is the fact, that Mr. Sharpe, in his admirable "Essay on the Lycian Language," in the appendix to Sir C. Fellows' work, clearly proves that the language of the inscriptions on the Lycian monuments is Zend, or, at least, a dialect of Sanscrit, not further removed from the original tongue than the Pali, in which the inscriptions on these Indian monuments is written. When the subject is more fully investigated, I have no doubt but that it will be fully proved that we have, at these two extremes of Asia, similar buildings, erected by tribes of the race who, emanating from one common centre, spread over the whole ancient world, east and west, and are now the dominant race among mankind.

It is not by a hasty assumption of primæval antiquity, and of ill-defined generalisation of styles—which have no connection except both being equally ill understood—that we can arrive at any satisfactory conclusion on this subject,—but by carefully investigating similarities, such as those I have alluded to; and when this is done, I believe it will be found that architecture may be as usefully, and as extensively used to determine the affinities of races as language, and that the history of the world is written in most legible characters in the stone and mortar of its monuments. Viewed in this light, the study of architectural antiquity rises to a dignity it has not hitherto been able to assume. J. Fergusson.

Philosophy of Labour.—Elihu Burritt will lecture on this subject this (Friday) night at Exeter-hall.

SANITARY REMEDIES.

NATURE is the great sanitary reformer. *She* is continually ameliorating the condition of our race. Let us follow her dictates, and be free. It is not, however, so much my intention to dwell on sanitary evils as on sanitary remedies. And first, as to heating and ventilation: were these two single items adequately attended to, it would go far to alleviate a prodigious mass of discomfort and disease.

Houses are heated in most cases with open fires: occasionally by means of stoves, hot-water, or steam apparatus. I would propose, however, to substitute *ventilating* stoves or fire-places, inasmuch as they furnish us not merely with warm, but, at the same time, pure fresh air. Suppose we take a stove-grate, and arrange it so that the open air finds admission *below*, between the outside casing and the stove itself. This air thus heated escapes above, and pervades the apartment in every direction. *Thermometer*, or common valves, might be employed to regulate the draught, and the room would be both heated and ventilated, at once, by means of the open fire and heated air. In Flanders, these stove-grates sometimes combine a cooking apparatus; and it would be obviously practicable to add a hot chamber, very useful, in humble establishments, for drying or airing clothes. Arranged on the ventilating principle, stove-grates would prove invaluable in halls and passages; and while they diffused a warm, moist, genial atmosphere, would neutralize the chilling in-draught from doors and windows. In large abodes, a hot chamber surrounding a cockle or stove, could be placed in the basement story, and on the *ventilating principle*, would warm the passages throughout. It would be very possible, also, to lead tubes for hot-air direct therefrom to any given apartment. The hot chamber also, could be placed *under* the basement floor; superior, however, to the Roman hypocaust, by the introduction of pure fresh air. Hot chambers might be formed in connection with any kind of stove, from the stately porcelain of Dresden, to one of plain cast-iron. It would only need an interspace of some kind where the open air could be admitted, and when heated, let out again. A common kitchen fire would answer: hot-water and steam-pipes would also be obviously available.

Hot, foul air accumulates at the top of each apartment; all that is necessary is to let it escape. This, however is seldom done, whether in the lordly mansion or the humble hut. But foul air will not sufficiently escape unless more air supply its place. It has been already shewn how pure, fresh, warm air is to be obtained. This should gain admission into every room, over and under the door, through holes in the skirting, and even in the floor itself; as well from behind the chamber grate, if so arranged. The apertures at the ceiling may be into the chimney funnel itself, or into a collateral funnel, built up with the smoke conduit, one from each apartment, and terminating in a space beneath the roof, whence it could have proper vent through cowls, or louvres, constructed for the purpose. If the smoke funnel were preferred, the opening might be directly through the chimney-breast; but in any case it would look more sightly if led from the centre of the room, by means of a proper conduit, plaster-bedded between the joists, or in a hollow beam, or simply a tube attached beneath the ceiling. Among other advantages, the centre of the ceiling would prove most convenient for the funnel of a *ventilating lamp*; but let there be an opening, and of sufficient dimensions. An Arnott's valve, or a simple metal or porcelain tube, may be let into, or built into the chimney-breast. From 6 to 12 inches, varying with the size and uses of the apartment, would probably prove dimensions adequate for the purpose. All rooms, houses, palaces, shops, workshops, schools, factories, gaols, churches, should be adequately warmed, and ventilated,—in winter, by means of ventilating-stoves and foul air ducts; in summer, by free admission, night and day (due precautions being taken), of the uncontaminated open air.

It is just as necessary and desirable to light a house well as to heat and ventilate it. Animals of every description, human beings more especially, become at once deformed and diseased when long withdrawn from the vivifying influence of light. Government, in place of taxing windows, should, if anything, tax the absence of them. Houses should be so constructed as to let the light fall freely on, and permeate them in every direction.

Every human dwelling should be well provided with pure soft water, both hot and cold. In every sleeping-room there should be a bath, with the proper facilities for laying on and letting off the water. The hot-water tank might be beside the kitchen fire. If the walls of the tank were made double, and the interstices well stuffed with some non-conducting material, as pounded breeze or charcoal, the heat might be kept up both night and day. A tank might be indifferently constructed of wood, metal, slate, stone. A small steam-boiler built into one side the kitchen fire would quickly impart the requisite warmth. The water might be pumped up when needed, or otherwise laid on; in all cases, however, employing *packed* tubes for conveying it. I do not see why we should not obtain hot water from Artesian wells, not forgetting to employ packed tubes here also. The Artesian well at the Grenelle, in Paris, must lose a vast deal of its caloric from the absence of this precaution. It would prove, in my opinion, a good speculation were water companies to supply towns with hot water as well as cold. There is indeed no reason why the earth should not supply us with water hot as well as cold, any more, perhaps, than why mechanical attrition or compressed air should not keep us warm, the electric fluid light our streets and houses, convey our messages, set our clocks going, and possibly, also, perform some of our hard work.

But we must get rid of human excretions. Every dwelling should have the utmost facilities for purity and cleanliness. If water-closets be not sufficiently detached and ventilated, they poison the air of the habitations to which they are attached. A syphon valve appears to me to be much the best; and it would be desirable there should be a drip of solution of sulphate of iron, or chlorine and soda, or lime, by which stench would be cheaply and efficiently allayed. Water-closet pipes should be packed so as to guard against the frost. House-drains of glass, porcelain, or galvanised iron, should conduct into the main sewer, of similar materials and arrangement, only larger pipes—say 4 inches for the house-drains, and 12 for the street. It is most undesirable that feculence should find admittance into an *open* sewer; disastrous consequences must follow. *Close* street-drains should deliver their contents into fire-brick reservoirs, based on concrete and bonded in asphalte. Gutta-percha tubes and couplings would permit the contents to be pumped out, and chlorine or copperas in solution thrown in. On the banks of rivers boats could be employed to convey the refuse; elsewhere tumbrils.

There should be culverts or tunnels under every thoroughfare constructed of brickwork laid in asphalte, and based on concrete. They should have a flagged way on one or both sides, and be lofty enough to permit a man to pass. These culverts would occupy little more space than what is required for the present absurd and filthy sewer; and would suffice to convey not only sullage, but gas and water pipes. Durable in construction, they would cost little for repairs; and electric-telegraph, gas, and water, companies would probably pay handsomely for their use. The rain-water might be conveyed in a granite gutter six inches deep, at the base of the culvert; as for the drain and water pipes, they could be laid on suitable supports, stone, or metal. When such culverts were connected with rivers, as the Thames, liable to rise of tide, proper valves would guard against the intrusion of the waters.

Streets, lanes, alleys, courts, should be daily swept, and the filth at once removed: wire-web gratings, placed in syphon valves, would prevent the refuse gaining admission into the rain conduits. Roadways, streets, should be laid with lines of granite curb, say a foot over, and ten feet long, of which the four sides should be made to turn up in succession; the whole on a good thick bed of concrete. I would have a pair of these granite ways, one on each side of the street or road; the interspaces being of coarse gravel, laid in asphalte. Such an arrangement would probably last as long as the Appian way itself. It would be really cheap of construction considering its durability, the easy traction it would afford, the comparative exemption from dust, and saving of horse-power; advantages to which roads laid down on the system of McAdam cannot for a moment lay claim.

Human abodes should be invariably placed above the level of the soil; in Genoa and other Italian towns, many people it is said, will not consent to live on the ground-floor. At any rate, all direct communication should be cut off by asphalte or plaster of Paris on a concrete base. Houses, even the meanest, could be readily isolated, either at the time of their construction or afterwards. It is wrong to lay the joists of houses, were it the very poorest, directly over the soil, thus affording immediate admission to damp, stench, vermin. When asphalte ground-floors are employed, it will be requisite to place a flag at the fire-place. Asphalte is vastly better, at least in these cold regions, than stone, in basement floors. Our chill, and sometimes damp walls also, were better if covered with panelling, rendered fire proof, than left naked or decked with paper hangings, mere shreds.

Interments, whether in or out of towns, unless some fifteen feet deep, should be prohibited. I do not think public feeling in these countries would sanction casting the dead into pits, one for every day in the year, as practised at Naples, any more than raising a pyramid of human remains, or casting them into the sea. Any of these, however, would be far preferable to the present mode of burial. The sacred relics of humanity would no longer incur exposure, nor would the necessary processes of decomposition come into revolting proximity with animated existence. The whole difficulty in this important matter may, I conceive, be got rid of, by abandoning, at once and for ever, the practice of *superficial* interment. The Egyptians knew the secret some four thousand years ago, and we still con the lesson they have taught us in vain. In a word, I would construct receptacles of suitably large dimensions, covered or uncovered, in the soil, and lay the dead by thousands or tens of thousands in cavities, covering up each layer with fluid asphalte. These cities of the dead should be accessible to the public; they might be adorned with Doric columns; if underground, lighted and ventilated, with separate mausolea for those who wished it and chose to pay. As for the poor, they should be buried gratuitously. I can see no possible objection to this arrangement; it invades no religious or social prejudice; it secures the desired objects in the fullest sense of the words, while every rite that can bring comfort to the hearts of afflicted survivors could be fully attended to. Deserted quarries, as has, indeed, been done in Liverpool, might be rendered available; abandoned mines, also desert-tracks and mountain slopes. Dartmoor, Lancashire, or Cornwall, thanks to railways, would be readily accessible from London say, and the remains might be nightly or daily forwarded from any town, large or small, to their respective destinations. It might be for the railway interest to stir in this business; and it would certainly be for the interests of every one, that the present revolting, unhealthy, insufficient, and scandalous modes of interment were wholly discontinued.

Cholera, plague, fever, after all, are species of poisoning, almost if not entirely as much within human control, as poisoning by arsenic or corrosive sublimate. Preventive measures are just as efficient in one case as in the other. If the opinion of one who has paid this subject long and anxious consideration be of any weight, I would utter it as my most sincere conviction that the above-named diseases would have no power whatever over a community whose sanitary welfare was even tolerably provided for. The rich will look to themselves, but the poor and ignorant must be minded; they neither know nor care to look to themselves. Their dwellings should be entirely reconstructed: they are every where, at least as regards these kingdoms, a disgrace to civilization—nay, to common decency. I can speak from experience. I have been in the huts of the Africans, of the American Indians; I never saw the filth, the desolating, appalling, wretchedness that I have over and over witnessed in England, Ireland, Scotland. It would be a glorious aim for the noble profession of

architecture, to devise dwellings such as the working man *ought* to inhabit. The Legislature, public bodies, should provide places of healthy, innocent recreation, good for both soul and body, and accessible to the whole population; gratuitous baths, wash-houses, libraries, museums, parks, reading-rooms, gymnasia, concert-rooms — places, in short, where harmless, inexpensive, recreation might successfully enter the lists with debauchery and vice. God knows they would be better, cheaper, more efficient than jails, penitentiaries, panopticons, and patent drops; which, indeed, they would in time replace. Sanitary and moral reforms go together; and as a healthy, cheerful, well-lighted, well-regulated, abode is found cheaper and better, more conducive to health and happiness than one that reeks with dirt, disease, and immorality; so reading-rooms, museums, parks, and picture galleries would be found civilizers, cheaper and better than the silent cell, the gallows, and the scourge. H. M'CORMAC, M.D.

Belfast, March 5, 1848.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING was held on the 20th instant; when Mr. Eaton Hodgkinson was elected honorary member, and Mr. Thomas Penson and Mr. Edmund Sharpe, M.A., fellows. The honorary secretary announced the following as the subjects proposed for the medals:—

Her Majesty having been pleased to grant her gracious permission for the Royal Medal to be conferred on such distinguished architect or man of science, of any country, as may have designed or executed any building of high merit, or produced a work tending to promote or facilitate the knowledge of architecture, or the various branches of science connected therewith, the Council will in January, 1849, proceed to award the Royal Gold Medal to the *author of some literary publication connected with architecture.*

The silver medals of the Institute will be awarded—

1. To the best essay on the peculiar characteristics of the Palladian school of architecture, and a comparison and contrast of its elementary principles and details with those of ancient art.

2. On the best manner of covering the roofs and forming the flats and gutters of buildings; the nature of the several materials used in various parts of the country for these purposes; their most effectual and economical application; the inclination to be given to the different parts, and the other practical precautions to be adopted to prevent snow and rain from penetrating into the building.

"The Soane Medallion" to the best design for a building to serve as a national repository and museum for the illustration and exhibition of the productions of the industrial arts.

The successful competitor for this medal, if he go abroad, will be entitled to the sum of 50*l.* at the end of one year's absence, on sending satisfactory evidence of his progress and his studies.

Amongst the books presented were an essay, on "Cyclopean Walls" (*Kyklopischen Mauern.*) by Dr. Forchammer; parts of M. Daly's "*Révue Générale de l'Architecture,*" and of Mr. Fergusson's beautiful work on Indian architecture. The foreign secretary, in commenting on the donations, pointed attention to an article in the *Révue Générale*, complimentary to the Institute for not restricting the competition for the gold medal to this kingdom.

Allusion was made to the circumstance that all the impressions of Mr. Leitch's translation of Müller's "Ancient Art and its remains," (of which a copy was presented to the Institute at the last meeting), had been destroyed by fire.

Amongst the letters read, was one from Herr Lange, of Fülda, acknowledging the honour of his election, and setting forth several subjects on which he could afford information, especially the Carlovingian monuments (eighth and ninth century), of his neighbourhood, and a collection of terms in use amongst the workmen of the middle ages.

Mr. T. H. Wyatt then read a paper on the "History, Present Condition, and Proposed Restoration of Llandaff Cathedral," to which we shall refer hereafter.

In the course of a conversation which ensued, Mr. Donaldson objected to the appellation of "Early English," to the style it was used to signify, and thought the "dog-tooth" moulding should have a less absurd designation.—Mr. Chantrell was disposed to attribute the origin of this moulding to the plant *Gallium Cruciatum.*—Another member said the *botanical* was better than the *canine* origin, at all events, but neither was the right,—in which we fully agree.

THE ART-UNION OF LONDON AND THE BOARD OF TRADE.

WE have now before us, in a printed form, the whole of the correspondence between Mr. John Lefevre, on the part of the Lords of the Privy Council appointed for matters relating to trade, and Mr. Godwin, for the Council of the Art Union of London, relative to the mischievous interference of that board, who, in ignorantly risking the disorganization of this most important institution, are drawing upon themselves a responsibility of no trifling character. We have already laid before our readers the gist of the arguments on either side,* and shewn the invalidity of the right the board claim, and the evil of what they require, even if they had the right to do so.

Since then, their lordships, finding that the council would not propose any steps which they conscientiously believed would be injurious, have issued the following general regulations, to apply to a number of bodies (not recognising the difference made between them by the charter already granted to the Art-Union of London) and two additional "Bye-laws," as they please to term them, applying specially to the latter body:—

"REGULATION I.—That from and after the time named for this regulation to come into force, the selection, in the first instance, of works of art, to be afterwards distributed as prizes, shall be intrusted in each Art-Union to a committee, constituted in such manner as shall be decided on by the subscribers in each case.

II.—It is left to each Art-Union to decide for itself in what manner the works of art so selected by the committee shall be afterwards distributed among the prizeholders. The mode adopted is, however, in each, to be subject to the approval of the Board of Trade.

III.—The Committee of Selection, or other body intrusted with the office, is not to be required to choose the works of art from any particular gallery or exhibition.

IV.—The above regulations are not to be binding upon any Art-Union until the distribution of prizes for the year 1848 has taken place, and they are not to apply to that distribution.

V.—Any Art-Union desiring to effect gradual changes in its system or constitution, in order to bring it into harmony with that prescribed in these regulations, is at liberty to present a plan for that purpose to this board, and this board will, if it approve the plan, suspend the regulations as regards such Art-Union for a period of three or four years, as may be necessary.

VI.—Should the special circumstances of any Art-Union to which these rules are applicable render a modification of them expedient, my Lords will take the case of such Union into consideration on a proper representation being made.

VII.—This board does not, by issuing these regulations, waive its right of making such further rules as it may at any time think proper with respect to any of the Art-Unions to which these regulations apply."

These are the Bye-Laws:—

"I.—In the annual distribution of prizes for years 1849, 1850, and 1851 respectively, a certain proportion of the prizes distributed shall consist of pictures, drawings, sculpture, or other works of art, previously selected by a committee, appointed in such manner as a general meeting of the members of the society shall decide, or, in default of such appointment, by the council for the time being, or a committee thereof; and in the distribution for the year 1852, and in all subsequent distributions, the whole of the prizes distributed shall consist of works previously selected in manner aforesaid.

II.—The proportion of prizes to be previously selected in the years 1849, 1850, and 1851, and the mode of distributing the prizes so selected in those or any subsequent years, shall be decided by a general meeting of the members of the society, to be holden at least three months before the annual distribution for the year 1849, subject to the approval of the Board of Trade, or of any other Committee of the Privy Council to which the consideration of Art-Unions may at any time be referred."

Throughout the correspondence the council have very properly refused assent to the assumed right of the board to alter the constitution of the association. The Act of Parliament expressly refers to Art-Unions conducted on two recognised different principles, and legalises *both*. According to the Act of Parliament, a duly chartered Art-Union which distributes by lot to the members certain sums of money is legal, as well as one which distributes the works of art themselves, provided *only* that the money be expended in the purchase of works of art, and the society be carried on in good faith for the encouragement of the fine arts. Whereas the effect of the regulations ordered by their lordships is, in contravention of this, to declare that only *one description* of Art-Union shall be legal, a power which the council consider it their duty to deny. The necessity for this course is the greater, because of the intimation of *constant* interference on the part of their lordships conveyed in their last communication,—an interference which must have the effect of annoying and discouraging those by whom the association is conducted, and will tend unquestionably to its ultimate extinction. Mr. Lefevre, in his last letter, says:—"The functions which have been assigned to their lordships by her Majesty, under the Act of Parliament relating to Art-Unions, render it imperative upon them to *decide upon the principles* on which such societies should be conducted, in order to entitle them to the protection of the Legislature." This we entirely deny. The *only* function given to the board by the Act, in the case of a chartered body, is that of certifying to her Majesty any perversion of such an association from the purposes of the Act. Their lordships have nothing whatever to do with principles,—the Legislature has itself decided these.

Apart from the question of right, the council have set forth in their letters the reasons for objecting most strenuously to the alterations to the requirement of which the board at present confine themselves.

That each prizeholder should have the right of selecting for himself a work of art from the public exhibition was the fundamental law of the association when first established,—it being considered the most likely to induce large numbers of persons to join the association, and thus to become interested in the arts,—as tending to induce the largest expenditure on works of art,—as best calculated to lead to the education of the public in art, to prevent the influence of favouritism or individual bias in favour of particular classes of art to the injury of others, and in all respects to advance with the most certainty the great objects of the Art-Union of London.

The experience of eleven years has convinced them of the correctness of these views. The objections to this principle (small as opposed to its advantages) are becoming, as was to be expected, less every day, and by the time when, according to the orders of the board, all the prizes are to be selected by a Committee, will for the most part have disappeared.

The council have shewn in their communications to their lordships the great difficulties attending a selection by a committee,—the length of time that would be occupied to obtain the large number of works of art required,—which extra devotion could scarcely be looked for from an unpaid committee,—also the certain dissatisfaction it would give to prizeholders, the consequent decrease of subscribers, and the gradual decay of the association. We hope the council will yet succeed in making the evils of the desired change apparent to the Board of Trade, and that the latter will not persist in a course calculated to destroy an important educational institution. Artists should themselves take steps to strengthen the hands of the council, and aid in preventing what, if it occurred, they would have bitter cause to deplore.

* See p. 109 *ante*.

THE "GREAT BRITAIN."—At the meeting of the *Great Western* Steam-ship Company, at Bristol, last week, the expenses attending the recovery of the *Great Britain* was stated to amount, after deducting proceeds of the materials, to 12,670*l.* 14s. 1d. The estimates for restoring her to the condition she was in previously to her stranding were, for hull, masts, sails, cabins, boats, anchors, cables, &c., 15,886*l.* 5s.; machinery 5,808*l.*; total, 21,694*l.* 5s.

ST. PAUL'S CATHEDRAL, CALCUTTA.

FREEMASONS OF THE CHURCH.

March 14. Mr. French in the chair.—Mr. W. H. Rogers exhibited a drawing of an ancient crucifix in Lord Hastings' collection, with his lordship's permission, and directed the attention of members to it, on the ground of its peculiar decoration. The hon. secretary laid upon the table a German work containing 144 ornamental designs (*Kleines Ornamentenbuch*). Each plate has several suggestive designs of value to the carver, jeweller, &c.

Mr. J. W. Archer then read "A Memorial of the Chapel of the family of Cotton, at Lanwade, in Cambridgeshire," which embraced a detailed description of the monuments it contains, the manor-house, &c.

Mr. Stothard, with permission of the Rev. D. Wilson, M.A., Vicar of Islington, and son of the Bishop of Calcutta, submitted the following particulars of the rise and progress of St. Paul's Cathedral, Calcutta.

The site comprises seven acres, and was presented by the Hon. East India Company, in addition to a grant of 15,000*l.* towards the erection of the building. The estimated cost of the whole of the cathedral was 40,000*l.*, and the outlay has been about 50,000*l.* The bishop and his committee experienced great difficulty, owing to the distance of Calcutta from England, in obtaining the services of an experienced architect. The Governor-General of India calculated the probable expense attendant upon having an architect would be 14,400*l.* (!) presuming that his services would be wholly required for eight years. Their limited funds appeared an insuperable barrier to their progress, until Lieut.-Colonel Forbes, of the Bengal Engineers, who has acted as architect to all the principal buildings in Calcutta during the last twenty-five years (among which may be named the Mint), offered his services gratuitously, which were accepted, and he has been engaged in superintending the construction of the cathedral for eight years.

The style of architecture selected for the cathedral is Perpendicular, with several modifications to suit the climate. The tower and spire are after Norwich Cathedral, with improvements suggested by that of Canterbury, while most of the details, external and internal, are from York Minster. The building has been constructed with bricks of a peculiar kind, specially prepared for the purpose, and with dressings of Chunar stone, and well covered, inside and outside, with chunam, which takes a polish like marble. The limited means at the command of the committee would not allow of the entire use of stone.

The extreme length of the cathedral, including the buttresses, is 248 feet, the width 83 feet, and the height of the spire 206 feet. The funds precluded the possibility of a regular nave, consequently a western vestibule occupies its place, being 36 feet by 22 feet. The entrance by the western carriageway is 61 feet by 21 feet, and 15 feet high, over which is a library of the same dimensions and 35 feet high. There is a staircase in the western entrance leading to the western vestibule, in which are steps to the tower and library. Inside the building, under the lantern, a view is obtained of the entire length of the choir, 140 feet, with its east window; also the north and south transepts, each being 44 feet by 28 feet. In the north transept is placed the font, which is 8 feet 6 inches square. The view towards the west from under the lantern extends 100 feet (including the vestibule and covered carriage entrance), and displays the great west window. The choir is 127 feet by 61 feet, covered with an iron trussed roof 47 feet high. The chancel is 20 feet by 40 feet; which, with the middle aisle, is to be paved with the finest Italian marble. The choir will ultimately seat 1,000 persons, the stalls and pews about 400, the middle aisle about 100, the space between the altar and the pews about 200. It is proposed to remove the covered entrance and western vestibule, and add a nave to the building 150 feet by 61 feet.

The subject of the stained and painted glass in the large east window is the Crucifixion, painted by the late Sir B. West, P.R.A, and originally designed for St. George's Chapel, Windsor, in 1787; it cost 4,000*l.*, and was presented by the Queen.

The beautiful colossal statue of the late Bishop Heber, by Chantrey, has been placed in the north transept; it formerly stood in the open entrance of the old cathedral, where it was exposed to injury from the weather.

The following is a detailed account of some of the expenditure, viz.:—The cathedral, 39,894*l.*; the pulpit, communion-table, pews, stalls, chairs, and general internal fittings, 2,289*l.*; the clock, by Vulliamy, cost 675*l.* 10s.; five bells, 448*l.*; bell-frame, 231*l.* 18s. 3d.; great windows in the towers cost 971*l.* 17s.; organ, 1,500*l.*; the freight, package, and insurance of clock, bells, windows, and organ, cost 397*l.* 10s.

The whole edifice is not larger than many parish churches in this country, such as Saffron Waldron, Halifax, Southwell, and Manchester. In the Bodleian Library may be seen an alabaster model of the cathedral, executed in Italy, 5 feet long and 2 feet high; this was given to the University of Oxford by the Bishop. Although the building does not claim any pretensions to architectural proportions, and perhaps not to many strict architectural decorations, still in point of construction it may be creditable, especially as there were several difficulties to encounter: one of these existed with regard to the nature of the soil. One season was allowed for the works to settle before the roofs were put on; the settlement of the whole building during that period was 16 inches, which, it is said, was previously calculated upon by Colonel Forbes.*

It was announced that the Court of Common Council, upon the motion of Alderman Thompson, has ordered 20*l.* to be paid upon the completion of St. John's Gate.

* It seems distressing that 50,000*l.* should be spent upon a building, and that the utmost its friends can say of it is, that "in point of construction it may be creditable."

THE IMPROVEMENT OF GREAT GRIMSBY.

Great Grimsby, which was an important port in Saxon times, dates its privileges as a municipality and a Parliamentary borough from the mediæval ages, and which but for those privileges would long since have sunk into a mere fishing village, under the fostering assistance of a railway company, promises to become a great commercial city.

Nearer to the sea by some three hours in the day time and fair weather, by at least twelve hours at nightfall or in adverse winds, than the prosperous and limited docks and port of Hull, Grimsby, perfectly protected from bad weather, is about to be endowed with dock and warehouse accommodation on a large scale, and to become the terminus of railways, which will render transit to all parts of the kingdom easy and economical, thus breaking down the barrier and isolation which destroyed Great Grimsby's early greatness. The East Lincolnshire, and its parent trunk, the Great Northern, passing through Boston to Peterborough, will open up the choice of routes to the metropolis by the Eastern Counties or the London and North Western, while the Manchester, Sheffield, and Lincolnshire, with the assistance of the Midland, will, in less than twelve months, open out the way to Leeds and the clothing district—to Sheffield and the hardware district—to Manchester and the cotton district. Within two years, to receive the traffic of these lines, a dock of 32 acres will be completed, in addition to a dock of 17 acres, now existing and in full employment. Thus, for the first time, Lincolnshire, the most productive agricultural county in Britain, will be provided with a perfect system of communication to all parts of England and Scotland, and with a sea-port of the first class, capable of accommodating 1,200 vessels.

With such elements of future progress it happens that this ancient borough offers almost a clear field for improvement. A stone church, sadly patched and mangled with stucco and joiner's Gothic, is the only solid witness of Grimsby's departed grandeur. The town is composed of a few streets of brick houses, which a Brassey or a Peto would undertake to clear away in four and twenty hours.

The propriety of preparing for a rapid increase of wealth and population, with plans worthy of the age, was fairly touched upon by some of the speakers at an entertainment given by the mayor and corporation on the 1st inst., to celebrate the opening of the first railways into Grimsby.

Mr. John Fowler, engineer of the Sheffield and Lincolnshire, in the course of his speech, observed that, having now by the railways, the partial opening of which they were engaged in celebrating, and by the docks planned by Mr. Rendel, and rapidly advancing to completion under the care of Mr. Adam Smith, demonstrated the near approach of the greatness of Great Grimsby, he trusted that the inhabitants and the corporation would prepare to take advantage of the prosperity in store for them. That looking forward to the time when Grimsby would be the principal port of the Humber, and of those districts with which the railways that day opened would put them in close connection, and as such port, the site of a populous and important town—that they would lose no time in preparing, under the advice of competent parties, a large and comprehensive plan, for a new town, for spacious streets, for public buildings, for promenades; above all, for a complete system of sewerage and drainage. He did not recommend them to rush into any wild speculations, or unnecessary expenses, but to let every local alteration, addition, or professed improvement be carefully considered, with a view to the future, as well as the present, before it was undertaken.

Mr. S. Sidney, in the same strain, said that Grimsby, like *Dogberry*, had greatness thrust upon it; its true friends would desire to see it prepare to act in a manner accordant with its newly-acquired dignities. It fortunately happened that, without seeking foreign assistance, without danger of debt or taxation, the inhabitants of Grimsby had within their own power at once the machinery and the means for effecting local improvements. Right into the heart of the town, flanking on either hand the future and present docks, lay two tracks of land, amounting, as he had been informed, to 400 acres, the property of the corporation, at present merely pasture, but destined soon after the entire opening of the railways and the completion of the docks, to become building land of valuable description. For thirty-four acres of this land, the railway company had lately been adjudged to pay at the rate of 500*l.* an acre. An income of 5 per cent. on the whole property, at that value, would alone give a princely revenue towards valuable, healthful, and beautiful improvements; and then to distribute this, Great Grimsby had the advantage of municipal institutions, granted centuries ago, when one of the chief ports of the kingdom.

TREATMENT OF ARCHITECTS.

SOUTH STONEHAM UNION COMPETITION.

Sir,—I inclose you a letter received this morning, and my answer to it.—Yours, &c.
March 18. × ×

Southampton, 17th March, 1848.

Sir,—Your plan for the proposed new workhouse for the South Stoneham Union not having been accepted by the board of guardians, you will have the goodness to inform me the mode of conveyance by which you would wish the plan returned to you, and at the same time *inclose postage stamps to the amount of* 1*s. for porterage*.—I am, &c.
Alex F. Patterson.

Sir,—I beg to acknowledge the receipt of your letter, which I have forwarded to the editor of The Builder newspaper. Common *civility* would certainly require that, after taking the trouble and going to the expense of preparing a design for your approval, you should return the plans free of expense, without making a *profit* on the porterage from the railway station, and also should thank the architects for their trouble.—I am, &c.
× ×

A. F. Patterson, Esq., Solicitor.

Air-tight Drain Flap.—Mr. Doulton has registered a design for an air-tight drain-trap in glazed stone ware, which has the advantage of not permitting corrosion. It consists simply of a flap, ground quite flat and smooth, suspended at the end of a drain-pipe, which is furnished with an inclined flange, so that when the trap is not in action the valve rests upon its seat, and should be perfectly air tight.

ORNAMENTATION FROM NATURAL TYPES.



Fig. 1.—From Nature.



Fig. 2.—From Nature.

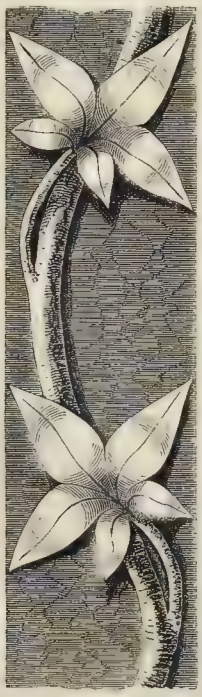


Fig. 3.—From a Door-jamb in Notre Dame de l'Epigne, France.

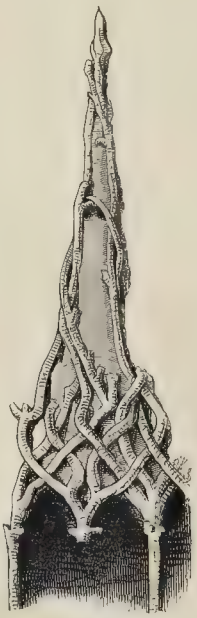


Fig. 4.—Stone Canopy in Worms Cathedral.



Fig. 5.—From Monument in Cathedral of St. Omer.

ORNAMENTATION FROM NATURAL TYPES.



Fig. 6.—Crocket, South Transept, Beauvais Cathedral.

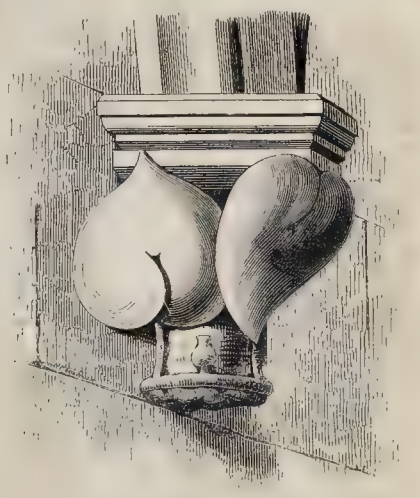


Fig. 7.—Corbel, Notre Dame de l'Epigne.

ORNAMENTATION FROM NATURAL TYPES.

We have on several occasions urged the advantage to ornamentists of recourse to nature for beautiful examples; in her abundant storehouse are to be found the types of all that, in a conventional form, we are in the habit of copying from previous works. *Natural objects geometrically disposed* might be made to produce for us a system of ornamentation copious, original, and beautiful.

At hazard, we have taken from a hedge-row two slips of the common hawthorn. Depicted in figures 1 and 2,—what a graceful element for ornamental combination it is seen to present.

It was from nature that the mediæval artists obtained their abundant variety, and they often went back to the pure source for fresh inspiration. The following examples from our sketch-book will illustrate the fact.

Fig. 3 is from the jamb of the south-transept doorway, in the church of Notre Dame de l'Epigne, near Chalons-sur-Marne, France. This edifice, we may mention, is a fine example of a large flamboyant church: the western front is very elaborate—the carving particularly beautiful. As is generally the case throughout France, the mouldings are very few compared with English examples, and consist for the most part of wreaths of foliage and ornaments, copied closely from nature.

Fig. 7 is a corbel, from the same church, wherein the leaf of the water-lily is used.

Fig. 4 is part of a canopy of stone over a monument, in Worms cathedral: it is copied from rustic woodwork.

Fig. 5 is from a mural monument in the south transept of the cathedral of St. Omer, France. It is painted and gilt, as are most of the monuments in this cathedral.

Fig. 6 is a crocket from the doorway in the south transept of Beauvais Cathedral: the portal generally has elaborate flamboyant decorations. The transepts (which are later than other parts of the cathedral) were commenced in 1500, by the architects, "Jean Waast" and "Martin Cambiches," and finished in 1555.

Exhibition of Art-Manufactures.—The exhibition of recent British manufactures at the Society of Arts, Adelphi, may be visited by tickets, which are obtainable, free, from any member, and at several places advertised. It will remain open till the 29th of next month.

NOTES IN THE PROVINCES.

The restoration of Dunstable Church, Beds, at an estimated cost of 6,200*l.*, on plans prepared by Mr. G. Somers Clarke, Architect, has been resolved on, and a committee appointed to appeal to the public for the necessary funds, under the patronage of the Duke of Bedford, the Bishop of the diocese, &c.——'A magistrate' explains, in the *Bedford Times*, that of the seven plans submitted to Colonel Jebb, the Government surveyor, for the improvement of the County gaol, and of the three selected from these, it had been found, that although Messrs. Wing and Jackson's was the one appointed for the premium, and was to cost only about 14,000*l.*, not more than 114 of the 150 cells provided for on that plan could be carried out on the separate system, whereas Mr. Smith's plan, with 154 cells, and to cost about 18,000*l.*, would not cost more than Messrs. Wing and Jackson's when altered or enlarged to an equal extent, and was otherwise preferred by Colonel Jebb and the magistrates, and that therefore Mr. Smith's plan had been decided on by the adjourned sessions without rescinding the vote as to the premium, and that the only question now remaining was, whether the selected plan should be at once adopted, or an entirely new gaol erected on a new site.——A site of 80 acres, in the parish of South Weald, for the Essex County Lunatic Asylum, has been purchased, at a cost of 8,000*l.*——A commodious assembly room is to be erected at St. Ives, at the expense of Mr. G. G. Day, on a guarantee of rent by a number of the inhabitants.——A Mariners' chapel and school is to be erected at Gloucester, so soon as subscriptions to a reasonable extent have been accumulated.——A fire, originating in a stove, near some pews, in Rock Ferry Church, Cheshire, lately broke out, destroying pews and injuring the property, besides blackening the walls and roof, before it was extinguished.——A Church, in the decorated Gothic style, with a lofty tower and spire, has been erected by the Unitarians at Gee Cross, Lancashire. The organ is to be placed on a carved oak screen, and the windows are to be filled with stained glass.——At Bradford, 500*l.* each have been contributed by a gentleman connected with the parish, towards the erection of two churches, with 2,500*l.* each, towards their endowment. The plans of one of them have been prepared.——The Snetzler organ in Beverley Minster has been re-opened with extensive additions by Messrs. Forster and Andrews. The red cloth complained of by a correspondent in The Builder has been removed.——St. Cuthbert's Church, Bensham, parish of Gateshead, was consecrated on 16th instant. The style is that of the latter part of twelfth century, designed by Mr. Dobson, architect, with a tower and spire. The body of the church is 92 feet; chancel, 22; height of edifice, 110; sittings, 600, one half free. Mr. Adamson, of Whickham was the builder, Mr. Dunn, of Gateshead, the carpenter, and Mr. Notman, of Newcastle, the upholsterer. The cost was about 2,000*l.*——Messrs. Scott, of Carlisle, have put up a stained-glass east window in the chancel of the new church at Aspatria, contributed chiefly by Mrs. Thompson, of Rose Castle, Mr. Clennel, of Brayton, the Rev. A. Salkeld, &c.——The foundation-stone of a new castle has been laid by Lady Londonderry, "with her own fair hand," on her maternal estate, in the county of Antrim, Ireland.

RAILWAY JOTTINGS.

A railway signal for passenger-carriages was registered in January last, by Mr. T. Edwards, of Cambridge, who has submitted the design of it to our inspection. It consists mainly of a red lamp, visible at night both in rear and in van, inserted into a red board for day signal, and affixed to a vertical rod which elevates it out of a box, below the level of the carriage roof, when actuated from within the several compartments of the carriage by aid of a friction pulley and cord, slide-rod and tube, secured to the roof-interior. A spring catch with a handle outside arrests the signal-rod when raised, and keeps it up until the handle is pulled back, when it falls into its place, with the lamp and board within the protecting-box. The *modus operandi* may be original, but the idea is by no means new; and however ingenious such signals may be, they are all defective unless some mode of personal access to the carriage be prepared for the guard, who *must* really be allowed to judge of the propriety of stopping a train, by something else than by the mere popping up of any signal, however skilfully invented, or however easily worked by every old woman of nervish temperament shut up in a railway carriage. As an adjunct, however, to the simple mode of converting a series of foot-boards, or a way

opened through the series of carriages, into a beat for the proper watchmen of the train—a mode which has stood the test of all possible or actual circumstances, foreseen or unforeseen, such as those which have occurred or been suggested ever since we first insisted on its general advantages—Mr. Edward's signal would perhaps be unobjectionable, and in this light alone we think it worthy of notice.——A patent has been taken out by Mr. Newton, for casting the whole of the iron wheels of a locomotive at once in a chill, so as to prevent unequal shrinking and fracture. This is to be effected by casting in a circular metal mould, the coldness of which chills and hardens the whole surface equally. The same difficulty, if we recollect right, was proposed, by a correspondent, to be overcome by help of an air blast on the red-hot metal, to *prevent* the unequal cooling.——An importation of nearly 400 bars of railway iron (one of several similar importations) has lately been made from the United States.——The Wye-bridge at Chepstow, on the Monmouth and Gloucester line, is to be of wood, and of the height of 50 feet from high water mark. The contract is taken, it is said, by a Bristol merchant, who has the frameworks already in a forward state. Mr. Robert Sharpe is proceeding with the embankment.——The strike of the stone-masons employed at Ashton, on the Manchester and Huddersfield, still continues, the reduction of 4d. and 6d. per day proposed by the company, who are their own contractors, being firmly resisted.——A large portion of another extensive viaduct has fallen—viz., one in course of erection at Fareham, on the Portsmouth branch of the South-Western line.——Another landslip, too, has occurred on the Edinburgh and Glasgow line, at the northern end of the viaduct across the Almond, and below the line, which is not one of those only now being tested for the first time by the destructive agencies of winter, as so many others have been, but a line now for six years consolidated and established.

SCOTCH CHURCH AND SCHOOLS, LITTLE RUSSELL STREET.

FEW of the thronging hundreds who constantly pass down Little Russell-street, Covent Garden, have seen the National Scotch Church in Crown-court, although it stands within a few feet of them. Until 1841, it presented nothing more than a brick wall with holes in it, but in that year Mr. R. Wallace, with *cement* and considerable skill, gave it a Norman façade, bringing the staircases outside, and making of them effective features. The church then occupied a site of 60 ft. by 30 ft. Recently very considerable additions have been made under the able direction of Mr. Roberts,—the length has been extended from 60 ft. to 90 ft., the same character being preserved, the timbers of the roof thrown open, and much additional accommodation provided to meet the large congregation which Dr. Cumming, the minister, has gathered round him.*

In connection with the church, a handsome school-house has been erected with its elevation in Little Russell-street, under the direction of the same architect. It is of the tudor character in three stories, with a central door on the ground-floor, which on Sundays will give entrance to the church, and a bay window with a smaller window at each side, on the first floor. The string beneath the latter is inscribed, "Crown Court Church Schools, 1848." Six hundred children will be accommodated, and we are given to understand that although connected with the Scotch Church, the building is intended to supply the wants of its very destitute and crowded neighbourhood, without reference to sects. The Government grant in aid of the building fund, has been requested, and teachers sought from the Normal schools in the Borough-road and Gray's-inn-lane.

* We must not omit to mention that a new sewer has been carried through the court, and the owner of every house forced to fill up the cesspools and remove the pumps by which the flowing nuisance was raised, once a week or oftener, and sent down the open court into Russell-street. This evil has been often laid before the Sewers' Commissioners, but in consequence of the obstinacy of the tenants, one of whom would not suffer it to pass under his house, it has only now been accomplished.

SUPERVISING ARCHITECTS.

SIR,—Your late observations on the doings of the "Church Building Society," in respect of the appointment of "supervising architects," will go greatly, and, as I opine, rapidly to the removal of that element in their constitution. Your late correspondent says, very properly, "architects, as a body, will not submit to such an infliction."

It incidentally fell within the range of my engagements last week, in a neighbouring county, to visit a village church which had lately been restored. In the course of the contemplated improvement, it occurred to a beneficent lady, to contribute very liberally towards an enlarged and improved feature, by the addition of a clerestory. The edifice had already so far advanced, that "to return were worse than to go on," and, therefore, the stone pillars, designed originally to carry the roof, were converted into springers for lancet arches of such superincumbent clerestory wall. In the progress of the works, by some accident in the construction of the scaffolding (and which, *en passant*, seems by no means unusual, if the Euston-square evidence have any truth), one of these pillars was driven slightly out of its vertical position, but not so much as to be in danger, or even to create the apprehension of danger, and the church was finished: whereupon, a "supervising architect" arrives, *secundum artem*, to report thereon, and ere he entered the sacred edifice, he pronounced its foundation unstable, and thence proceeding, he declared the pillars to be trembling under their load—the roofing to be ill-constructed—and the works altogether to be badly performed! Such a sentence, so hastily given in the absence of the incumbent, was not particularly Christian-like to the delicate constitution of the vicar's lady. However, on her venturing to say that the "church was founded upon a rock," this ingredient of his condemnation was obliterated from his record. This sweeping censure very naturally placed the excellent pastor, with the wardens, the committee, and the local architect, all on the *qui vive*. Other professional gentlemen were forthwith employed to report, and having thus obtained a multiplied favourable opinion, they waited with some complacency the visit of another "revising architect" from the metropolitan society. In this gentleman, who arrived during my sojourn, the employment had lost all novelty, his practised eye upon structural ingredients saw not the danger which affrighted his predecessor, and he at once confirmed the whole as to stability, skill of workmanship, and quality of material, notwithstanding he detailed the facts,—and hence there is some prospect of peace being restored in the parish.

Don't you think, Mr. Editor, this circumstance a severe satire on some of the appointments?—I am, Sir, &c.

CHARLES HERMSPRONG.

Nottingham Park, March 21, 1848.

ON THE FORM OF SEA WALLS.

INSTITUTION OF CIVIL ENGINEERS.

AT a meeting on the 14th inst., Mr. Joshua Field, president, in the chair, the paper read was "An Account of the Effect of the Storm of the 6th December, 1847, on four Sea Walls of different forms, on the coast near Edinburgh, as illustrating the Principles of the Construction of Sea Defences." By Mr. W. J. M. Rankine.

The principal example given was the sea wall of the Leith branch of the Edinburgh and Dalkeith Railway, finished in 1837, built by the author from Mr. Walker's design. Just after it was completed a violent storm occurred, which injured almost every similar work within its range, but produced no ill effect upon that structure. On the 6th December, 1847, a still more violent storm occurred, which did great damage all around; but the railway wall still escaped without injury. The total length of the wall was about 750 yards, its height was 13½ feet above the beach at the highest point, diminishing to about 6 feet at the ends. The height of the top was 4 feet above equinoctial spring tide level. Its least thickness was 5 feet, and its greatest 10 feet; the back was vertical, but the face had an inclination at the lower part of 5 inches in the foot, gradually becoming curved as it rose upwards, until at the top it overhung slightly. The foundation course was composed of large flat stones, laid horizontally, 4 feet below the surface of the beach, upon a stratum of fine sand and gravel, firm when dry, but moveable when wet. The face was of hammer-drest ashlar, about two feet thick; the back of rubble, 18 inches thick. The interior was filled with concrete. The coping was composed of stones each weighing about half a ton, connected by means of cast-iron dowels. The stone used was Craigleith sandstone. The face joints were laid in cement for a depth of 4 inches. The foundation was protected by a pitching of trap boulders, laid on the natural level of the beach. They were partially disturbed by the storm referred to, and the author ascribed this to their weight being insufficient to resist the vertical oscillation of the waves.

The second example was a vertical sea wall near Trinity, the foundation of which was protected by a dry stone bulwark, sloping at angles of from 30 deg. to 40 deg. The wall was uninjured by the storm, but the pitching was breached at several points. The third example was another wall near Trinity, of a hyperbolic section. The lower part had a slope built dry up to a little below high water mark; at this point there was a sharp curve, and the upper part was nearly vertical, and laid in mortar. The waves extracted the stones of the curved portion, and the upper part being undermined, was destroyed to a great extent. The last example was the bulwark of the Granton Railway, the lower part of which sloped at about 20 deg.; the upper portion was curved, and was covered by a heavy projecting string course and parapet. It was built dry, and the stones of the lower part weighed not less than half a ton each. This bulwark suffered damage to a slight extent in its upper portion.

These examples were stated to confirm the following principles:—That the principal action of the waves in front of a sea wall was a vertical oscillation, produced by the combination of the direct and the reflected waves: that a sloping bulwark gave rise to a sloping oscillation, tending to overturn any portion which projected above the line of slope: that where the strength of a sea wall depended on the pressure of the superincumbent masonry, and the adhesion of mortar and cement, the position of greatest stability was vertical:—and that where the strength depended on the weight of the individual stories, the position of greatest stability was a very flat slope. In the discussion which ensued, instances were adduced of the duration of vertical walls, under the attacks of heavy seas, and on the other hand of their destruction, when flat slopes had effectually resisted the waves: and it was agreed that in this as in all other cases of engineering, no empirical rules should be laid down, but that the skill of the engineer should be exerted to adopt such forms of construction as were best adapted to the locality and the circumstances.

THE SEWERS, THE THAMES, AND PUBLIC HEALTH.

*To the Right Hon. the Lord Mayor of London.**

MY LORD,—The present communication is addressed to your lordship, as conservator of the Thames, in consequence of the thorough conviction that the proceedings of the Metropolitan Sewers Commission are threatening us with the most imminent danger; and I beg to call your attention to the following facts:—

The law of 1535 enacted that any one conveying refuse matter into the Thames should forfeit 100 shillings—so desirous were our ancestors to preserve the noblest river in the land. Previous to our present house arrangement being introduced, the more offensive refuse could not flow into the sewers, and it is only during the last forty years that sulliage has been allowed to be passed into them. The expense and trouble to be incurred by these new house arrangements were considerable, it being necessary to come to terms with a road or paving and parochial trust, with a water company, and with the Commissioners of

* We insert the following that both sides may be heard.

Sewers. The expense and trouble thus to be incurred, and the doubtfulness of the benefit to be derived by a direct communication between a house and a sewer (?) have prevented the rapid introduction of a change of arrangement. One-half only of the houses in the City itself, and a far smaller quantity in the suburbs are drained into the sewers.

With this limited extent of house drainage, the sewers lying east and west of the City are termed "elongated cesspools;" and although the highness of the level of the city and the excellency of the sewers, exempt them from the term, yet the construction of flushing apparatus in the highest situations clearly proves that the refuse already passing into the City sewers does not flow naturally through them into the Thames. With respect to the Thames, it has to be remembered that the evidence received by the Sanitary Commission, and by them deemed so important as to be embodied in their first report, shews the immediate connection between the cholera and the mouths of sewers and rivers receiving the contents of sewers. At Carlisle, it is proved, for example, that cholera broke out near a mill, and raged down the dam-side, all the drains and sewers in that part of the town emptying themselves into the dam-race; few cases occurring in any other part of the town. Cholera appears to have generally in Europe followed the track of rivers and water-courses, and in cities and towns kept in a remarkable manner to the neighbourhood of sewer mouths. In Lancashire it manifested itself with peculiar virulence near the outlet of drains. At Liverpool one morning, it was discovered that several men had been seized with cholera on board a vessel lying in one of the docks. The men were sent to the hospital, and another ship, with a healthy crew, took her station. The next morning all the hands on board were ill of cholera. On examining the dock, it was found that a large sewer discharged its contents under the spot where the vessel was placed. In the metropolis it is proved that the cholera spread from Wapping along that side of the shore, including Limehouse; crossed to the opposite side of the river, namely, Rotherhithe and Bermondsey; it then attacked the lower parts of the borough of Lambeth; next the lower parts of Westminster; then it extended along the Fleet-ditch, and thence passed into the city. This confirms the statements which have frequently been made by competent authority, "that the atmosphere along the bank of the Thames is greatly vitiated by the dissipation of malaria." Dr. Hall, speaking of ventilation, asks very pointedly, "of what advantage is a stream of air bringing the filthy stenches of the Thames, and other rivers, into which our towns at present are drained; a most abominable contrivance, and one of the chief causes of typhus fever and other diseases." These are the consequences resulting from the drainage of perhaps one house in five into the sewers, taking the whole district within four miles of St. Paul's.

With all these facts before us, we hear every other week how much additional refuse has been flushed through the sewers. The sewer mouths being at low-water mark, the Thames can only receive the refuse at or near low-water mark,—a time when it is most objectionable and injurious to the public. It then first runs up the river, and as it afterwards returns, it is met by the fresh tide, to be washed backwards and forwards within a few miles of the city, vitiating the atmosphere and the water with which six out of the eight water companies supply the metropolis. If the house drainage be but as 1 in 5 (and this is admitted), then four times the quantity of refuse will be forced into the Thames by making house drainage compulsory. If the accumulation in cesspools be taken as averaging six years, then four-and-twenty times the quantity has to be forced into the Thames. On the 13th of January it appears "that 3,472 notices had been served for enforcing thorough drainage." Mr. Hosking, in a postscript to a late publication, has been endeavouring to arouse the attention of the public to the dangerous proceedings referred to.

The conviction and warning of a man so well acquainted with metropolitan building and drainage area, is well entitled to receive your Lordship's serious consideration; and when we have heard on the same day "that the offices of the Mendicity Society have been closed in consequence of the prevalence of typhus fever in the establishment; that one person had died from ulcerated bowels, traceable to the opening of a sewer near Thames-bank;" and that another person "had died from English cholera in forty-five minutes after being attacked;" then it does appear to be a duty to the public to make this appeal to your Lordship as Conservator of the Thames, and to call attention to the evidence referred to, respecting sewer mouths and rivers receiving the contents of sewers.—I have the honour to be, your Lordship's most obedient servant, J. J. Morewood.

London, March 16th.

CONSTRUCTION OF GRANARIES.

In the January number of the *Westminster Review*, the means of preserving corn is discussed, and the following remarks are made on the construction of granaries:—

"Three conditions are essential to the process of putrefaction; viz. heat, moisture, and still air. With wind, moisture is carried off; with cold, the decomposing process is checked, as may be seen by the carcasses of animals that lie through the winter in snowy mountains, and dry up to glue. Without air, every thing is locked up and remains *in statu quo*; as reptiles have been buried for ages in blocks of stone or ancient trees, and then resumed their vital functions, unchanged by time.

In direct opposition to these principles are the granaries of Great Britain and other countries constructed. Their site is generally the bank of a river, or the sea-side. They are built of many floors, at a vast expense. They are provided with many windows, each floor being the height of a man, yet not permitting more than twelve to fifteen inches depth of grain on each floor for fear of heating, unless in the case of very old samples. Men are continually employed to turn the grain over, to ventilate it, and clear out the vermin; and the weevil is naturalised in every crevice, as surely as bugs in neglected London beds, or cockroaches in West Indian sugar ships. It is the admission of air that permits this evil, that promotes germination, that permits the existence of rats and mice. *In the exclusion of air is to be found the remedy.*

The practicalization of this is neither difficult nor costly: on the contrary, close granaries might be constructed at far less proportional cost than the existing kind. They might be made under ground as well as above ground, in many cases better. They might be constructed of cast-iron, like gasometer tanks; or of brick and cement; or of brick and asphalte, like underground water-tanks. It is only required that they should be air-tight, and consequently water-tight. A single manhole at the top, similar to a steam-boiler, is all the opening required, with an air-tight cover. The air-pump has long ceased to be a philosophic toy, and has taken its place in the arts as a manufacturer's tool: and no difficulty would exist as to that portion of the mechanism. Now, if we suppose a large cast-iron or brick cylinder sunk in the earth, the bottom being conical, and the top domed over: an air-pump adjusted for exhausting the air, and an Archimedean screw pump to discharge the grain, we have the whole apparatus complete. If we provide for *wet* grain, a water-pump may be added, as to a leaky ship."

The advantages of air-tight chambers for many other purposes than the preservation of corn would be great. Gutta Percha would seem to afford the means for making the joints of openings, &c., air-tight, at small expense. Few people, however, think of adapting new materials. Routine enslaves us all. We cannot see beyond our noses.

Intramural Interment.—The committee of the metropolitan clergy, called to examine into a plan for establishing "Parochial burial-places," have made an important report on the subject, admitting the necessity of discontinuing interments within the metropolis.

Correspondence.

A QUERY.

Sir,—Will one of your correspondents favour me with a solution to the following question?

Query.—A church bell, with its appurtenances, weighing five tons, is to be supported in the middle by a beam, having a clear width between the bearings of 20 feet.

Required to know the best form of beam in either of the following materials, and which of these materials is best suited for the purpose, viz., English oak, Baltic timber, or cast-iron. X. Y. Z.

Yeovil.

Miscellanea.

Jones's Friction Hammer.—We have been favoured, says the *British Mirror*, with a sight of a novel machine which has just been completed, and is now at work at the Great Western Works, the invention of Mr. John Jones, manager of the works, who also invented the "Cambrian Engine." The machine is called a "Friction Hammer," and consists of frames of cast-iron, in which are vertical slides acting as guides to the hammer, and also supporting the machinery necessary for putting the hammer in motion. The hammer consists of a plane bar of flat wrought iron, so arranged as to work in the slides, and is raised by means of two vertical rollers turning in opposite directions, which are made to bear upon the bar by an exceedingly simple arrangement of levers. A slight pressure upon the handle of one lever raises the hammer to any height not exceeding 7 feet; the pressure being removed it falls by its own gravity; this lever is also arranged so as to stop the hammer in any part of its descent, should circumstances render it necessary. The friction rollers are put in motion by means of straps and pulleys, fly-wheels being also fitted on each strap. A double punching and shearing machine of great power, by the same inventor, has also just been completed at these works.

New Market-Hall at Lytham.—The foundation has been laid of a new market at the village of Lytham, near the mouth of the river Ribble in Lancashire. The market is 100 feet long, 36 feet wide within the walls, and 24 feet high to the inside of the apex of the roof. The exterior has in the centre a tower 17 feet square and 30 feet high, exclusive of a bell and clock turret above. In the centre is an archway formed by detached Tuscan columns and square pilasters rusticated by square blocks left rough; above is the entablature of the order, and an arch and keystone carved with a cornucopia, symbolic of plenty. Above is a string course, triple window, with circular heads and keystones, and above these a cornice of bold projection with cantilevers, &c. Out of the roof an octagon turret rises, containing a clock and bell. On each side of the centre tower, on the ground-floor, are four open arches. The ends have each three stone arches, the centre ones containing wooden doors, the side arches, windows rusticated. The building is of red brick, with moulded quoins; the plinths, imposts, keystones, columns, pilasters, &c., of stone. Mr. Charles Reed, of Liverpool, is the architect employed.

Assessment of Milton.—Sir: Noticing in your last week's Builder a statement to the effect that the parishes of Gravesend and Milton were about to be re-assessed, I beg to give you a list of the tenders which were delivered to the Board of Guardians for that purpose, by which you will see that the appellation "blind," which is sometimes applied by you to certain builders, may with equal propriety be attached to certain surveyors. The tenders were as follows:—

Messrs. Hubble and Gould, jun.	£250
Mr. Doule	224
Mr. Martyr	120
Mr. Tress	120
Messrs. Burr and Son	64

I may observe that these tenders were not for the assessment of *Gravesend* and Milton, but for that of Milton only; the number of assessments in which parish exceed 1,900!

Gravesend. Consistency.

Projected Works, &c.—Tenders have been called for by advertisement for the erection of a battery, &c. near Tilbury Fort; works at the Bedford County Prison; a ward at the West Ham Union Workhouse; a retort-house, chimney, coal and lime sheds, at the Monkgate Gas Works, York; three shops and dwelling-houses, in Silver-street, Hull; and also for a supply of 1,600 tons of chairs and 40,000 sleepers (separate tenders), for the Bristol and Birmingham division of the Midland Railway.

Recovery of District Surveyor's Fees.—At Guildhall, last week, Mr. G. A. Young, surveyor, came before the sitting magistrates to answer the complaint of Mr. Woodthorpe, the surveyor of the eastern district of the city of London, for neglecting to pay to him 2*l.* 2s., as his costs, pursuant to an award of the official referees. Mr. Young said he refused to pay this on the principle that those who endeavoured to serve the public ought not to be mulcted for their pains. In passing accidentally by America-square, he observed a house to be in a condition dangerous to the public, and he gave notice to the district surveyor of the fact. The surveyor thought the building safe, but he (defendant) still thought otherwise, and brought the matter under the notice of the official referees, having no personal interest in the matter at all, and interfering solely for the safety of the public. Mr. Woodthorpe said the case did not stand exactly as represented. Mr. Young would not have been asked to pay anything if he had not appealed against his decision. The surveyor for the owner of the house concurred with him that the building was safe, and so did the official referees; and as these four surveyors were of one opinion, the magistrates would believe Mr. Young was wrong, and had troubled them all unnecessarily. He had had eight attendances on the subject, and this might occur every day if it were not checked by ordering the payment of costs. He handed in the award to prove his case; and the magistrates, after referring to the statute, said their duty was only ministerial, to enforce payment of the award, without entering into its fairness or expediency. The fees must be paid. The district surveyor presented them to the poor-box.

Bishop's Palace, Hereford.—At a soirée given by the Hereford Literary and Antiquarian Society last week, amongst other communications, the dean exhibited a number of drawings and plans of the ancient Norman refectory at the episcopal palace, remarking that the present entrance hall is, in fact, nothing but the ancient refectory encased. He explained, at some length, the construction of the roof, and exhibited a portion of one of the semicircular arches, with two of the capitals, which were all apparently of oak. He remarked that the arch consisted of a torus between two fillets. The nail-head ornament was also used. He went on to observe that the plan of the hall was that of a central portion, separated by longitudinal arches from two aisles; the roof of the central hall being spanned by three semicircular arches. The effect must have been very striking, from the massive simplicity of the construction. He found that the hall was used as a refectory for the canons in residence; and a book which he held in his hand contained a great many curious items in the accounts, illustrative of the regulations under which the members of the cathedral body were at that period.

The Institute of Fine Arts.—A conversazione given by the Institute of Fine Arts, on Saturday last (18th) was very numerously attended: a good show of pictures and works of art occupied the walls and tables, and induced much pleasure and instructive chat. We should be glad to see a larger number of the elder members of the profession aiding in the progress of this institution, which would lead to the adoption of more extended views, and enable it to take a proper position. Even as it is, the exercise of energy and ability would greatly elevate its character.

New Houses of Parliament.—The commissioners appointed to superintend the building of the new Houses of Parliament are, Earl Grey, Mr. Greene, M.P., and Sir John Burgoyne.

Improvements in Galvanization of Metals.—Messrs. Morehead and Rogers have patented the use of alloys of zinc and tin, or zinc and lead, or all three, combined in certain cases with antimony (an electro-thermal antithesis to zinc, or a negative pole to it as the positive), in coating iron, whereby the protective power of the zinc is combined with certain other advantages, such as the obviation of its brittleness by aid of the tin, which is well known to coat iron without that tendency to scale off which zinc has manifested. The patentees have also protected various other improvements, such as the use of vapour of muriatic acid to dissolve the oxide generated on the iron surface, and the use of rollers plunged in a soft and not quite fluid bath of alloy, while the iron plates to be coated are pressed by the rollers during the process of coating.

Philosophy for the Working Classes.—The *Liverpool Mercury* very justly remarks, "Those who desire the stoppage of trade cannot do better than riot; those who desire increased taxation, impoverishing their employers, and thereby lessening work, will riot; those who desire severe government, restrictive laws, and legal bloodshedding will riot. But those who desire peace, and employment, and wages, and cheap food, will assist the middle classes in enforcing public economy and equal taxation, so that the limbs of industry may be free, and the fruits of industry may be enjoyed by all classes entitled to them."

Plugging Avoided.—The evils resulting from plugging in flues for skirting grounds, &c., often pointed out in our pages, have led a correspondent who signs himself "James Ivison," to suggest the manufacture of a brick with a dove-tail mortice in it to receive a plug formed in three pieces,—an ingenious notion deserving of consideration. He says, —"I need not tell you how strongly plugging in green work is to be deprecated, more especially in work no thicker than 9 inches; and as to wood bricks, they seldom or ever remain tight. The plug-brick could be made of coarse pottery or hard brick material, or when it did not interfere with the bonding of the work, stone could be used of any size, as in the north of England it is extensively used and worked cheap. The plugs could be fixed in with marine glue, and built in the wall as the work proceeds."

The Cylinder Railway Bridge over the Conway.—This novel and bold piece of iron construction, designed by Mr. Robert Stephenson for the passage of the Chester and Holyhead Railway, has been floated to its position and is ready for hoisting. Two or three weeks, however, will probably elapse before it is in its place. The tube or cylinder is made of wrought-iron plates, varying in thickness from ¼ inch to 1 inch, riveted together, strengthened by T irons; and, to give additional strength to the whole, a series of cells is formed at the top and at the bottom of the tube, between an inner ceiling and floor and the exterior plates. The upper cells, eight in number, in the transverse section, are nearly square, being 1 foot 9 inches high, and 1 foot 8¼ wide. The lower cells, six in number, are 2 feet 3½ inches wide, by 1 foot 9 inches high. The space between side and side of the tube, is 14 feet, and the height of the whole, inclusive of the cells, is 22 feet 3½ inches at the ends, and 25 feet 6 inches at the centre. The total length of the tube is 412 feet. One end of the tube will be fixed to the masonry of the pier, but the other end will be so arranged as to allow for the expansion of the metal by the action of atmospheric variations, and will, therefore, rest upon eleven rollers of iron, running on a bed of plate; and, that the whole weight of the tube may not be carried by these rollers, six girders are carried over the tube and riveted to the upper parts of the sides of the tube; and these side portions rest upon twelve balls of gun-metal running in grooves, which are fixed to iron beams let into the masonry.* The whole weight of the cylinder is stated to be 1,300 tons: two hydraulic rams of great power will be used to raise it. Its unmitigated ugliness is much to be deplored.

* The "Illustrated News" of March 11th, contains several views of the bridge, and diagrams shewing the construction.

The Dee Bridge.—From a conversation which took place in the House of Commons a few evenings since, it would appear that one of the remaining girders of the bridge had been cracked by a workman driving a pin into it with a four-pound hammer, and that some consternation had been excited. Mr. Strutt said he was enabled to state that, though there was no danger to the public in consequence of that crack, it was the immediate intention of the Company to remove the girder and replace it with a sound one. Precautions had in the meantime been taken by the Railway Commissioners that so long as the structure remained temporary it should be visited from time to time, and that if anything was seen likely to create alarm, or in any way inconsistent with the public safety, measures should be taken to provide against such a contingency, and a report made to the commissioners thereon.

The Liverpool Stonemasons and their Employers have had a misunderstanding as to the terms of an alleged mutual resolution, formally entered into between them in November last, whereby it is said to have been agreed that, while a reduction of wages to 27s. a week should then be submitted to by the men, a return to the previous rate would be made by the masters on 1st March, 1848. Some of the masters, however, as the workmen now complain, have refused to fulfil the latter terms of their mutual resolution, and a partial strike is the unfortunate result.

A Subscription for behoof of the unfortunate English, Irish, and Scottish workmen, to whom their fellow-workers in France have given "French leave" to quit the fraternal dominion of the Republic, has been opened by Her Majesty and the Prince Consort, with the sum of 200*l.* Messrs. Herries and Farquhar are the bankers to the Committee. The Provisional Government of France (quite unnecessarily, we imagine,) have warned all *foreign* workmen that they need not expect to reap any benefit by the grand schemes about to be carried out for behoof of the Parisian and other French operatives. They might at same time, however, have intimated that the savings and wages of those who have been expelled so summarily without either, would not be included under the equally grand schemes of confiscation already carried out in the suspension of savings and other bank payments in cash, by means of which so many of these poor people have already suffered, and are likely yet to suffer.

The Baths and Washhouses in George-street, Euston-square, since opening in August, 1846, have been attended by 179,000 bathers, and 56,237 washers, &c., of nearly 2,000,000 articles. The receipts for five weeks ending 12th inst. were 154*l.* 14s. 4d.; expenses, 119*l.* 5s. 7d.; profit, 35*l.* 8s. 9d.; donations, 60*l.*—reducing the building debt, of 815*l.* only now remaining and in rapid course of payment.

Gas in Marylebone.—Resolutions in favour of the admission of the Western Gas Company into the parish have been ultimately confirmed by a majority of 58 to 27 opposed to them. "The vestry was again densely crowded by the members, as was also the gallery by the rate-payers." One of the speakers, Mr. Glasier, in considering the reasonable prospect of benefit to the Western Company by allowing it to compete with the Imperial, reminded the meeting that "the Imperial were in the habit of paying 6 per cent., *and* 3 *per cent. bonus*, and that they had a reserve fund of 200,000*l.*" The Western, he observed, had recently expended 40,000*l.* in their works.

The New National Gallery.—A subscriber says,—I have reason to believe it is the intention to erect houses on the area occupied by Leicester-square. Before such an opportunity is entirely lost, might it not be suggested to secure so eligible, and central, a site for a National Gallery, and render it a building an ornament to the country, and appropriate to its purpose. A grand quadrangular edifice might be formed in every respect suited to such a purpose.

Petitions against the Patent Laws.—We understand that petitions, praying for a reformation of the great abuses which at present exist in the patent laws, are in course of signature. Reformation is greatly needed.

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, March 28.—Institution of Civil Engineers, 8 P.M.

THURSDAY, 30.—Society of Antiquaries, 8 P.M.

TO CORRESPONDENTS.

Received.—"J. R." (Red Lion-square), "W. N.," "H. B.," "H.," "H. W. B.," "J. F. W.," "F. S.," Kent (Thanks), "T. O. M.," "P. H. F.," Stroud (If not inconvenient, we should leave the area open), "R. C." (Take proper advice), "W. N." (Mr. Grissell is the contractor: time is necessarily uncertain); "C. H." Nottingham (next week); "R. S." (No); "W. P. A." (The numbers may be had), "T. G." (Ditto). "Studies from old English Mansions, Fourth Series; their Furniture, &c." by C. J. Richardson, F. S. A.: McLean, Haymarket. "The Baronial and Ecclesiastical Antiquities of Scotland," by R. W. Billings and W. Burn: Blackwood and Sons—Part XII. Mr. Phillips's "Report on Sanitary State of Marylebone."

"*G. J. K.*"—Now too late.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

ARCHITECTURAL COLOURING and PERSPECTIVE Established 1835.—CLASSES for the above, on Mondays and Thursdays, are instructed at 69, Johnstreet, Fitzroy-square, by Mr. RAWLINS, Teacher of the same at St. Mark's College, Chelsea.—Terms, for the full Perspective Course, Two Guineas.—Exhibition Drawings, &c., prepared.

TO STONE-MASONS

A SMITH and BUILDER'S IRONMONGER, who requires some Stone-work Erecting, would be glad to meet with a Stone-mason who would take Smiths-work or general Ironmongery in return, at AGREED PRICES on both sides. As the stone-work required would come to several hundred pounds, this would be found an advantageous opportunity to any mason who may have buildings now erecting.—Application to be made, by letter only, pre paid, with real name and address, to A. Z., Glascott's Metal Warehouse, 90, Brownlow-street, Drurylane.

BUILDERS and Others desirous of embarking in a BUILDING SPECULATION, are invited to inspect a plot of Freehold Land, containing about five acres, situate at EAST BOURNE, in SUSSEX. The land will be let on Building-lease (with powers of redemption), in plots. It is most desirably situated on the Cliff, and adjoining to the Sea-houses; the soil is dry, and the supply of water ample; brick-earth and stone are on the spot. The Railway is fast approaching completion, and the Station will be within a quarter of a mile of the Land now offered.—Plans may be seen, and all particulars known, by applying either to Messrs. SIMPSON, 29, Saville-row, London, or to Mr. JAMES BERRY, Architect, Lewes.

TO BUILDERS, PAINTERS, AND OTHERS

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road
*** An Apprentice wanted.

WEST of LONDON and WESTMINSTER CEMETERY, Old Brompton and Fulham-road, 2 miles only from Piccadilly. Consecrated by the Bishop of London in 1840. The public are invited to inspect the Cemetery, which is open daily, for interments, from Eight o'clock in the morning until sunset. Tables of charges, and other particulars, may be obtained at the office, 183, Piccadilly.
A portion of the ground is unconsecrated.
JOHN H. RUDDICK, Secretary.

PAPER-HANGINGS.—Builders and the Trade are respectfully invited to inspect the immense STOCK of PAPER-HANGINGS always on hand at MURRELL'S Paper hanging Warehouse, 264, High Holborn, near Lincoln's-Inn fields, and also at the Manufactory, 14, Cannon-street-road, St. George's East, which consist of every design and quality suitable for every class of dwelling, and at astonishing low prices, as an inspection will prove. Bed-room papers from ½d. per yard. Please observe the address, 264, High Holborn.

PAPER-HANGINGS, CHEAPEST IN LONDON. — Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 9d. per piece; Satins, 9d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.
W. CROSBY, 22, Lowther Arcade, Charing Cross.

THE FRENCH REVOLUTION and FRENCH PAPER-HANGINGS.
Messrs. MARKS and Co. beg to inform the Trade that the greatest tranquillity exists at present in all the Paper hanging Fabryques; that their new Spring Stock, embracing every novelty, is at the warehouse, at the lowest Paris prices with the duty. Also a number of expressly-made original designs, printed here, free of duty, at prices varying from 8d. to 3s. per piece of twelve yards long.
89, Princes-street, Leicester square.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose, where may be kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had the large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford street.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 30,000 are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS. — The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are leading to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs. G. and J. DEANE fit up single apartments or houses on true scientific principles, and in the most artistic style; and as every thing is got up in their own workshops, G. and J. DEANE can engage for the strictest punctuality and the most possible charges.—N.B. Plans and estimates prepared.—GEORGE and JOHN DEANE, Gas-fitters, opening to the Monument, 46, King William-street, London-bridge.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £150,000, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.
N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

SMITH and ENGLISH,
ENGINEERS, BUILDERS, MACHINISTS,
IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,
PRINCES-STREET, LEICESTER-SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old- street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.
Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c. &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6d per in and upwards.
Bright ditto with Black and Bright Bars, 2l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3ft. 6 in.	4 ft.
2l. 3s.	2l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 18s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 9d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—
Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 42s.; 3 ft. 4 44s.; 3 ft. 6, 48s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	1l. 4d.	1s. 10d. per 1,000.
3d.	4d.	6d.	8d.	10d.	2s. 6d.

Best Sheet Floor Brads 14s. per cwt. 2d. per inch. Fancy.
Best Town Glue 38s. per cwt. Do. Scotch, 52s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
3	4	5	6	8	

At P. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.
*** Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading from Baker-street, Portman square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:

Best Patent Cut Clasp

4d.	6d.	10d.	20d. per 1,000.
6d.	8d.	1s. 4d.	1s. 10d. "

Cast Butts.

2 in.	2½ in.	2¾ in.	3 in.
11d.	1s. 3d.	1s. 4d.	2s. per doz

Also Best Patent Sash Line

3	4	5	6	per doz. knots.
6s. 6d.	7s 6d.	10s.	12s.	

Every other article equally reasonable.
Catalogues of Prices may be had on personal application, including postage stamps.—Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.
JOHN and EDWIN YOUNG, Proprietors.

TO BUILDERS AND CARPENTERS.

BURT and POTTS, York-street, West- minster, Wholesale and Retail Ironmongers, Smiths and Stove Grate Manufacturers. Delivered free within five miles.
Cast Iron Rain-water Pipe:

2 in.	2½ in.	3 in.	3½ in.	4 in.
1s 1d.	1s 3d.	1s. 5d.	1s. 9d.	2s. 2d. per yard.

Sheet Floor Brads, 14s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.
A variety of Best Black Ground and Bright Register Stoves.
Elliptic Stoves, with inside back, 3d. per in.
Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£3.	£3. 15s.	£3 15.

Iron and Steel of every description.

R. FULKES, Wholesale Ironmonger, Stove and Range Manufacturer, 91, Park-street, Camden Town, London.
Best Cut Clasp Nails, 10s. per cwt.
Best Cast Lath Nails, 11s. 6d. per cwt.
Best 6-inch Mortice Locks, with large Brass Furniture.
Fitted with Duces' Patent Spindles, 36s. per dozen.
Best Butt Hinges, 2 in. 2½ in. and 3 in.

1s. 6d.	1s. 6d.	2s. 6d. per dozen pair.

Elliptic Stoves, 3d. per inch
Register Stoves, 6d. per inch.
Best Self-acting Ranges, fitted complete -

3 ft.	3 ft. 6 in.	4 ft.
2l. 17s. 6d.	3l. 7s. 6d.	3l. 15s. 0d. each.

Orders from the country, containing a remittance or Post-office order (made payable at the Camden Town Post-office), forwarded same day.

CAST-IRON PIPES, for Gas, Water, or Drainage, 1½ to 18 inches diameter, with every requisite connection. Lamp Columns and Sewer Grates of various patterns. Wrought-iron Tubing of an approved manufacture. In stock at KELLY and WHITE'S, Iron Wharf, 66, Bankside, London.
Girders, Columns, and Castings of any description to pattern or drawing.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA- RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

By Her Majesty's — Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 30a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

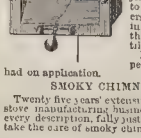
VENTILATION. — FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater and increased facilities for its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough, but safe and agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining-rooms and other appointments in the houses of the nobility and gentry, are sufficient evidence of the efficacy.
Orders received by FAIRS and Co., No. 139, New Bond-street; BUNNETT and COMPE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham-street, Pimlico.
N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.



DR. ARNOTT'S CHIM NEY VENTILATOR.
F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.



GRANT'S PATENT ROTARY WIND- GUARD, for the prevention of Downward Draughts and cure of Smoky Chimneys, by discharging a Strong Current of Air the Mouth of the Chimney-Pot. The attention of the Public and the Trade is respectfully called to these Simple Apparatus. The Patentees guarantee its effecting the purposes named. Let the wind blow from what quarter it may, it is not liable to derangement; can be easily and cheaply applied, and does not in any way interfere with the sweeping the Chimney.
This apparatus is also applied to work an archimedean screw or fanner, for exhausting the vitiated air from public or crowded rooms. In no instance has it failed to accomplish the above-name lobjects. Manufacture l by the Patentees, LAMBERT and GRANT, 21, Elizabeth street, Eaton square.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.
The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.
J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.
The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.
The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.
N.B. Licenses granted to Manufacturers.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Casts of Arms finished in a superior manner, all at half the usual price.—3, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

WILKINSON'S Improved SEWERS are guaranteed to be more durable than the hardest burnt bricks, Stream-engines, &c.; Pumps for deep Wells, &c.; Liquid-manure Pumps; Fountain Jets of every design; Douche Baths, and every other description, erected and heated on scientific principles; Buildings heated by Hot Water; Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Table Fountains to play Scented Water during Dessert; Analysis of Water from 7s. 6d. to 5l. 5s.; by FRAZEMAN Royal Hydraulic Engineer and Fountain Maker, No. 70, Strand, London.—Wells sunk and boring executed in town and country.

THE REGISTERED VALVE HYDRAU- LIC RAMS FOUNTAIN BASINS, in Iron; Waterwheels, Steam-engines, &c.; Pumps for deep Wells, &c.; Liquid-manure Pumps; Fountain Jets of every design; Douche Baths, and every other description, erected and heated on scientific principles; Buildings heated by Hot Water; Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Table Fountains to play Scented Water during Dessert; Analysis of Water from 7s. 6d. to 5l. 5s.; by FRAZEMAN Royal Hydraulic Engineer and Fountain Maker, No. 70, Strand, London.—Wells sunk and boring executed in town and country.

AT REDUCED PRICES.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (just C Mo e and Son), and at Seattle-street Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCHED BOARDING, DRY PREPARED FLOORING, and MOULDINGS prepared by machinery, for Deals and Scantling of every dimension. Mahogany, Cuba, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panelled, Oak, and Pine Linings, Wainscot, &c. All sawn and prepared goods delivered free of expense across timber. Sawing charged at mill prices. Very extensive Drying Sheds.

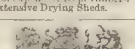
MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B Estimates given for Sawing and Planing.

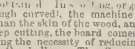


TIMBER AND DEAL SAWING AND PLANING MILLS, Bethlem-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY, ready to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, despatch, and economy of material are so well combined. Its system of tongueing and grooving a board although curved, the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company have further still been at considerable expense in connection with any trade that of Plane Board cutting and sawing, in addressing the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

NOTICE IMPROVED PLANING MACHINERY.

T. F. ALLCOCK solicits the attention of the trade to his newly erected and much-improved prepared FLOORING WORKS; also Match Boarding, Ploughing, Grooving, Rebating, &c., with the greatest accuracy and despatch, together with the least possible waste, leaving the faces of Plain Boards coated with the Patent Preparation, cut, planed, and delivered at a few hours' notice.—Commercial Sawing and Planing Mills and General Wood Preparing Works, Commercial-road, Lambeth, between Blackfriars and Waterloo Bridges, near the Cornwall-road.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Saving, and Planing Wood, at the Grand Surrey Mills, Rotherhithe, adjoining the Commercial and Dock Docks, Rotherhithe. The new process of seasoning timber, by which the natural juices, gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by Builders, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th of January last, and 5th October 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if the sort of article is wanted for Exportation or London.—Address 4, Wharf, Maydeshead-road, St. Sarah's-road, Battersea.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Gray, who has been employed in superintending the erection of Mr John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and about half a mile from the station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr WILLIAM GORDON, Secretary, at the office of the Company, 193a, Piccadilly, March 1, 1848. Three machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hills, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pemberidge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Cook's, Newton Limavady, County Derry.

BELL-HANGING done in the most Durable and Scientific manner, by DUDLEY, the Inventor of SECRET BELL HANGING, who is possessed of the extensive Bell Foundry formerly carried on by Mr. Robert Dudley, at the centre of Town and Country, for over eighty years, and is now at any time disengaged, to undertake the hanging of Bells that are Invalid, or need Repair, with Iron Frames, &c., complete.

The following extract will show the style employed DUDLEY on all their works; some for the last forty years—viz., Sir Jeffry Wyatville, Bart., C. H. Tatham; John Shaw; Messrs. Bifield and Seward; Phillip Hardwick, at St Katherine Docks, &c.; L. Vulliamy, and Henry Ivory, Esqs., &c. &c. Address, No. 9, Paradise-street, Finsbury-square.

P.S. As unskilful artisans sometimes undertake this useful art, to the great prejudice of their employer, D. will warrant to rectify work badly done, at a fixed price, after examination.

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of Sashes and Frames, and Joiner to the Trade, 121, Bunhill row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. The Establishment is worth the notice of all engaged in building.



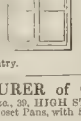


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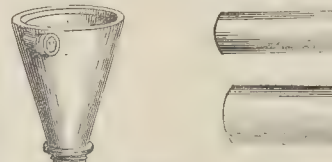




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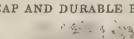
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3 in. bore, 5d.	4 in. 6d.	6 in. 9d.	9 in. 1s. 1½d	12 in 1s. 10d.	15 in. 3s. 4d. per Foot.

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21	5	6 by 3, 9 by 3½, 8 by 3	2
26	7½	7 by 5, 8 by 7½, 9 by 5½	2½
32	10	8 by 6, 9 by 8½, 6 by 6	3½
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The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by years' skill and experience has been adopted, and the prices greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS.

Bunnett and Corpe's made great registered improvements in Revolving Wood Shutters, which are fitted up with proper metallic lines that cannot rust without which, no shutter can be safe or durable, and are secured by the patent raising gear as for Iron Shutters, or counterbalanced in a new or peculiar way, and are wound up or down with the greatest ease, without the use of objectionable loose lines. A comparison with any others, as to quality and prices, is respectfully solicited.

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The use of the Patent Metallic Sash Bars, &c. have been revived, and when greatly reduced in Sash Frames, &c. are completely fitted and tested in a superior style, either plain or ornamental, and also of cast brass moulded of the most elaborate and beautifully engraved, also complete in glass and with all the class

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No. CCLXIX.

SATURDAY, APRIL 1, 1848.

SCARCELY a week passes with us without a letter from some anxious spirit seeking guidance or encouragement in the early start of life, apart from technical knowledge. "What shall I do?" and "How shall I do it?" are the questions asked by young men of more than one class of society. "I have no time, no opportunities, no leader," say some; "I am but a mechanic, and you will not think it worth while to answer me," sigh many others. To reply to all these, gentle and simple, even if we could do so usefully, is out of the question. We also are of the workers,—the hard workers too,—and find a long day, with often a long night added, insufficient for the fulfilment of our duties. When practicable, however, we have sought by suggestions to lead the minds of the inquirers into the right direction, to strengthen good resolves, and incite to earnest endeavours; and we would to-day add a few general words in print which may serve as a postscript for more than one correspondent.

We have often asked our readers for their sympathy,—refusing to be regarded simply as recorders of facts, suppliers of class-wants, or exponents of principles in art and science, we have sought to possess their confidence and kind feeling as *men*; and these communications to which we are referring, with other evidence, would seem to show that, to a certain extent at all events, we have succeeded. We have most earnestly at heart the mental elevation and progress of all classes, and we would exhort our younger readers, and those amongst the less favoured by circumstances of even our elder friends, by whom such advice may not be considered impertinent, to apply themselves earnestly to this great object.

Most of us have more time for mental improvement, however short it may be, than we employ profitably. If the day be not our own, there are few who have not the evening, and all who have studied the lives of those who have distinguished themselves and benefitted their fellows, know how much may be done after dark. The extent of what can be achieved in an *hour a day only*, if never missed, would pass the belief of those who have not tried the experiment. Once get the habit of application, be continuous in your efforts, and methodical in your studies, and the rest is easy. As Bacon says, "Since custom is the principal magistrate of man's estate, let men by all means endeavour to obtain good customs. Certainly custom is most perfect when it beginneth in young years: this we call education, which is, in effect, but an early custom."

The great object of education properly considered, is to give the mind that disposition and those habits that may enable the student to attain with ease, that particular knowledge of which he may stand in need. Sadly misunderstood is this same "education." To quote a recent speech,—

"Some teachers of the public, by education mean and understand a mere section of education—instruction alone. They might as well understand by instruction—mathematics alone. But you are not mathematicians, you are not algebraists, you are not classical scholars alone—you are *men*: men before and above all things; and the education which does not provide for the education of such, irrespective of all professional or other after wants of society—which does not purpose and does not achieve the due and equal development of all the faculties and dispositions of the human being, is unworthy, whatever be its other merits, of the name of education. It must be for the whole of man, and for all. Anything less is handicraftism, mere outward dexterity, knowledge and not wisdom, decency and not virtue and religion. It sharpens men into instruments for some other object or some other men; but it does not cultivate the man for himself. And they speak, too, of this education as if it was a thing of rule and square, a something to be given or taken away, to be measured out, so much for so much, like gas-light or pipe-water; as if all education was received in schools, and they could turn it off or let it on just in proportion as they multiplied or diminished their shillings—opened or shut their school-room doors. But education is like the light or air; it encases, it penetrates us; we meet it everywhere, in every point of our manifold life; whatever acts upon the human being from the moment of birth is education; we are all going through a course of education every moment of our waking existence; our health, our occupations, our companions, the house we live in, the sights we see, the words we hear; every conceivable circumstance that acts upon our consciousness, that goes to form or modify our character and dispositions, all are, more or less, our educators."*

How important then are the sights we see, the words we hear!

The maxim, that the bow should not always be bent, is not to be disregarded, still less should it be allowed to lead to never bending the bow at all. Change of occupation is recreation:—

"The labour we delight in physics pain."

"Try all things, hold fast that which is good, is a divine rule," says Locke, "coming from the father of light and truth." And it will be found that we cannot know one thing well and thoroughly without knowing also many other things partially. Discursive reading, and reading without reflection, are at first to be avoided. Select the best books, let them bear one upon another; collect knowledge; strive to form right principles. "Never be puffed up with the thought that you know enough. Man's life is all education, and when he has travelled through his threescore years and ten, he is still a babe in knowledge, only at the beginning, not the consummation of wisdom. Work, then, toil, strive, persevere for yourselves. The triumph of mind over matter in your case must be your own achievement. The tree of knowledge must wither within every individual, if he trusts to others to tend and water it for him. Self-culture is the secret of success, and the passport to renown." †

Those are ill-taught who have not taught themselves.

The progress of the artisan is of especial interest to us; for the advancement of it our most earnest aid is pledged. His position amongst us is below his deserts, as we have on more than one occasion urged. How much do we owe to skilful labour. "What a debt of gratitude," to quote Mr. Aspinal again, "of gratitude unpaid, and, I fear, too often unthought of, does the handwriting on the wall mark up against us at the very mention of the word! Labour! What has it not effected, what is it not constantly effecting, for us. Labour ploughs and digs, and sows and gathers. Labour builds the ship and sails across the ocean, penetrates the most distant climes, and ransacks sea and land, to provide the food which we consume, and the clothes which we wear. Labour erects the house, cuts the railway and the canal, bores the tunnel, rears the viaduct and the bridge, levels the mountain, pierces the rock. It weaves and spins, toils and works, plies the loom, strikes the anvil, thunders at the forge, wields the hammer, sinks the mine, raises the coal, and accomplishes everything, from the monster cable of the noblest of our wooden walls to the most delicate of silken threads in a lady's workbox, and from the loftiest pile of architecture to the scarcely perceptible eye of the smallest needle for which the thread is intended." Well, be it so, it may be some cold and calculating nature will reply; and what then? If labour works for us, do we not pay it for its work, and there does not the mutual obligation end? This is a most miserable way of looking at the matter, and no way of settling it at all. Humanity should not keep such a close debtor and creditor account with man. Property, we have been told, 'has its duties as well as its rights;' and, in like manner, inverting the maxim, we would say, that labour has its rights as well as its duties, and one of its strongest claims upon us is, that we should not only 'give it a fair day's wages for a fair day's work,' but also provide it the school, the library, and the institute, with a fair day's recreation when its fair day's work is done.

From the ranks of the artisans have proceeded some of the benefactors of their species. Many who now sit in high places have worked their way by dint of perseverance, ability, and worth, and serve to shew what others may hope to do who will take the same path.

It should ever be remembered, however, that though to be a good artist—to be a good artisan—is a praiseworthy and noble aim, to be a GOOD MAN is a higher; and that this is not merely open to all, but is required of all. Strive for knowledge, strive for skill, but strive more for wisdom.

* Mr. Wyse's speech at dinner of College of Preceptors.

† From an address delivered a few weeks since at the Huddersfield Mechanics' Institute, by the Rev. James Aspinal.

ARCHITECTURAL CRITICISM.*

ERROR is never more dangerous than when it takes the form of a proverb. The axiom *de gustibus non est disputandum* has been so often quoted, and unsuspectingly admitted, that to controvert it seems, at first sight, a fruitless task. And yet, when we come to reflect on the conclusions to which this axiom leads, we must, at the least, admit that its accuracy, as affecting the fine arts, is a question of more than abstract interest. If it be once conceded that "there can be no dispute about tastes"—that the sublime and beautiful are not proper subjects for logical discussion, and do not belong to the province of reason,—it immediately follows that the rules of the fine arts are altogether arbitrary and capricious.

This inference, however, would be generally resisted. An architect would be unwilling to allow that the admiration which his art inspires proceeds from no higher cause than the dictates of fashion; on the contrary, he would be predisposed to accept a theory which shewed that admiration to be a natural impulse—an inherent faculty, essential to the human mind, and constituting one of its very elements. Such a view of architecture would elevate it to

* See page 3, *ante*.

far higher than mere conventional rank; for if the principles of taste can be shewn to depend on natural causes, they are, of necessity, immutable and universal.

The connection of architectural and natural beauty has been made the subject of a previous paper. The pleasure inspired by the contemplation of the works of nature is a universal feeling. It is not necessary to examine into the *causes* of that feeling; all we are concerned with is the universality of its existence; for, admitting *that*, it necessarily follows that there must be a natural repugnance in the mind to architectural forms which violate the harmony and general laws of beauty observed throughout the works of nature.

This analogy between nature and art forms, it is contended, the true basis of the *science* of architecture. And it is important to observe that, if this be not the basis, no other can be assigned instead of it. If the pleasure derived from the contemplation of the works of nature do *not* produce a certain natural habit of thinking—or rather, of feeling—on all subjects of tastes,—architectural taste must be purely accidental, and its laws must therefore be incapable of systematic classification. Precedent alone will not establish for it a universal code of laws, for no one kind of architecture has, in all ages and all countries, received the admiration of mankind; and it is therefore obvious that laws, derived from usage alone, would be binding with respect only to the architectural styles of particular periods and nations. If, on the other hand, styles, otherwise the most distinct and remote from each other, can be shewn to have mutual connection, through their mediate analogy to nature, and in no other way, it becomes indisputable that nature is the only general guide on subjects of taste, and that in all disputes respecting those subjects, the last appeal must lay in her court.

Before, however, proceeding to establish this analogy, it is necessary to state one important limitation of the enquiry. Every science indicates the existence of certain fundamental principles, and investigates the inferences to which they lead; but leaves the ultimate *causes* of the principles themselves unexamined. In the science of mechanics, for example, the existence of a certain force of gravity and its influence on the motion and equilibrium of bodies is a necessary subject of inquiry; but the mechanical philosopher does not enquire *why* an unsupported body falls to the ground. He contents himself with ascertaining the fact and manner of falling, without speculating as to the nature of that secret influence which produces the phenomenon. Similarly, the effects of gravity on the motion of planets have been diligently investigated; but the mysterious chain which binds those bodies to the sun without visible means of connection, forms no part of astronomical research. In the same way, in an endeavour to establish a science of architecture, we have simply to enquire what natural principles of beauty produce universal delight without enquiring as to the abstract cause of that pleasure.

It is the more important to explain on what grounds the question—*why* the works of nature produce sensations of pleasure—is excluded, because the necessity of that exclusion has not always been observed. Many eminent writers on the principles of taste have speculated as to the causes of these sensations, and even the great author of the Essay on the Sublime and Beautiful, endeavoured to account for the perception of the sublime, by associating it with a vague notion of terror, or apprehension of bodily danger. Whereas it seems more reasonable—or at least, more practically useful—to assume the existence of all the faculties of taste as simple *facts*, without referring them to physical causes. Pure emotions are incapable of logical analysis. They are essential parts of our nature—inherent faculties of the mind, just as the physical senses are of the body. The palate is nauseated by things excessively acrid or bitter, and is gratified by other kinds of flavours; the sense of smell is delighted or offended by different odours; the sense of sight by different forms, and it is vain to speculate, why the perfume or colour of flowers, or the flavour of fruits, pleases certain senses. Similarly it is impossible to wholly explain why the perception of beautiful or sublime ideas, gratifies the mind: we can do little more than classify the corresponding emotions. Poetry (using the word in its widest sense) *cannot be defined*. It can only be perceived. To explain to a man utterly destitute of poetical feeling the nature of poetry, were as hopeless a task as the endeavour to explain to a blind man the visual impressions produced by colour.

These preliminary principles being laid down, we are in a position to indicate more particularly some of those analogies between nature and art from which, as it appears to us, the laws of architectural taste and criticism are to be derived. Mere outward resemblances of form constitute but a small part of these analogies. The carved or sculptured representations of foliage and other natural productions, are doubless sources of great beauty in architecture; but if the analogy to nature were confined to these direct imitations, the instruction derived from nature would be very limited. There are, however, other means of more general comparison, which lead to principles capable of universal practical adoption. Among the general principles of natural beauty, irrespective of particular forms, are the alternation of light and shadow—symmetry—that proportion of several parts to each other, by which each sustains its office with the greatest possible efficiency—prolonged perspective—continuity and regularity of curves where grace and beauty are sought after—abrupt lines and angular transitions where sublimity and grandeur are to be attained. Another important source of natural beauty is that which has been aptly termed nature's power of scene-shifting; the diversity of scenes presented to the observer as he changes his position; the alternate glimpses and partial concealment of beautiful objects. But of all these and other sources of the beautiful and sublime in nature, our purpose requires the selection of those only which are applicable to architecture; and the degree in which they are applied, must also be restricted by a consideration of the economical purposes of the art.

The triumph of architecture consists in this application of natural principles of taste in accordance with the requirements of practical utility. Architecture would lose its supremacy if utility were sacrificed to the adoption of these principles. If the alternation of light and shadow, for example, in the external or internal form of an edifice existed in such an excessive degree as to render the building inconvenient or practically useless, the source of beauty would, by its inconsiderate application, be converted into a defect. If, for the sake of prolonged perspective (to take another instance), a hall were constructed of length so enormous that the greater part of it were either of no use, or diminished the utility of the remainder, deformity, not beauty, would be the result: hence the lengthened vista which is admirable in the picture galleries of the Louvre, would be an intolerable inconvenience in a chamber of Parliamentary debate. Again, if in his anxiety to produce a grand effect, an architect were to build a church spire so lofty and of such bold form as to be in danger of falling, he would certainly have passed that narrow Rubicon which separates the sublime from the ridiculous.

Symmetry, again, is one of those general principles of natural beauty, which is capable of frequent successful application in art. But if, for the sake of a uniform and symmetrical disposition of parts, an edifice had doors and windows where they were not required by convenience, the mistaken observance of one of the principles of nature would have defeated its own object. Again, the effects of grandeur and sublimity are often produced in nature by apparent disorder—the complexity and irregular disposition of rugged parts. It was a gorgeous classical image, which represented Ossa piled on Pelion by the fury of the gigantic assailants of the throne of Jove. The magnificent disorder of mountainous and rocky scenery may be fitly expressed, by referring it to the fray of giants, of which the cleft ravines, the toppled crags and broken peaks are, as it were, the wrecks and strewn fragments left on the battle-field when the work of devastation is done. But this sublime source of natural beauty can be but imperfectly adopted in art. A feudal fortress, with its terrace over terrace, battlement on battlement, and huge towers aspiring above all, has something of that character of wild confusion and enormous strength which renders the aspect of the Alps awful. But it is apparent that this source of natural beauty, though perhaps the very highest that can be embodied in architecture, is susceptible of only limited application.

Another very important limitation of the transference of natural principles to art is the necessity of observing the manner and occasions of their employment in the great original. Nature does not scatter her beauties indiscriminately. The regular and graceful contour, the symmetrical arrangement of parts, the gradual and soft blending of colours, the delicate pencilling of fine lines,—these graces are lavished on her smaller works,—the flower-cup, the moth's wing, and the painted seashell. But the charms of her greater works are quite of another sort. In these we have irregularity instead of symmetry, harsh abrupt lines instead of gracefully undulating curves, sudden and violent alternations of light and shadow instead of blended hues, strongly defined outlines instead of graceful pencilling. It needs no argument to shew that if this law were reversed in art, if the more delicate graces were wasted on the large parts, or if the sterner beauties, which naturally belong to these, were misapplied to the subordinate members, a grievous violation of true taste must be the result. A buttress, for instance, is a member of a building in which strength, and, therefore, large dimensions, are essential. It is usually required to resist great strains both vertically and horizontally; without it the building would fall; or, at least, if its removal would not endanger the safety of the building, it was false taste that placed it where it is. How absurd then to fritter away this important member into a mere decoration! This disguise of its true aspect and character is like the garlanding of the bull's horns; it is the conversion of that which was meant for strength into a mere peg for the suspension of ornaments, and it is the precursor of sacrifice.

Many other general analogies between natural and architectural beauty might be adduced; but for the present the instances cited are sufficient. All that has been necessary up to the present point of inquiry was to shew that there *are* certain relations between nature and art, and that these relations are not confined to mere specific resemblances of particular forms, but are of a much more extensive character—that they consist in those general *effects*, or pervading principles of natural beauty which are consistent with the constructive purposes of architecture.

Nothing like a discussion of the abstract principles of beauty has been attempted; because if it be true that nature *has* certain principles of beauty, inquiry respecting their causes is unnecessary. It becomes indisputable that our tastes must naturally be in accordance with those principles, and that the exceptional cases of individual tastes which are contrary to those principles are to be referred to the perversions of custom and accidental associations.

This seems quite sufficient explanation of the occasional diversity of tastes, without resorting to the conclusion that there is *no* standard of beauty. Many writers, however, have adopted this strange conclusion, either because they saw no other way to account for the caprices of fashion, or because they were led unavoidably to it by their own hypotheses of the metaphysical nature of beauty. Numerous *theories of beauty* have been proposed, and a very brief notice of one or two of them will tend to elucidate the present view of the subject. The account will, it is hoped, serve to shew that great difficulties are avoided by constituting nature the supreme arbiter respecting the principles of taste.

The speculations respecting the ultimate nature of beauty may be divided into two classes—the one referring it to physical, the other to mental causes. Of the first class, the opinions of Burke hold the principal place. In his "Essay on the Sublime and Beautiful," he, as we have already said, refers the idea of sublimity to a sense of personal apprehension; so that the grandeur of a lofty tower or steep crag is supposed by him to be created in the mind by a confused sense of the danger of falling from their summits. The idea of the beautiful he refers to the languor occasioned by a physical relaxation of the fibres. These

theories have been so often refuted, that there is no necessity here of narrowly examining them. They have this fatal defect, that they make many things sublime or beautiful which are not so, and exclude many chief instances of sublimity and beauty. For instance, if the mere personal hazard were a source of sublimity, a railway carriage would be as sublime an object as the spire of Salisbury. If the relaxation of the fibres were the true cause of beauty, a warm bath would, as has been well observed, be by far the most beautiful thing in the world, and the bracing airs of a fine autumn morning, would be the very reverse of beautiful.

Of the theorists who trace beauty to purely mental causes, Plato must be considered the great head. To him we owe that fundamental principle developed in his "Dialogues," which, as expressed by Lord Jeffrey, asserts "that it is the *mind* alone that is beautiful, and that in perceiving beauty, it only contemplates the shadow of its own affections." On this general basis numerous specific theories have been subsequently founded; it is a text on which many commentaries have been written, of which some sadly mar the spirit of the original. For instance, Lord Jeffrey himself goes so far as to assert, that *all* the affections of the mind are sources of beauty. In his "Essay on the Principles of Taste," published first as a criticism of Mr. Alison's work on the same subject ("Edin. Rev." 1811), and subsequently republished in the "Encyclopædia Britannica," and also in his collected works, Vol. I., he ably refutes the errors of many prevalent theories, but substitutes one which appears to us more mischievous in its tendency than all. In his own words, "Every feeling which it is agreeable to experience, to recal, or to witness, may become the source of beauty in external objects, when it is so associated with them, as that their appearance reminds us of that feeling."

Now this theory makes the sources of beauty contingent on accidental influence of external events; an object being beautiful or not, in many cases, according as it has been first viewed under pleasurable or disagreeable circumstances. Referring taste wholly to association and recollection, he easily explains the diversity of notions on the subject of human beauty among the Hottentots and the Greeks, the Circassians and Laplanders; and comes to the conclusion that each class of features *is really* beautiful to those who are most accustomed to it. Of course he infers generally that "there is no standard of taste." "It is not only quite true," says he, "that there is no room for disputing about tastes, but that all tastes are equally just and correct, in so far as each individual speaks only of his own emotions;" and he agrees with Mr. Alison in considering various architectural tastes as "FASHIONS" rendered permanent by the durability of the works in which they are exercised.

Now all this is consistent,—but consistently wrong. If beauty depended wholly on casual associations—if objects which remind us of past pleasures be necessarily beautiful, *every* object in the world may be made to possess beauty. To a man who has been made rich by a lucky lawsuit, a title-deed, or a judge's wig, must be a lovelier object than the Venus de Medicis. It seems an absolute perversion of language to call a ten pound note or a leg of mutton beautiful. There can be no reasonable or consistent meaning in the word "beautiful" if it be capable of being seriously so applied. And yet money and meat frequently excite very pleasurable mental associations. A man of extensive benevolence, who is beloved and revered by a whole parish, may, from eccentricity, ride about it on the sorriest horse and in the worst coat to be seen in the neighbourhood. His appearance is always and every where greeted; but it is always associated with the broken down hack and the tattered coat. Will his neighbours, then, deem these things beautiful because of their esteem for the owner?

But our objection is not complete without taking the contrary aspect of the question. Not merely are there many pleasurable associations apart from the perception of beauty, but many things may be excessively beautiful which are involuntarily connected with most mournful and painful recollections. External feminine grace has been frequently associated with the foulest depravity of heart; we suppose Lady Macbeth beautiful, and the imagined blood-spots on her little hand do not mar its form. A tiger is beautiful; so is the hectic glow of consumption. To many lovers of nature, the spring, though it breathe of hope and new life, is not so fair as autumn, which exhibits only decay. The uniformity of vernal green, excessively—inexpressibly beautiful as it is, has not that variety of charms which belongs to the ruddy tints of the falling leaf and to the half-naked trees, as they gradually disrobe themselves in preparation for the long repose of the night of their existence.

This theory then appears to us to enormously overrate the influence of association. Many other theories exist, such as that of Sir Joshua Reynolds, that beauty consists in conformity with what is most usual, and the most perfect whole is the artificial collation of separately perfect members,—that of Addison, in his papers in the Pleasures of Imagination in the "Spectator," &c. But it is not necessary for our purpose to refer further to these, because, as has been before insisted, it is quite possible to explain all discrepancies of taste, and to erect a universal standard of beauty, without involving ourselves in an abstruse discussion as to its ultimate causes. No other postulate is made than this—that the love of the beauties of nature is a general feeling. It follows of necessity, if this be so, that unless men's tastes be altered by artificial and accidental causes, they will apply to art those principles which nature has taught them. Now their *natural taste* may originate in one or two distinct ways; it may be a distinct faculty of the mind, an instinct, or innate feeling; or, on the other hand, it may be a mere *habit*, a bias derived from constant inspection of natural objects, which recommend themselves to the eye by mere familiarity. It is indifferent which of these hypotheses be accepted, for both lead to the same result—that the taste, if not artificially perverted, will be disposed in favour of works of art which observe nature's rules, and be opposed to those which violate them. C.

ARCHITECTURE POETICALLY CONSIDERED.

LAST week Mr. G. Wightwick delivered a lecture at the Plymouth Athenæum, with this heading for a title. It took the shape of a poem on architecture, and had for its object, as he said, "not to proclaim the laws of ancient art, nor to discuss the rules of modern taste," but to draw their attention to the architecture of present and past times, in a manner which should be free from technicalities, and intelligible to all. How the lecturer executed his task our readers shall judge for themselves. Thus he spoke of Rome:—

"Go not *there*
For Architecture's due. Rome's temples were
But stol'n from Greece. Invention in the cause
Of *Heav'n* she never exercis'd. She wrought
With wondrous pow'r in all contrivances
Which minister'd to *man* alone; his pride,
His pleasure, comfort,—nay, his good, in much.
She gave a plastic yielding to the fix'd
And stubborn features of antique design.
With light material she vaulted space,
And emulated with capricious dome
The heaven's concave. Range on range she pil'd
Her column'd arcades, and, within th' ellipse
Of her colossal theatre, gave room
For populations. In her gorgeous baths
Her swarth artificers, in thousands, lav'd
Their limbs Herculean. In her palaces
Th' imperial sway did vault itself in pomp
Which startles record. Marble pillars, whose
High tops o'erlook'd the panorama vast
Of the world's capital; and arches, rich
In sculptur'd story, told of *Conquest*, far
'More dear to Rome than her own *Liberty*.'
In the blue distance merging, aqueducts
Stretched o'er the flat Maremma, to bear in
From their fresh gushing springs the mountain waters:
And e'en the filth and offal of the city
Found an imperial road to vent themselves
Into the torrent of the startled Tiber!
But this was *architectural* display;—
Not the display of *Architecture's self*.
Greatness—not *grandeur*—lifted here her head.
Proud piles of masonry, hung with the spoils
Of conquered Greece, uprose, to captivate
The sense of sight—but not to strike the soul
Of feeling."

Of Greece he speaks more warmly:—

"GREECE claims our homage now, with milder show
Of giant pow'r; though not as if she lack'd it.
Her gentler feeling for the *beautiful*
All pride in *grandeur* qualifies. In vain
She might essay to pass the fore-gone *might*
Of Egypt; but, in grace of majesty,—
In all that marks the mind's accomplishment
In high imagining and finish'd thought,—
In elegance conjoining dignity,—
In noble form and feature exquisite,
Commanding deference and winning love,—
In sage simplicity,—in modest truth,—
In ardent worship of fair Nature's forms
(Ev'n where invention o'ersteps Nature's law,)
In decorative taste,—and, more than all,
In Sculpture's last perfection,—where, O where
May Greece a *fore*-goer, or successor, find!
"Behold her Temples: the material works
Of that pure intellect, which, through her Laws,
Her Poetry, Philosophy, proclaim'd
Itself alike. Had History been mute,
Nor aught of Sage or Poet had remain'd,
Th' *Acropolis* with all its eloquence
Of Art, had still declar'd, here must have been
The intellectual arch monarchy.
As on Olympus met the Court of Jove,
So on th' Athenian rock the symbols stand
Of the Greek mind in its analysis;
Its strength, its majesty, its beauty, grace.
Restore the Parthenon in all its pride!
See high conception in its noble form:
Each member in itself a studied piece
Of a distinct perfection, subject to,
And worthy of, the whole. Each ornament,
As 'twere a fitting flow'r of rhetoric,
By fancy us'd in aid of argument.
Behold those Sculptures: models of the life,
Which, as the world grows abler and more wise,
Show more and yet more unattainable
By rival skill or imitative care.
Once more, survey the Temple round and round.
No stone but is a monument of thought:
No moulding nor enrichment, howso'er
Remote, but shews an artist's reverence
For that all-seeing Eye, which dwells, well pleas'd,
On off'rings to its own exclusive sight."

When he came to the middle ages he spoke of some of the cathedrals, and of their excellencies, and said:—

"Religion, then, is the essential pow'r
Of the great art Masonic. Next to that,
The spirits high of *War* and *Chivalry*
Have wrought impressively, as many a keep
And massive tow'r embattl'd; many an arch
Portcullis'd; many a massive castle bold,
In this our land of lion hearts still prove.
Your noble tow'rs baronial, Arundel,
Stern Ragland, matchless Warwick, yet erect
Their frowning corbell'd parapets, to claim
The homage of romantic minds, and stir
The soul with thoughts of manly hardihood!
We wish not back again the blood-stain'd days
Ye memorise; but, on your mould'ring forms,
By time and vegetation harmonis'd
Ev'n with the rocks ye stand on, till ye seem
With them co-nate, the work of Nature both,—
We gaze enraptur'd; and from further spoil,
Of tempest or more ruthless hand of man,
Would fain preserve ye!"

Of some modern works, and the spirit of imitation which now prevails, he spoke severely:—

"Great things are doing now by little men,
Associate in lack of any great one;
And *Architectural Societies*
In their assembled wisdom strive, at least,—
If not to stimulate our Architects
To models new, befitting present wants,—
To make those present wants suit models old.
Not in our *churches* only does this lust
For servile imitation crush the rise
Of free invention; but, whate'er is done,
Must be in fashion of some age that's past—
The taste as varied as the men who hold it.
Strange that our tailors are not equally
Requir'd to dress *us* as we dress our houses.
'Thus, may 't be said, doth *Architecture* shew
As lady-patroness of Fancy Ball.
First comes the family of *Church*. A large
Rectorial dowager walks, stately, in
A cumbrous mantle of the Norman date.
The lady Vicarage moves glorious
In vest embroider'd with the flowing lines
Of Second Richard's time. Their daughters, of
The Districts walk in 'perpendicular'
And Tudor garbs; and Chapel—easy girl—
Comes simply deck'd with 'Early Lancet' points.
Sir *Senate House* appears in gorgeous robes
Of 'florid' velvet, blazon'd o'er with shields
Of Heraldry and roses red and white.
Royal Exchange in Cap Corinthian stands;
And e'en *Cathedral* from the city comes
In cloak capacious of reformed Rome.
Post Office and *Museum* are as Greek
As Stuart's tailory can turn them forth.
Bank, only, wears some fashions of its own.
Lo, *Auction-room* is Egypt top to toe;

While *Shop* comes daily 'dight in 'renaissance,'
'Elizabethan,' and 'Louis Quatorze.'
Club-house stands forth in bold Italian guise
Of Venice or of Rome; and *Monument*
In three presentments comes, the brothers two
Doric and Tuscan proudly leading in
Their tall Corinthian sister; while the rest
Are maskers all, who hide their poverty
'Neath plaster visors. Many, it is true,
Are cloth'd in costumes handsomely devis'd
And admirably suited; but—once more
To say 't—'tis *Architectural display*—
Not *Architecture's self*."

The editor of the *Plymouth Times*, in reporting this address (which he does at some length), seems to consider a lecture on architecture, unless set forth in poetic language, a dull affair of "bare walls and surfaces of stone and mortar"—unlikely to interest or edify. This is a common mistake; and we must take leave to say, without any desire to depreciate Mr. Wightwick's praiseworthy endeavours to make the subject popular, that architecture has a stirring history, which, recounted in simplest language, will ever be found to engage attention; and that architecture has a *poetry* of its own, quite independent of measure. We have ourselves often rehearsed its story in simplest language to a miscellaneous audience, and, without pretence to eloquence, have ever found it sufficient to fix a crowd to their seats, and make listeners of all.

PROJECTIONS BEFORE THE LINE OF FRONTS.

METROPOLITAN BUILDINGS ACT.

To save our metropolitan readers the expense of useless applications to the official referees, it is desirable they should know, that in the case "G. Godwin and Hervey," the particulars of which we gave a short time ago,* the Commissioners of Woods have concurred with the registrar in repudiating the award of the referees and in branding the Act with one more absurdity than really belongs to it. The commissioners have, in fact, decided (as remarked by Mr. Godwin, in reply to the registrar's objections to fix the seal), that "though the referees have power to prevent an owner from putting out a balcony, or verandah, or other projection, beyond the general line of fronts, not being part of an external wall, if it obstruct the light and air of his neighbour,—although they are bound to prevent the construction of a bow or any other projection beyond the general line of fronts, which *does form part of an* external wall (except certain specified architectural decorations), *even if innoxious and assented to by the adjoining owners*, nay, may even prevent its construction *within* the line of fronts, if it 'obstruct the light and air, or be otherwise injurious to the owners or occupiers of the buildings adjoining thereto,'

Yet, that they have not power to prevent that owner from building the external wall of his house forward to any extent, limited only by the extent of his ground, though it obstruct the light and air, and be not simply injurious to, but utterly destructive of, the adjoining property!"

Some awards in somewhat similar cases, sealed by the registrar before the occurrence of the case before us, are in course of repudiation.

In the matter of "Hill and Browne," for example (one of the instances quoted by Mr. Godwin in proof of his statement that the competence of the referees to determine the line of fronts and prevent the erection of a building before that line, had been admitted by the registrar on previous occasions), the referees had ordered Mr. Hill to take down the front of one of three houses, and to rebuild it in a line with certain adjoining houses. Their award not having been complied with, Mr. Browne brought the matter again before them, and a few days ago they reported as follows:—"Whereas since the making of the said award the Commissioners of Works and Buildings have, on a question involving considerations similar to those of the present case, determined that the terms of the Metropolitan Buildings Act do not warrant the official referees in making an award, to the effect that it is contrary to the said Act to build certain houses projecting beyond the general line of fronts,—now we, the undersigned two of the said official referees, having regard to all the circumstances of the case, make no further direction thereon."

* See p. 100, *ante*.

THE SEWERS, THE THAMES, AND PUBLIC HEALTH.

Sir,—With a fairness which is a characteristic of The Builder, you have published a letter from Mr. Morewood to the lord mayor against the flushing of sewers into the Thames. Permit me to ask: What else could have been done? Into what other receptacle of filth than the Thames could the 90,000 tons of night soil have been discharged in the same period? Mr. Morewood dwells on the evil which *might* happen from fouling the river. Is he aware of the good that positively has been *done?* Does he know that, while this flushing has been going on, the weekly mortality returns have been shewing a constant and striking improvement in the health of the metropolis? Is he aware that when the flushing began there had been, in ten weeks, 5,900 deaths in London above the ordinary number, and that now, with the 90,000 tons of night soil added to the ordinary filth of the Thames, the deaths in London are below the ordinary numbers? I do not mean to say, though I by no means deny, that the improved health of London is owing *exclusively* to the cleansing of drains and cesspools; but this I do say, that if Mr. Morewood had wished to make out a good case against flushing sewers into the Thames he could not have hit on a worse time for his purpose. Nor would I recommend that the Thames should be made the perpetual drain for the whole of London, provided some better drain can be found. It would be pleasant to see the Thames as clear at London-bridge as it is at Henley. Our great grandchildren may, I hope, see it; but in our days the complete purification of the Thames will not be effected. The cases of the Mendicity Society, &c., to which Mr. Morewood alludes, shew the absolute necessity of cleansing cesspools and drains. If he could find a single case of illness produced by the extra fouling of the Thames, it could be met with hundreds of cases of illness produced by foul cesspools and drains within a mile of its banks. I am informed that the daily amount of filth, which the flushing sends into the river, amounts only to one ten-thousandth part of the water into which it is discharged. If then, Mr. Morewood has frightened the lord mayor, I hope that his lordship will at once institute a searching inquiry as to the effect on a tumbler of water of the addition to it of one ten-thousandth particle of discolouring matter.

But though Mr. Morewood may (of course unintentionally) have exaggerated the evil of the present flushing, he has done good service in stirring the question.

How are we to get rid of our sulliage? This is a question of vast importance. The Metropolitan Sewage Manure Company, which is, I believe, still in existence, and the Great London Drainage Company, which never had, so far as I can ascertain, any existence, except upon paper, have attempted to answer this question. Of the existing Company I will not speak, because I know nothing—and they probably know no more—of what they are to do. Of the Great London Drainage Company, I know thus much—that they proposed to appropriate for themselves all the sulliage of London; to lay out 950,000*l.* on making it valuable to their shareholders; and, of course, to pay those shareholders a dividend on the capital. Now, I think that I may safely assume that a less dividend than 7*l.* per cent. would not be sufficient to recompense the shareholders for risking 950,000*l.* In order to pay that dividend, the company must have realised 68,500*l.* a-year clear profit out of the sulliage of the metropolis. They must have shewn that an outlay of 950,000*l.* would enable them to clear 68,000*l.* a-year from London sewers. If the company could do that, why could not any other body? Why could not a body of commissioners, or trustees, or guardians, or directors do the same? Is there any magic in the word "company?" Far be it from me to assert that the Great London Drainage Company could ever pay 7*l.*, or even 7*s.* per cent. dividend; but, taking them on their own grounds, I should like to know from the Lord Mayor, or any other authority, why the ratepayers should *give* to that or any other company, property worth 68,500*l.* a year? If 7*l.* per cent. dividend could be realised by an outlay of 950,000*l.*, why should not the ratepayers have the benefit of it? They could raise the 950,000*l.*, if that would do the work, on the security of the rates, at 4*l.* 10*s.* per cent. interest, and so clear more than 25,000*l.* a year for themselves. If the calculations of the Great London Drainage Company were correct—and unless they were correct the Company was a bubble—their scheme was a cool design to plunder the public of a very valuable property without giving a farthing for it!

But to return from this digression. Mr. Morewood considers it to be, in his case, "a duty to *the public*" to make his appeal to the Lord Mayor. Will he point out any practicable mode of getting rid of night soil for the next six months without flushing? If so, I doubt not that the Sanitary Commissioners, the Sewers Commissioners, the Lord Mayor, the ratepayers, and the rest of the two millions who are daily increasing the burden, will be greatly indebted to him. We owe much of our social happiness to well-directed efforts for the public good, untainted by personal motives, and it is always pleasing to have a fresh proof, like that given by Mr. Morewood, that there are men who, *without any reference to private advantage*, will boldly come forward and denounce social evils. Will he go further than this, and show, not only what is to be done during the next six months, but also how the Sewers Commissioners, or any other public authority, can be enabled so to deal with sulliage—the property of the public—as to make it yield the greatest amount of pecuniary profit to its owners? If he will do this, with that unselfish patriotism which is so evident in his letter to the Lord Mayor, he will well deserve the thanks of the ratepayers of the metropolis.

I am, Sir, &c.,
N. R.

London, March 27.

WORKS AND WORKMEN IN FRANCE.

The labour question in France is indeed a question of labour; what may come of it, it is impossible to say yet. Impracticable, absurd notions have been put into the heads of the working classes, and expectations have been raised which cannot be fulfilled. The reduction of the day's work to 10 hours has not satisfied, and the men have been striking in various parts of Paris, with the view of further reducing it to nine hours. *Le Corsaire* typifies the state of things by saying that musicians demand that the quadrille shall finish at the *pastourelle*, and the bootmakers have determined that they will make only one boot instead of a pair.——The decree suppressing middle men — small contractors —not being generally obeyed, the offence is now made punishable by fines of 50f. 100f., and 200f. for a repetition of the offence and imprisonment from one month to six i the practice is persisted in.——The *Moniteu des Architectes*, at the risk of popularity, has sensible and able article against this and th absurd attempt to put all workmen on an equa footing.——As an experiment of the associativ principle, four "social workshops" are to b formed in four districts of Paris, each to con tain 400 families. The expense of erectin them will amount to 40,000*l.*, to be raised b loan, secured by mortgage on the premises and paid out of the lodging money. Thes workshops will contain reading-rooms, in firmaries, schools, courts, gardens, bath It is expected that the advantages gained b living together, as far as their food is con cerned, will be equivalent to a rise in wage None but married men are to be admitte To this there can be no objection. But much having been promised, this will n satisfy.——Gratuitous theatrical exhibitions a to be given to the working classes. In th preamble of the decree the minister says, th "if the state owes to the people the labo which enables them to live, it ought also encourage all attempts calculated to make the participate in the moral amusements whi elevate the heart," and that "performances the *chefs d'œuvres* of the French theatre mu needs develop good and noble sentiments

We quite agree in this; but—who is to pay the piper?——The *Moniteur* contains a decree opening a credit of 500,000f. for the conservation of the Louvre and other public buildings and monuments.——A second decree allocates 250,000f. to the construction of the temporary *salle* for the National Assembly. ——The municipality of Paris is about to build a central market, which will cost 800,000*l.*, and will require ten years for its erection.——The eviction of English workmen from France is a foul act, of which France, when restored to her senses, will be ashamed for many a long year. The *Times* truly remarks,—"It is scarcely too much to say that, without the assistance of English capital, English skill, and English labour, France would have lagged far behind other nations in the construction of those great public works, the execution of which, until the latter end of last month, we had supposed to be the peculiar mission of the age. With a perfect reliance on the good faith of our neighbours, English capitalists embarked their fortunes in these enterprises; English labourers by the thousand expatriated themselves to bring to a successful completion the works which, had the contractors depended on French workmen alone, would have remained innocent of train or traffic to the end of time. The fact is notorious. The different scale of wages given to the English and French labourers is the best evidence of the view of the question taken by the parties who were most vitally interested in its decision." From the Caen stone quarries alone, we hear with regret, 200 Englishmen have been discharged. France will suffer from her own wrong-doing in this matter, and England, in the long run, must be benefitted by it;—meantime, to the individuals it brings ruin.

LONDON FEVER HOSPITAL COMPETITION.

Mr. Editor,—The general interest you have taken in the subject of competitions, and the many just complaints you have with advantage urged against the abuses of the system, induce me to give you some information relative to that which has lately taken place for the new London Fever Hospital, in the management of which institution I am interested.

In September last three architects, Messrs. Fowler, Mocatta, and Railton, were solicited to compete for the appointment of architect, with the understanding that the unsuccessful parties were to receive fifty guineas each for their designs. The instructions accompanying this application to the architects gave evidence that the subject had been deeply matured, and the respectability of the president, Lord Devon, and of the members of the committee, left no doubt on the mind that a fair and honourable result would be secured. The designs were delivered in October, and in November the decision of the committee was in favour of Mr. Mocatta's plan, as was stated by you in a leading article, with praise to the committee for the course they had adopted.* Since that period, a most unjust reversal has taken place. The president, in conjunction with the secretary (both lawyers), made it appear, that the authority or power to apply the money was vested, by the London and York Railway Bill, in the *president* and *trustees* of the institution alone, and they proceeded to dispossess the committee of the rights of the executive, and threw overboard all the acts of that body. The selected design was repudiated, and Mr. Fowler was appointed by Lord Devon. The notice to Mr. Mocatta that his design was rejected, when everything had been prepared for commencing, without any reason assigned, was given, accompanied by an offer of a very inadequate remuneration for his design and working drawings. This offer was acquiesced in, probably because it was seen that the only remedy would have been litigation, and the point of law could only have been urged against the acting committee, the members of which had quite as much cause to feel aggrieved as the architect in the case.

I am sure you will agree with me, that the president has usurped a power not morally, if legally, vested in him by the wording of a railway Bill; but even had he possessed a more unequivocal right, surely the deliberate opinion of men equally interested in the charity with himself, should have induced him to abstain from thrusting his own choice on them against their honest conviction of the superior merits of another design, and to the prejudice of a respectable architect who had fought the fight fairly and gained the victory. The payment that was necessarily made to the latter seems to me a reprehensible and illegal application of the funds of the hospital, and is liable to be made the subject of an action for a breach of trust. I am not quite certain that the appointed architect should escape blame, for it appears to me subversive of all honour in competition, when a man of standing allows himself to be made a party to an act of injustice to a brother architect.

An old Physician.

* See p. 573, Vol. V.

ST. AUGUSTINE'S COLLEGE, CANTERBURY.

Of the many changes which have occurred in the land since Gothic architecture was first known among us, those relating to the various buildings raised in that style are not among the least of them. The stronghold and castle of the nobles were, for the most part, allowed to fall to ruin; when the more peaceful disposition of the people rendered them no longer requisite for protection. Royal palaces have, in some cases, entirely disappeared, or have been put to uses quite at variance with those originally assigned to them. The palace of Richmond no longer exists, the great hall of the palace at Eltham is now a barn, the Crosby-hall, after being long used as wine stores, is now the lecture-room of a literary institution. The splendid palaces of the Archbishop of Canterbury at Mayfield and Canterbury have but few vestiges remaining, and that at Croydon was not long since, if it is not still, used as a laundry. Amid this general ruin, it was not to be hoped that the buildings appertaining to the various monastic institutions could escape, especially when in the hands of such destroyers as Henry VIII. and Oliver Cromwell. The history of most of these buildings is at all times interesting, if only to shew the various changes they have undergone, and few, if any, of them can vie, in this latter particular, with the *Monastery of St. Augustine, at Canterbury*. The various fortunes that have befallen it from time to time, the different hands it has passed into, and the state of degradation into which it at last fell, and from which it has only lately been rescued induce us just to glance at its history briefly, before noticing the improvement that has now taken place.

As may be supposed from the name it bears, it was founded by St. Augustine, who landed in Kent in the year 596, and by his preaching made so great an impression on the minds of Ethelbert and his queen, that they gave up their palace to him and his followers. The monastic institution thus early established here was first dedicated to St. Peter and St. Paul, but the name of St. Augustine was given to it by Dunstan, in the year 978. From this time it gradually became one of the most important religious establishments in the country. In the year 1539, its annual revenues amounted to the then large sum of 1,400*l.*, but in that year it shared the fate of the other monastic institutions, and passed into the hands of the crown. The buildings were once again converted into a royal palace; and in 1573 Queen Elizabeth held her court here for a short period. In June, 1625, Charles I. was here married to Henriette Marie, daughter of Henry IV. of France. During the Protectorship of Cromwell, they were granted to Lord Woolton; and at the Restoration, Charles II. rested here on his way to London. From this time, the importance of the place rapidly declined; the buildings were allowed to fall to ruin, or wantonly destroyed. At length it passed into the hands of Sir Edward Hales, and from him to a *Mr. Beer*, a brewer, by whom it was used for the purposes of his business. In 1836, when sketches were made of the gateway by Mr. Caveler, for the purpose of publishing them in his "Specimens of Gothic Architecture," all that remained of the building was used as follows:—The lower part of the gateway was converted into a brewhouse; the room over, said to have been the state bed-chamber (though this is more than doubtful) into a vat; the splendid turrets flanking the gateway were used as pigeon-houses; the chapel as a public-house; and the space once occupied by the cloisters appropriated to tea-gardens and a skettle-ground!

The place could suffer no lower degradation, but happily at this period it caught the eye of a gentleman well known for his great taste and munificence in all matters relating to architecture. About three years since the whole property was purchased by Mr. A. B. Hope, with the view of erecting a missionary college on the spot. Subscriptions were at once entered into, and reached a large amount; the whole matter was then placed in the hands of Mr. Butterfield, who has designed and superintended the work from the commencement.

In giving a description of the buildings now occupying the site of the monastery, it may be as well to say a few words of the fine old gateway forming now, as of old, the principal entrance. It is so generally known and appreciated, that it is merely requisite to observe that proper means have been taken for its preservation, and such parts only restored as absolutely stood in need of it. The fine old gates have been repaired and rehung after suffering years of neglect and ill usage.

The buildings at present erected occupy only three sides of a quadrangle, the south side being left open. The north side is occupied by a cloister, over which are the rooms for the accommodation of the students, each of whom has two rooms, the whole opening into an airy corridor. The apartments are of very small dimensions, perhaps too small, but care seems to have been taken to render them convenient, and due regard has been paid to warming and ventilation. The cloister beneath will be valuable as a place of exercise for the students in bad weather, and is in itself a very ornamental feature. The east side of the quadrangle is occupied by the library and museum, the latter forming the ground story, and having much the appearance of a crypt, the roof being groined and supported by circular shafts of stone.

The library is a well-proportioned room, the oak roof of a good pitch, and entirely open. The room is divided into as many compartments as there are windows; this arrangement is very convenient, but the proportion of the room is entirely lost. The exterior of these buildings has a good effect, which is enhanced by the terrace, on which the north and east sides of the quadrangle are elevated. The buildings on the west side comprise, beside the gateway, the chapel, dining-hall, warden's house, and the usual domestic offices. The west end of the chapel (a very good specimen of Early English), has been carefully restored, but the same character has not been preserved throughout; the east end is early decorated, and the whole of the interior fittings are of the same period. An open oak screen is placed across the west end of the chapel, and stalls arranged on either side; the details of the whole of this wood-work are rather poor. The windows are filled with stained glass, and the floor paved with painted tiles. The whole effect of this chapel, with the exception above mentioned, is good.

The dining hall, placed between the chapel and the gateway, is a large room with an open roof of oak, a raised platform at the south end for the dais (which by the way is a fine specimen of ancient carving), and an ample fireplace.

We have thus endeavoured briefly to describe the different portions of the building, and would now add a few words as to the materials which have been used in the construction. The library and museum are of undressed Kentish rag, in irregular courses, with Caen stone dressings; the buttresses of the chapel are of square flint, and the whole of the other buildings of flint or Caen stone. The roof is entirely of stone tiles with ornamental crest tiles. The whole of the doors and interior fittings of English oak, the hinges and escutcheons of ornamental ironwork, and the whole of minor details in strict accordance with the rest of the building. The workmanship is generally good, but perhaps the worst part is the east end of the chapel, which has rather a clumsy appearance. It is but rarely in these times that an architect has an opportunity of engaging in such a work as the building of a college, and the task is one

QUADRANGLE OF NEW COLLEGE OF ST. AUGUSTINE, CANTERBURY.

Mr. Butterfield, Architect.



CAPITAL FROM THE CHURCH OF ST. GERMAIN DES PRES, PARIS.



of no ordinary difficulty, particularly so in this case, from the fact of having to produce a work which should stand well beside the beautiful gateway which still forms the principal feature in the group. It is but justice to Mr. Butterfield to say that he has fairly succeeded; there are exceptions, but where so much has been attained, it would seem invidious to call attention to them. It may be said generally of the buildings that they are well suited to the purposes for which they are designed and have altogether a satisfactory effect. These remarks should be understood to apply to the buildings in the quadrangle; in the street front but little has been attempted. The building is now quite ready for the warden and fifty students, but some difficulty is said to exist as to its consecration, so that no time is appointed for the opening.

Our view shows the north and east sides of the quadrangle, comprising as we before stated, the students' rooms, cloisters, library, and museum. The conduit in the centre is judiciously placed, and forms a good feature.

CAPITAL FROM THE CHURCH OF ST. GERMAIN DES PRES, PARIS.

It is always interesting and valuable to possess any specimens of ancient architecture, whether entire edifices or minute details, of which the date can be clearly and exactly authenticated; and the importance of such instances is greatly enhanced when they belong to a period of which only a few examples have escaped the ravages of time, war, and fanaticism. Part of the abbey church of St. Germain des Prés, at Paris, is of this rare description. Erected in the year 990 to the memory of a saint whose very name was an oracle in France (and is still borne by one of the most wonderful specimens of ancient caligraphy in existence), and without any regard to expense, it affords a perfect catalogue of the highest art of that distant epoch,—an epoch to which in England we can only ascribe a few dubious and unenriched memorials. A series of columns with elaborately executed capitals of large dimension, form the principal feature worthy of study, and one of these, the second column from the west, on the north aisle of the nave, is here represented, and exhibits a rudely-sculptured group of "The Nativity," designed with all the quaint characteristics of a semi-barbarous age. Upon others are depicted various symbolical devices, such as the eagle, the agnus dei, the lion and lamb (which latter strangely reminds one of a Roman work of the lower empire, preserved in the Louvre), Daniel in the Lions' den, &c. "The Annunciation," always a favourite subject, is multiplied, and there is no lack of figures both clerical and military, intended, in all probability, to illustrate different passages in the life of St. Germain. The foliage which encircles others is most intricately wrought, and approximates in its general feeling to some of the beautiful borders which present themselves in the illuminations of Anglo-Saxon MSS.*

FELIX SUMMERLY'S TRUSSES.

Annexed we give representations of a pair of Trusses, designed by Mr. Bell, for Summerly's Series of Art-Manufactures. They are pretty in intention, but, as it seems to us, wanting in architectural character. The ubiquitous Felix, who promises other decorations for buildings, would do well to enlist the aid of an architect forthwith.

RAILWAY JOTTINGS.

Every new bog of any depth to be crossed by rail appears to require the waste of as many thousands of pounds in the acquisition of new experience, or rather in the repetition of old, as if no bog had ever been crossed, and no experience either bought or paid for, by contractors, engineers, or companies. Whereas experience has again and again, from the very outset, proved that the means that are still persisted in have been utterly futile, except it may be in shallow bogs, at the bottom of which a moderate waste of material and labour may establish a proper foundation. Such, however, is not the general character of bogs, which probably *are* bogs, and remain so, simply because they are *not* of shallow depth, since then they would, in course of time, fill up with solid matter, and cease to be bogs. And at all events, the first duty previous to

* During the last restoration of the church, some of the capitals were found to be in too dilapidated a condition to remain as they were. Careful fac similes of them were therefore made to occupy their places, and the original fragments translated to the Hotel de Cluny.

FELIX SUMMERLY'S TRUSSES.



sinking an indefinite amount of capital and labour, with an endless quantity of material, into such hopeless sloughs of despond, ought certainly to be a regular system of boring in search of a bottom for the heavy materials to rest upon. But thousand upon thousand of tons are shovelled into the gulph in search of the bottom which should have previously been ascertained, and nothing to shew for it. Several thousands of pounds have been lost as usual in a portion of the Cashel line, which crosses, or is intended to cross, a bog, into which the whole of that portion of the line has already subsided, and where the piles, which even yet are being sunk (in order to reach the foregone material, we imagine) are altogether lost until they "*come up again*, at a long distance from the place where they were sunk." The sinking of the heavy materials in such cases, and the 'coming up again' of the lighter, surely ought by this time to have re-suggested what has been so often suggested by dire experience such as this. But, on the contrary, in place of consulting and being enlightened by the history of such labours as those of the crossing of Chat Moss on the Liverpool and Manchester—the very first of all constructed lines—or of the Stowmarket morass, or many other similar cases, in which it was ultimately found that nothing would do but a floating net-work of hurdles, brushwood, peat, turf, poles, branches, and other light materials, on which to lay the basis of the line,—the conclusion which has been come to at the Cashel bog, at so much expense, appears to be, that "the portion of the Cashel railway which subsided into the bog *it is impossible to replace*."——A correspondent of the *Gardener's Chronicle* recommends the planting of the slopes of railway embankments with larch, as a nursery for sleepers, which, he remarks, would realise a handsome profit after all expense was paid, as not only would a sufficiency of sleepers be supplied for the line, but a quantity of wood for hop poles, or other purposes, be yearly supplied. A suggestion of this same sort was long since made in THE BUILDER.——A resident engineer, an inspector, and a superintendent, of the Dundee and Perth line, were lately placed at the bar of the High Court of Justiciary at Edinburgh, on a charge of culpable homicide and neglect of duty, in the case of an accident to a train unsuited to a certain curvature of a skew bridge at Pilmore, parish of Longforgan, Perthshire, the contract plan of which the resident engineer had changed so as to make the curvature unequal, while the chairs also were insecurely fastened. The Lord Advocate, however, withdrew the respective charges against the parties after evidence had been given, although he hesitated to do so in the case of the engineer, Mr. Hugh Heugh McLure, civil engineer at Dumfries, the then resident engineer charged, inasmuch as he had not consulted the chief engineer, Mr. Miller, as to changing the contract plan. The counsel for Mr. McLure said he would have proved to demonstration that his client was blameless.——In the County Court at Shoreditch a first-class passenger from London to Cambridge has recovered 20*l.* and costs at law for the loss of a portmanteau, for which the company held they were not liable.——The Brighton Company have reduced the working expenses on their locomotive and carriage department items 16,000*l.* on the half-year, and probably 35,000*l.* or more on the whole year. It is to be hoped they have not reduced the public safety, in consequence, to an equivalent amount.——The French Provisional Government, it is rumoured, are determined to take possession of all the French railways for the public behoof, making an 'equitable arrangement' with the shareholders. At an interview, the Government, it is said, intimated to the directors of the Paris and Lyons line that they will take all the lines at par, and pay for the 5 per cent. stock at par. They have suppressed the Royal Commissions, and appointed inspecteurs de l'exploitation commerciale, principaux, and particuliers. The directors of several lines are finding their employés exceedingly troublesome. On the Rouen line the drivers refuse to work more than fifteen days a month, and demand increased wages and power to appoint those under them. Threats on this and other lines have been used that such claims will be enforced, and the directors are much alarmed. The Northern, some time since, appointed shares of profit to be dealt among its employés.——The Belgian Minister of Public Works has called upon the companies whose lines are in construction, to employ the greatest possible number of hands. The Namur and Liege and Mons and Manage Companies, which are more forward than the rest, have applied to Government for a loan on the security of the works.

NOTES IN THE PROVINCES.

THE Newark Corn Exchange works have been brought to a standstill by the failure of the contractors, Messrs. Stephen Fisher, stonemason, and William Brown, joiner, whose estimates, the *Lincolnshire Times* remarks, were much too low. The Company, it is thought, will finish the works themselves, under the superintendence of some efficient party.——In consequence of the reduction in the price of gas last summer at Leicester, the consumption in private houses, according to the *Leicester Journal*, has been so much increased, that although the manufactories have not been in a condition to use so much as before by upwards of a million cubic feet in the half year, the entire quantity consumed has nevertheless made up for the whole of that deficiency, and increased the usual consumption over and above. But considering the still immense excess of the price to the public (5s. 6½d.) over the actual cost in that vicinity, namely 2s., as lately exposed to view in THE BUILDER (p. 17, *ante*), the gas authorities have a vast fund of public good yet to dispense in continued reductions, which this recent experience ought to assure them will re-act upon their own interests, and not only make up for all deficiency in price, but increase their profit over and above. And why should not the public of Leicester *individually* be supplied with their private requirements of gas-light at least at the much lower rate at which they *are* actually already supplied *generally*, for their street lamps, namely, at 3s. 4d.? We regard the *fact* that the Leicester public *are* supplied at that rate, to be evidence incontrovertible that 5s. 6½d. for supplies to parties not protected by the moral force of corporate authority or association, is an indefensible overcharge, which the gas authorities would not dare to make were the private consumers united, as an association, for the reduction of price at least to the public standard already established amongst them.——The foundations of St. Mark's Church, Wolverton, are in a forward state. The Duke of Cleveland is to lay the chief stone.——The materials of several buildings in the way of the Birmingham Town-hall improvements have been announced for sale.——In consequence of some dispute between Messrs. Hardwicke and Pashby, the contractors, and the workmen employed by them at the gaol and asylum at Winson-green, Birmingham, the men have struck work and have endeavoured to coerce the masters, by preventing others from continuing and from undertaking to do what they have themselves declined; and one of those who refused to sacrifice himself and family to the despotic fiat of his fellows was actually thrown into a canal, whence he only saved himself by happening to be able to swim. In this and other cases of assault, the magistrates have in the meantime admonished the assailants on the highly illegal and oppressive nature of their proceedings.——The new school buildings in All Saints, Worcester, are now completed by the conversion of the old rectory-house, on a plan by Messrs. Rowe and Son, architects, executed under their superintendence by Mr. Harrington, of Broad-street. The Committee of Council on Education and the National Society are to assist subscribers in the payment of the expense.——A carved gothic monument has just been erected in the chancel of Tamworth Church, in form of a mural niche with corbells, buttresses, and canopy, in Caen stone, and a marble tablet. The artist was Mr. Matthew Cooke, of Gloucester.——The foundation stone of a new church at Toxteth-park, Liverpool, to be called St. Matthew's, was laid by the Earl of Sefton on Tuesday week. It is to contain 1,300 sittings—900 free.——Brinksway stone bridge, at Stockport, to form a public communication between the counties of Chester and Lancaster, is now completed. The contract was taken in October last by Messrs. H. and S. Bann, builders, of Stockport. It is 10 yards wide between the parapets, with a flagged footpath on the upstream side of 4 feet 6 inches, and on the down-stream of 3 feet, the parapets being 4 feet 6 inches above the level of the footpaths. It has a 60 feet span over the river between the abutments, with a rise of 17 feet 8½ inches from the spring stone, and a flood-hole on each side 7 feet in diameter. The cost is estimated at 2,000*l.*——A gentleman at Manchester has offered 1,000*l.* towards the endowment of a church; and another has offered an estate suitable for an episcopal palace, including a house with six entertaining rooms and ten bed rooms, at any price, between 5,000*l.* and 10,000*l.*, fixed by the surveyor of the Ecclesiastical Commissioners—the sum so fixed to be expended in the building of churches in the parish.——The pit and gallery of a wooden circus, temporarily erected at Leeds, gave way recently, while closely packed with people, and injured several, and killed one of them on the spot. The cause is suspected to have been the want of sufficient props to support the beams. The *Leeds Intelligencer* very properly recommends that all such buildings for public exhibitions or meetings should be examined by the borough surveyor, and certified as to safety. Measures ought at the same time to be taken against fire, to which such erections have hitherto generally fallen a sacrifice.——St. Luke's Church, Eccleshill, was to be consecrated on Tuesday last.

METROPOLITAN COMMISSION OF SEWERS.

A GENERAL meeting of the Commissioners of Sewers was held on Thursday, the 23rd ult.; Lord Morpeth, M.P., in the chair.

The following reports on the subject of the Ordnance survey of the metropolis were presented by Sir H. de la Beche and Mr. Chadwick:—

"Understanding that the Ordnance survey of Westminster is now sufficiently advanced to permit the needful steps to be taken for ascertaining the subterraneous levels connected with the branch and main sewerage, so that the information collected may be added to the block-plan—a measure essential to the future arrangement of the general drainage,—

We recommend that at least three properly qualified persons, such as may be obtained among the Sappers and Miners, who have been employed on the Ordnance survey, and who, having served their time in that corps, have now quitted it, should be engaged for this duty, and that under them the number of labourers requisite be employed, so that the work may be completed without loss of time.

"Having received a communication from Lieut.-Colonel Hall, to the effect that the minor area first recommended to be surveyed for the block-plan of London had so nearly been completed, that it would be desirable to have the next minor area to be surveyed, pointed out, we have to report that seeing the great advantages of ascertaining the relative levels of a considerable natural area for drainage purposes, so that all works constructed, particularly in the lower ground, should have reference to a comprehensive system, at once effective and least costly, we have requested Lieut.-Colonel Hall to proceed with an adjoining portion of ground where the requisite object can be attained.

The new minor area consists of a district comprised within the limits mentioned in the accompanying document, and, when completed, will afford data of great importance for the consideration of the drainage applicable to a large part of London. Without this knowledge, works carried on within the low district of Westminster might want that reference to a general system, which is important, and money be expended upon them, which, however justifiable as respects that low ground alone, might be injudiciously spent as regards a proper and general system of works."

"The second area proposed for the extension of the Ordnance survey of the metropolis consists of the district immediately adjoining to and northward of the first area, now nearly completed; and is bounded by the river from Westminster-bridge to Waterloo-bridge, Wellington-street, and Tottenham-court-road on the east; the New-road, Grand Junction-road, and the Lee-bridge-road on the north; the Queen's-road, Kensington Gardens, and thence to the westernmost portion of the first area on the west."

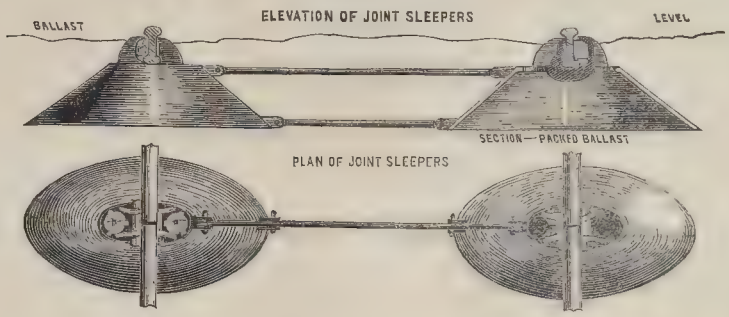
The reports were agreed to unanimously.

On the recommendation of the General Purposes Committee, it was agreed that 1,300 feet of sewer should be built in Dean-street, Soho, the inhabitants in the district contributing a portion of the expense.

In answer to a question from the Hon. F. Byng, Mr. Hertslet stated that a great portion of Greek-street, in which the Sewers' Office is situate, is at present without any sewer.

A new sewer was ordered to be built in Winchester-road, New-road; and in reference to the expense, it was remarked that a portion that would formerly have cost 200*l.* would, under the improved regulations, cost scarcely 50*l.* And a similar remark was made as to a proposed new sewer at Reeve's Mews, Hoxton, Mr. Chadwick stating that what, under the old mode, would have cost 600*l.*, will now, with a very superior drainage, cost only 215*l.*, besides affording relief to a quarter of an acre of garden ground, enabling it to be converted into a useful purpose, which, without such relief,

GREAVES'S SURFACE-PACKED RAILWAY SLEEPERS.



would have remained a stagnant and offensive ditch, A new sewer was ordered to be constructed in Bedfordbury. It was next agreed that all works of emergency should be immediately put in hand, and the same to be reported at the next court.

A letter was read from R. G. Anderson, Esq., Assistant Paymaster General, to whom the system of keeping the accounts of the Commission by Mr. Grey had been referred, which stated that he had no hesitation in saying that it would work well, and that the plans were well calculated to avoid useless repetition and labour.

The General Purposes Committee recommended that, in consequence of the immense quantity of matter flushed away, and the consequent diminution for their necessity, half the flushing men be paid off, which recommendation was agreed to.

The surveyor's report on cleansing and flushing was read, and from which it appeared that no less than 90,000 tons of sewage matter had been flushed away from 60 miles of sewers on the north side of the Thames alone.

The following recommendations of the committee were also adopted:—

That tenders for one year for jobbing works under 200*l.* be obtained for Westminster, Tower Hamlets, and Poplar.

That gully-flaps be fixed at the public charge.

That the system proposed by the public accountant be approved and adopted.

That no person be retained in the service of the commissions as a salaried officer who is in private practice, or whose whole time is not available to the public service.

That the committee be authorised to renew the services of such officers as they deem requisite for carrying on the business of the commissions.

On the motion of Mr. Hutton, it was resolved, that no petition be received unless it be placed in the hands of the clerk at least three days previously, except in any emergency, to be determined by the court.

The clerk produced the following financial statement of the commission:—

	Balance.	Cheques drawn.	Balance remaining.
Westminster district	£4186 19 9	2,173 14 7	1,013 5 2
Holborn and Finsbury	1,426 16 11	375 13 6	1,051 2 7
Tower Hamlets	9,705 18 3	511 5 0	9,194 13 3
Poplar	276 11 1	61 5 0	215 6 1
St. Katharine's	Nil.	Nil.	Nil.
Surrey and Kent	1,924 4 2	1,688 17 7	235 6 7
Greenwich	106 1 0	23 15 0	82 6 0
Total balance in hand			£11,791 19 8

Improvement of Drain Pipes.—Some time ago, we mentioned Mr. John Martin's invention for securing drain pipes together at the joints, without incurring the necessity of breaking one or more length of pipe in order to remove any obstruction that might occur in it. Another has since been registered by Mr. Northen, of Lambeth. Each length of pipe has a half faucet (so to speak) fastened on the same side of its two ends, so that when the pipes are put together the half faucets on the upper side of one length of pipe fit on to the half faucet on the under side of the adjoining length, which, while it is supposed to give the security against leakage possessed by the spiggot and faucet joint, admits of any one pipe in the series being replaced without disturbing the others.

GREAVES'S SURFACE-PACKED RAILWAY SLEEPER.

Improvements in the construction of the permanent way, the maintenance of which forms at present a large item in the accounts of all railway companies, are still obviously needed. Stone sleepers have given place to wooden ones, but these are found to have many disadvantages, such as want of durability, and the necessity of constant supervision to keep them properly adjusted. Mr. Greaves, a Manchester machinist, has invented and patented a *cast-iron* sleeper, which appears to us to have many advantages.

It may be described as a hollow cone (but oval on plan instead of circular), the chair for the rail forming the vertex. Tie-rods connect these cones in pairs, as shewn by the annexed cut, so as to prevent displacement; and the chair being cast as part of the sleeper itself, the serious difficulty at present experienced in fastening the chair to the sleeper is avoided.

The first cost of the patent sleeper and chair is, we are told, about the same as that of those at present used; but when its superior durability, and the less cost of maintaining the permanent way, in consequence of its use, are taken into consideration, the invention will be seen to effect a large saving.

It has been in use, we hear, on a portion of the Lancashire and Yorkshire Railway for twelve months.

Correspondence.

FALL OF KNARESBOROUGH VIADUCT OVER NIDD.

Sir,—In your last week's allusion to the fall of this viaduct, I find these words:—"The cause remains yet to be explained." As a builder of similar constructions (as well as a shareholder), and having seen this viaduct during construction, also since its fall, I venture to assign the cause in a few words, viz., lack of practical knowledge and of common sense in those concerned. My reason for coming to that conclusion is deduced from "plain principles." The weakness occurred in the middle pier of four arches of 60 feet span each, and was owing to the simple fact of the pier wanting to be composed of work well bonded and grouted, in lieu of common wallstone of from 9 to 12 inch bed, filled in between with spawls, and sandy mortar, with scarcely any bond at all. I conceive it a great public benefit that it has tumbled down now, before the opening. Only conceive the idea of such a construction just being able to stand on its legs until an engine approached with its load, and dropping along with the mass.

It behoves the Commissioners of Railways to look to these things, and The Builder should sound the alarm. Not long since the arches over Wharfe, on the Leeds and Thirsk line, fell; and if these things are any criterion of the general state of affairs along that line, inasmuch as the same parties have control of both, with the immense mass of arching in the tunnel,—it would be wise for the shareholders to look a-head in time, for it is certain in all these cases they must pay the piper.

The present affair is about 8,000*l.* damage, besides loss of time in reconstructing.—I am, Sir, &c., A Subscriber.

Miscellanea.

St. Peter's Church, Liverpool.—The foundation-stone of the new Presbyterian church, about to be erected in Great Oxford-street, opposite St. Martin's, was laid on Wednesday in the week before last. The style is early decorated Gothic, and the roof will be of open framed carpentry. The length of the edifice outside will be 111 feet; breadth, 53½ feet, comprising nave and aisles, with a spire 119 feet in height. The nave roof will be 48 feet high, lighted by a range of three-light windows in the clerestory; that of the aisles 16 feet, lighted by two-light windows. The nave gable is to be filled with traceried five-light windows, likely to be of stained glass. There will be no galleries, except a small one over the porch. There will be 800 sittings. No chancel being required, a large vestry and library at the north end are grouped together with the gables of the nave aisles and a transept entrance on the east side. Schools, well lighted and high roofed, are to be provided for 450 children, with windows above the level of the street. Mr. Hay is the architect, and the work has been contracted for by Messrs. Paterson, Anderson, Bromley, and Holt. The cost of the whole will be rather more than 3,000*l.*

Sims's Steam-Engine: a Novelty.—The economization of steam and fuel appears to be about to reach its maximum, or rather its minimum, in a recent patent taken out by Mr. James Sims, of Redruth, the well-known steam-engine builder, the essential principle of which consists in the use of steam merely to shift the main sources of the motive power,—viz., two heavy weight-blocks to each of one, two, or more wheels—alternately from and to the centre of motion. The principle is said to be applicable either to rotary or reciprocating engines, and to engines working either on the expansive or the condensing principle, but particularly to expansive and high-pressure engines. The wheel or wheels, too, may be made to revolve either way, and the power may be transmitted either from the shaft or the periphery, and may be converted, as the special purpose of the engine may require, into rectilineal motion by any of the known methods.

"The Locomotive."—Peter Progress, whose little treatises on "the rail" and "the telegraph," we have already mentioned, has now given a pleasant and not too profound an account of the application of steam to the purposes of locomotion.* With its predecessors, it forms a very interesting account of railway appliances in the nineteenth century, well calculated to seduce the listless into the acquirement of some useful knowledge, and to open the understanding of the young.

* Clarke and Co., Gracechurch-street.

BEDFORD ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.—Earl de Grey presided at the first annual meeting of this society, held last week. A report from the council having been presented, papers were read "On Architecture," by Mr. G. R. French; "On the Ecclesiastical Architecture of Bedfordshire," by the Rev. W. Airey; "On Archæology," by Mr. Inskip; "On the Seals of Bedfordshire," by the Rev. H. J. Rose. The president, in the course of some observations which he addressed to the meeting, referred to restorations and improvements which had been made in the county, particularly at Cockayne Hatley, Cranfield, Warden, Eyeworth, Ampthill, Steventon; St. Mary, St. Peter, and St. Cuthbert, in Bedford; Aspley, Pavenham, Halcote, Podenton, Harrold, Tingrith, and some others. It was gratifying to learn that extensive works would be carried into effect this year at Felmersham, Stagsden, Clophill, Potton, and upon that beautiful relic of antiquity, the priory church of Dunstable. A letter was read from Mr. W. P. Griffith, suggesting, amongst other things, that "attention should be directed principally to such examples of church architecture as are good and pure, in preference to those which are merely surprising or curious. The latter are more fitted for the antiquary; we must treat our old churches like the bees do the flowers, cull only the sweet or the good." If we can find space we may hereafter give extracts from some of the papers.

THE WESTERN LITERARY INSTITUTION, under the new management, is going on very spiritedly. The appropriation of one evening in the week to the consideration of scientific subjects of the day is a good arrangement.

SMOKY CHIMNEYS.—Sir: The attention of builders has frequently been called to one of the great drawbacks to domestic comfort, viz.: a flue which refuses to convey the smoke. Your correspondent, W. Rowe, like many others whose prescriptions I have read, seems to consider he has discovered a universal remedy. I would not undervalue his opinion on one point; on the contrary, every one must agree with him that the draft to the fire must be powerful to cure obstinate smokey chimneys. But I deny the soundness of the principle laid down for cure if applied as a universal maxim. I believe the causes of this crying evil are numerous; and, in order to cope with them, a knowledge of pneumatics as applied to mechanics is requisite. Among other strange things, I remember reading an odd principle laid down by a writer who dilated on the merit of a "mail guard's horn" as a model for the construction of flues, and strongly advises the small end being placed downwards. I need not point out the absurdity of the proposition,* as every one will perceive the smaller the column of rarified air the greater will be the pressure as it ascends, in consequence of its spreading to a broader surface of condensed air. I have stated that I believe the causes of smoking chimneys are various. Take, for example, the position of doors, especially when there are more than one in a room. Again: in a mansion there are offices attached, the chimney-shafts of which are considerably below those of the mansion, the westerly winds prevail, and you have smoky chimneys; and, in some cases, the flues are twisted about in all directions, rendering it quite impossible to clean them with a machine, and often perilous for the poor boy who attempts to climb them, and thus they remain imperfectly cleaned, so that there is scarcely a passage left for the smoke:—in this latter case, your correspondent's tube would be impracticable. Mr. Nicholson recommends a plan which I think preferable, which he describes in his "Practical Builder;" it consists of a funnel, fixed to the covings, inclining to the size of a pipe, made in short lengths, to fix on the top, for several feet up the flue. The iron being a rapid conductor, the air is speedily rarified, and a space being left round the pipe gives room for the downward current, without arresting the progress of the smoke. Believing the mode adopted by your correspondent in agitating the subject through the medium of your valuable publication the best course, I have ventured to follow in his track.

THOMAS THOM.

* The *absurdity* of this is not so certain as our correspondent thinks.

PROJECTED WORKS, &c.—Advertisements have been issued for tenders, by 7th inst., for the external restoration of Ware Church, Herts; for the erection of a church and parsonage-house at Prestwood, Bucks; the erection of a Union-house for 600 inmates at Aylsham; the erection, &c., of the York new Workhouse; —by 20th, for the rebuilding of the parish church at Rochcliff, Carlisle; by 10th, for the erection of a new military prison at Forton, Gosport; by 3rd, for alterations and additions at the Bedford County Prison; by 6th, for altering and enlarging the Union Workhouse at Thornbury; by 3rd, for the erection of two additional wards to the Romford Union Infirmary; by 3rd, for the works of the City of London Union Workhouse (enlargement of time); by 15th, for the erection of a Farm-house and buildings, at Thorverton, Devon; by 20th, for the construction of Sewers in the Southampton Marsh, and for making new roads thereon; by 10th, for paving and repairing the carriage-way pavements in the Whitechapel district; and by 7th, for maintaining and keeping in repair part of the turnpike-road between Melton Mowbray and Grantham.

FILE MAKING BY MACHINERY.—In the town of Birmingham, Connecticut, an invention has been perfected for cutting files by machinery, which, it is said, if not brought to England, will make files an article of import. In England files are cut with a hammer and chisel, producing from one to a dozen files per day. A contemporary thus describes the new machine:—It is about 5 feet long, 2 feet wide, and 3 feet high, and can be worked as easily as the turning of a common grindstone. The blank intended to be made a file is placed in a central position, the chisel strikes both sides of the blank at the same time, making, in common speed, between 200 and 300 cuts per minute. The gearing is so adjusted that the chisels accommodate themselves to the thickness of the file, so that the cut is equal in depth throughout; and the regular progression of the file ensures perfect regularity in the distance of the cuts. A 10-inch file, of medium fineness, is cut on both sides in three minutes; in three minutes more the traverse cuts are made, and it is again passed through to cut the sides. Thus, three machines, which will not cost more than 300 dollars each, and can be tended by one man, can complete twenty common files in an hour, or 200 in a day. A steam-engine of 5-horse power can put fifty of these machines in operation.

RATING OF TENEMENTS.—The first clause of the Bill brought into the House of Commons by Mr. P. Scrope, having for its object the exemption of occupiers of small tenements from the payment of Poor and Highway rates, enacts—"That from and after the 25th March, 1848, no occupier of any tenement of which the net annual value shall not exceed 10*l.* in any city or town which contains a population of 50,000 inhabitants, or 8*l.* in any town which contains between 10,000 and 50,000 inhabitants, or 5*l.* in any other parish, shall be liable to be assessed for the relief of the poor, or for the repair of the highways. Provided that in case the medical officer of the union shall certify, in writing, that any such tenement, for want of proper drainage or ventilation, is in such a state as to be prejudicial to the health of the inmates, or of persons residing in the neighbourhood, it shall be lawful for the authorities to give directions to the overseers, churchwardens, or other officers, by whom the rate of the parish or place in which such tenement shall be situated, is made or assessed, to assess and levy the rates on the occupier of such tenement, the same as if this Act were not in existence." By the second clause it is provided—"That this Act shall not apply to, or be in force in any city, town, or parish in which, by any local Act, the rates for the relief of the poor, or the repair of the highways, are or may be levied from the owners of tenements under 6*l.*"

SCENERY AT THE LYCEUM.—Mr. Beverley has produced two excellent scenes for "The Happy Family," now playing at the Lyceum; "A Dilapidated Inn-yard," and a "Waterside Villa." The latter especially is one of the most perfect transcripts of the hundred and one cockney boxes scattered along our rivers' sides, with no features but comfort and a smart veranda, that can be conceived.

THE CAMBRIDGE ARCHITECTURAL SOCIETY.—On the 17th ult., a meeting of the Cambridge Architectural Society was held at the Society's Rooms, when the rev. the President, gave a description of the church of St. Mary at Jerusalem, built by the Emperor Justinian, circa A.D. 535, but now a mosk called Al-Aksa.* It stands southward of the area once occupied by the Jewish Temple, where now is the well-known Saracenic Building—the Mosk of Omar, or "Dome of the Rock." Vast substructions were made to raise its foundations level with this area, and the church itself—a nave with aisles and transepts —was of vast dimensions, dazzling glory, and costly adornment. Theodore, a distinguished architect, had the honour of its erection; and Barachus, a bishop of Bacathi, was overseer of the work. When Jerusalem was taken by the Saracens, under Omar, St. Mary's was converted into a Mosk, and held by them in only less reverence than the "Dome of the Rock." Between 775 and 785 Al-Mahadi almost rebuilt it, altering its character materially; he reduced its length, and increased its width by adding two aisles on either side. Jerusalem was recaptured by the Crusaders A.D. 1099, and in 1119 Baldwin I., the king, gave the church, under the name of the Palace or Temple of Solomon, to "the poor fellow-soldiers of Jesus Christ," a voluntary association of noble knights for the protection of christian pilgrims, and the original of the illustrious order of the Templars, who indeed derived their latter name from this venerable building. Saladin again took the city in 1187, and the church of St. Mary once more passed to the Moslems by whom it is still retained; it nevertheless to this day exhibits, externally, a christian character, having a long, high-pitched roof, and a clerestory, aisles, and transepts, all sufficiently well defined. Its length is 260 feet, and width 180. Beneath is a double-vaulted passage, part of the substructions before-mentioned.

THE SOCIETY OF BRITISH ARTISTS will open their exhibition to the public on Monday next. It will be found above the average degree of merit. We hear good things of a large landscape by Mr. Pyne, especially as to the middle distance; a picture by Mr. Anthony in his peculiar style, and a capital bit of painting by Mr. Windus;—that Mr. Wilson, jun., has a beautiful "Avenue," and that some heads, by Mr. Baxter, excel in colour and feeling. A charming little picture, by Mr. Marshall, "The Coming Footstep," is also praised.

THE WELL-KNOWN WELL AT ANTWERP, placed in the open space opposite the Cathedral, as seen in Hollar's engraving, has been perfectly repaired, and the missing parts restored, agreeably to the original design. The base, on which this singular iron canopy now stands, is a new construction, square in form, and of stone; the upper part is pierced with quatrefoils, and harmonises perfectly with the trefoiled arches of the iron-work, which unite at the apex, and are surmounted, as all antiquaries know, with a small statue of the Thundering Jupiter. It is a monument of undoubted antiquity, and a beautiful example of the handicraft in metal which distinguished the mediæval era, always attributed to the hammer and chisel of the famous blacksmith of Antwerp, Quintin Matsys. Whether his work, or not, is at least unrecorded by any written document, but tradition has always so described it.—*Art-Union Journal.*

MODERN FRENCH ART IN THE LOUVRE. —As might be expected, the result of giving a place to every picture sent (an experiment determined on to meet the extraordinary circumstances of the time) is very unsatisfactory. The exhibition contains no less than 5,180 works, thus divided, according to the *Literary Gazette*:—

Painting	4,599 Nos.
Sculpture	335
Architecture	39
Engraving	144
And lithography	64

Some letters received by us from French artists speak most despondingly of their prospects. For a time, at all events, there will be little inclination or ability to spend money on works of fine-art.

* Mr. Fergusson in his interesting volume "On the ancient Topography of Jerusalem," denies that the *Aksa* is Justinian's Church, and gives reason for his opinion.—ED.

INSTITUTION OF CIVIL ENGINEERS.—At a meeting on the 21st ult., the paper read was descriptive of "A method of setting out Railway Junctions," by Arthur Beaulands. The object of the paper was to supply a methodical rule for setting out that portion of a branch line of railway included between the rails of the main line. The author observed, that in all ordinary cases, the curve of the branch line could not be set out from the main line, which was supposed to be straight, by the ordinary methods of setting out railway curves, since the junction was required to make an offset of four to five inches on the length of the switch rail, which was much greater than the offset made from the tangent in the same length by a curve of moderate radius, so that it was necessary to make the junction line start abruptly at a finite angle with the main line. He therefore considered the junction curve to be determined by its passing through three given points—namely, the two extremities of the switch rail and the furthest point of crossing; and from these data he showed how the radius and centre of the circular arc might be found, as well as the positions and angles of the various crossings. To render the method more easy of application, the author gave a table calculated from the principles and formulæ laid down in the paper.

THE ART-UNION OF LONDON AND THE BOARD OF TRADE.—The correspondence is now published, and may be had free, we understand, by subscribers and artists, on application at Trafalgar-square. The artists should move in the matter forthwith. We cannot anticipate a very prosperous year for them; and if the Board of Trade succeed in cramping and reducing the operations of the London Art-Union, matters will be still worse.

FULHAM UNION COMPETITION.—So much mystery and unwillingness to give information has been exhibited at the Hammersmith Workhouse, as to lead to various rumours. The name of the architect, said by us recently to be the successful competitor, was given to us by a person holding an official position in the parish; it appears now, however, that the names should be as follows:—No. 1. Mr. A. Gilbert, Blackheath; 2. Mr. Jarvis, Southwark; and 3. Messrs. Garland and Christopher, Adelphi.

THE ROYAL ACADEMY EXHIBITION.—A writer in the *Times* suggests that the council of the Royal Academy should issue season tickets, at 5s. each, as a boon to those who would really enjoy the contemplation of the works of art exhibited there.

IMPROVEMENTS IN TRUSSING BEAMS AND GIRDERS.—A patent has been taken out by Mr. William Gibbons, of Corbyns-hall, Worcester, for the application of bow-springs with the tie-rods employed in trussed-beams and girders, and for the formation of cast-iron beams and girders with grooves on their sides for insertion of the rods. The springs are intended to impart an upward pressure, by adjusting them at about the centre and under side; they are also to be applied in compound beams or girders, at the points of junction of each of the main portions. We do not at first sight recognise their value.

AN ARCHÆOLOGICAL SOCIETY has been formed at Bury. A meeting was held on Thursday to carry out the project; and a considerable number of subscribers have been obtained.

PRESERVATION OF NATIONAL MONUMENTS.—One of the first acts of the present King of Denmark has been to issue an order that all the national monuments on the royal estates shall be excepted from the leases to the under-tenants—and preserved as the property of the public.

QUICK WORK IN THEATRES.—A correspondent, commenting on the notice of the recent alterations at the Italian Opera-house, Covent Garden, says:—"I am inclined to think your correspondent may not be aware that the theatre in question was built by the late Mr. Alexander Copland in *ten months*, under the direction of Sir Robert Smirke; and that your humble servant pulled down the old, and built the present Haymarket Theatre in *four months*, under the direction of the late John Nash, Esq.—I am, Sir, &c.,

JOHN REID."

TENDERS

Tenders for works to be done at Holloway-place, for Mr. James Tyler. Mr. James Harrison, architect:—

Piper	£2,196
Locke and Nesham	2,133
W. Cubitt and Co.	1,940
Lawrence	1,874
Jay	1,873

List of Tenders for rebuilding the Irongate Wharf and Warehouse, St. Katharine, Thames-street, for the St. Katharine Dock Company. Mr. George Aitchison, architect:—

Little	£31,327
Lee	30,576
Piper	29,520
Grimsdell	29,500
I'Anson	29,150
W. Cubitt and Co.	28,800
Kelk	28,474
Harrison (accepted)	27,750

For 460 feet of Sewers in Finchley-road, 25th March, 1848.

Mutter	£394	15	0
Robinson	285	0	0
Perkins	280	0	0
Livermore	266	0	0
Hill	236	0	0
Dethick	229	0	0
Shepherd	223	0	0
Humphreys and Thirst	219	0	0
Bradley and Rogers	215	10	0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, April 3.—Institute of British Architects, 8 P.M.
TUESDAY, 4.—Institution of Civil Engineers, 8 P.M.
WEDNESDAY, 5.—Society of Arts, 8 P.M. (annual meeting).
THURSDAY, 6.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.
FRIDAY, 7.—Archæological Institute, 4 P.M.

TO CORRESPONDENTS.

"*South Stoneham Union Competition.*"—We have already printed a similar letter. Competitors may justly complain of the way in which they have been treated. One threatens proceedings.

"*X. Y. Z.*"—An answer next week.

"*H. K. P.*"—We cannot reply without seeing the paper: it should be returned safely if not eligible. The subject would suit us.

"*Zeta.*"—Yes. According to the New Buildings Act, the basement, if there be one, is the first story, ground floor, &c.

"*G. G.*" Norfolk).—Send three penny stamps to Cundall's, 12, Old Bond-street, for the Art Manufactures' Catalogue.

Received.—"W. W.," "J. M.," "A Working Man," "M. P.," "An old R. A.," "A Competitor," "Constant Reader" (Chester), "C. A." (shall appear), "J. D. P." (next week), "C. D. K.," "W. S.," "An Architect," "J. N.," "N. W.," "W. W.," York (not our province), "T. W.," "P. H. W.," "R. S. N." (Gateshead), "Art-Union Journal" for April (Chapman and Hall), "Tradesman's Book of Ornamental Designs," part X. (Orr and Co.),

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

NOTICE.—ROYAL POLYTECHNIC INSTITUTION, incorporated by Royal Charter in 1838.—ARTISTS and MANUFACTURERS of the USEFUL and ORNAMENTAL ARTS, and PATENTEES of NEW INVENTIONS, specials of WORKING MODELS, are respectfully informed that their Works should be forwarded to the Institution for Deposit on or before the 8th instant, to be in time for the New Edition of the Catalogue.
The INSTITUTION will be RE-OPENED to the Public on the 20th instant.
April 1, 1848. R. J. LONGBOTTOM, Secretary.

TO BUILDERS, PAINTERS, AND OTHERS.
MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
70, York Road, Lambeth; and at 38, Cross Street, Blackfriars Road.
*** An Apprentice wanted.

TEN TON LANDING CRANE, for IRON-CASTINGS, BOILERS, TIMBER, and STONE. Also, Warehousing on the London Vulcan Iron Company's Wharf, 14, Earl-street, Blackfriars. Also, COAL LANDING on same Wharf.

JENNINGS'S PATENT INDIA-RUBBER TUBE COCKS can be had of any size, at prices, not exceeding those now made for the Plug Cock.
For JENNINGS'S PATENT JOINTS, WATER-CLOSET, and PATENT VALVES, a list of prices may be had by enclosing a stamp.
JENNINGS'S SHOP-SHUTTER SHOE and FASTNER can be had in malleable iron, at 3s. 6d. per shutter nett to the trade. A list of testimonials may be seen by applying at the manufactory, No. 29, Great Charlotte-street, Blackfriars-road.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London. These Pencils are prepared in various degrees of hardness and shades.

HHHH for drawing on wood.	FF light and shading.
HHH for architectural use.	F for general use.
HH for engraving.	B black for shading.
H for sketching.	BB ditto ditto.
HB hard and black for drawing.	BBB ditto ditto.
M medium.	BBBB ditto ditto.

Sold by all the principal Stationers in town or country.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's lane, and 11b, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 30,000 are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS.—The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are leading to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs. G. and J. DEANE fit up single apartments or houses on true scientific principles, and in the most artistic style, and as every thing is got up in their own workshops, G. and J. DEANE can engage for the strictest punctuality and the lowest possible charges.—N.B. Plans and estimates prepared.—GEORGE and JOHN DEANE, Gas fitters, opening to the Monument, 46, King William-street, London-bridge.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

J. GOODWIN'S TERRA-METALLICA Blue Tiles, Ridges, Hips, Quarries, Building and Flooring Bricks, Barn-floor Bricks, Malt-kiln Quarries, Cylindrical, Conical, and Socket pipes, of every variety and size, may be had at the Lane Tile-works, near Stoke-upon-Trent, Staffordshire Potteries, the Trent and Mersey Canal, and the North Staffordshire Railway, supplying the means of a ready communication with most parts of the kingdom.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd Dec., and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address 4, Wharf, Macclesfield-street South, City-road Basin.

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 109A, Piccadilly, from Ten a.m. to Five p.m. Mr Robert Seymour, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North Western Railway, and two miles from the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent street, London. All communications to be addressed to Mr WILLIAM GORDON, Secretary, at the office of the Company, London, 109A, Piccadilly.—March 1, 1848. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan street, Glasgow; Mr Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pen-bridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr John Connor, Newton Limavady, County Derry.

PAPER-HANGINGS, CHEAPEST IN LONDON. Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and Pacific Bedrooms, 3d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.
W. CROSBY, 23, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.
E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price, and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above, 451, Oxford-street.

JACKSON'S PAPIER MACHE and CARTON PIERRE, Enrichments executed in the first style, at their Establishment, 49 and 50, Rathbone place.
Just published, a Series of Designs for SHOP FRONTS—Elizabethan, French, and Italian. Price 7s. 6d.
Designs prepared, Ceiling Flowers, Mouldings, Wall-dressings, and general interior decorations in every style.

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Board of Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 13, Wellington Street North, Strand.

THE REGISTERED VALVE. HYDRAULIC RAMS, FOUNTAIN BASINS, in Iron; Water-wheels, Steam-engines, &c.; Pumps for deep Wells, &c.; Liquid-manure Pumps; Fountain Jets of every design; Douche Baths, and every other description, erected and heated on scientific principles; Buildings heated by Hot Water; Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Table Fountains to play; Scented Water during Dessert; Analysis of Water from 7s. 6d. to £5. 5s.; by FREEMAN ROE, Hydraulic Engineer and Fountain Maker, No. 70, Strand, London.—Wells sunk and boring executed in town and country.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Ray-street, Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common cocks. The waterway, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required for confined situations, the balls can be made smaller and the rods shorter than usual.
BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.
Underhay's Patent Silent Stop Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.
We beg to submit one of the many testimonials in our possession.

London Works, near Birmingham.

Dear Sir,—We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action. We are, yours obediently,
Mr. F. G. Underhay. FOX, HENDERSON, and Co.

Messrs. W. Cubitt and Co., of Gray's-inn-lane, and Messrs. T. Cubitt and Co., Thames-bank (also many other eminent firms) who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purposes.

ECONOMY!
STEPHENS'S DYES for STAINING WOOD, AS A SUBSTITUTE FOR PAINT, for decorating Churches, large Public Rooms, and Theatres, as well as Private Dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural grain, rendering them superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 8d. and 1s. each, and at 10s. per gallon. They may also be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.
Sold also at the office of "The Builder," 2, York-street, Covent Garden, London; and at HOPKINS and PURVIS, Colourmen, Greek-street, Soho, where specimens may be seen.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Grey Stone Lime per Ton. Cement Claim upon every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently a superior article for Internal Stucco, and for Concrete in the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will rarely from three to four times its own bulk of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green, nor is it affected by any atmosphere influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM 5, MAIDEN-LANE, TO 22, STEEL-YARD, UPPER THAMES STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet—does not discolour by Damp—wants no Paint—never cracks, blisters or blisters—affords no substance without previous preparation—is not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for Internal Damp Walls—it is very cheap, and very easily laid

Where, also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having no Oil nor Driers, hardens itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, producible by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations.—Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel yard, or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description, and S. MARTIN himself that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of flint.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface, which may be made equal to that of the finest marble NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as the internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface offer an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 18a, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Cunningplace, Liverpool.

EMERSON'S PATENT CEMENT PAINT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used for the purpose of imparting the facsimile of appearance of PINE CUT PORTLAND OR OTHER STONE; it can be used at ice or fresh. It may be put on at other periods, and is particularly applicable for the inside of private mansions that have become soiled or dingy, which can be at once benutified in any weather, at a mere trifling cost. Sold in casks of 1 and 2 cwt., at 8s. and 15s. per cwt.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIP'S SIDES, DECKS, also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railings, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence, and decay,—requires no preparation, and will dry in a few hours.—Price 3s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

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TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, performed Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls Masques, Heads, Figures, Pilazes, Tombs and other Chimney-Shafts, Soffits, Bed-mouldi, Paterae, &c. &c., 36-inch Centre Flowers fixed complete, 24s each, and all in proportion. A large assortment of Shop-front Trusses always ready for fixing. JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. &c. All of which finished in a superior manner, and at half the usual price.—35, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND OTHER IMPROVEMENTS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now for ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 12, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates.

J. L. GRUNDY, Company's Agent.

12, RATHBONE-PLACE.

SOHO PLATE GLASS COMPANY, 26, Soho-square.—Established for the EXCLUSIVE SALE of the PLATE GLASS manufactured by the St. Gobain, St. Quirin, and Cirey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three-quarters inch thick.

ALFRED GOSLETT, Agent.

SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE. ALFRED GOSLETT (Agent for the EXCLUSIVE SALE of the FRENCH Plate Glass) begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.

ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.

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GLASS FOR CONSERVATORIES.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG	SMALL SQUARES OF SHEET, 4 by 3 and 4 by 4	HIP. 9 Ft.
16 oz. to the foot 3½d. per foot,	5 .. 3 at 4½ .. 3½ .. 2	"
21 " 5 "	6 .. 4 " 6½ .. 4½ .. 2½	"
26 " 7 "	7 .. 5 " 7½ .. 5½ .. 3	"
32 " 10 "	8 .. 6 " 8½ .. 6½ .. 3½	"
	Not above 10 .. 8 .. 3	"

GLASS MILK-PANS, PROPAGATING GLASSES, and BEE GLASSES, of GLASS TILES and SLATES.

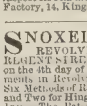
CREAM-POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 28 inches long, 1d per inch.

LACTOMETERS for the Detection of Milk, 4 tubes, 7s. 6d.; 6 tubes, 10s.; and every article in the trade.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, and moderate prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed Packing-cases made for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worth the notice of all engaged in building.



HERRING'S PATENT SAFETY WINDOW. No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb in cleaning and repairing. It is in full operation four different ways, forms a complete ventilator and sunblind; all simple, cheap, and effectual.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, RUSSELL-STREET and 1, CHANCERY-LANE. Patent sealed on the 4th day of February, 1846, for "Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Beading the Edges of Wood Shutters with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and the Public in general, to Order, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cogwheel, worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Sole Lincensees for the manufacture of MARVIN'S PATENT DIAGONAL GRATINGS, for Areas, Balcony Floors, &c.

The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by practical skill and experience have been adopted, and the prices greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS.

B. and C. have also made great (registered) improvements in Revolving Wood Shutters, which are fitted up with proper metallic bunges that cannot rust (without which no shutter can be safe or durable), and are so small in the parts, raising great as for Iron Shutters, or counterbalanced in a new or peculiar way, and are worked up or down with Her or greatest ease, without the use of objectionable loose lines. A comparison with any others, as to quality and price, is respectfully solicited.

A modification of the above, for working vertically, is especially adapted for Bay and Oriel Windows.

The prices of the Patent Metallic Sash Bars, &c. have been reduced, and where practical, reduced plates, frames, &c. are completely fitted and fixed in a superior style, either plain or ornamental, and with strong drawn moulded stiles and plates handsomely engraved, also completely glazed with best glass.

The Patent Diagonal Wrought Iron Grating will be found a great desideratum for areas at shop fronts, in shop and warehouse floors, and for balcony floors, as they not obstruct the light, yet admits of ladies walking over or standing on the same.

IMPROVED BENCH AND FLOORING CRAMPS FOR BUILDERS,

which are greatly superior to anything hitherto introduced.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken in town or country.

Patterns, and every particulary may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

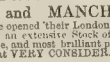
ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH LIGHTS, &c.

Apply at W. CLEAVES Timber Yard, Wilton road, Pimlico late F. Moore and Son, and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickfactory Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. All Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panilie, Oak, and Fir Laths; Wheelwrights' Goods. All sawing and prepared goods delivered free of expense across of timber). Sawing charged at mill prices. Very extensive Drying Sheds.



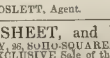
MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SIMINGTON'S PATENTED PROCESS, at the Patent Dessicating Company's Establishment, for Steaming, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the perfect seasoning of timber, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 26, New Broad street, City

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others, to their Specimens of their Machinery for carving out with speed and accuracy, and at great saving in the expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 13, WHARF-ROAD, CITY-ROAD. N.B. Country Architects and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE.—Stone of the finest quality Shipped in the early part of 1847 still remains on SALE. The Quarry workings of the present season are now in course of shipment.

W. and T. FREEMAN, Millbank-street.

CAEN STONE.—LUARD, BEEDHAM, and Co. beg to inform Architects, Surveyors, Merchants, Builders, and others, they are importing, by large and frequent shipments, CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L. B., and Co., invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

CAEN SUFFERANCE LANDING WHARF, ROTHERHITHE, opposite the Regent's Canal Dock. GATES and Co. beg to inform Merchants, Builders, Engineers, and others, that the above convenient Wharf has the most powerful Cranes and Traveller, and every facility for landing, storing, and transhipping stone, iron, machinery, and every description of heavy goods; trusting, by strict attention to merit a share of their patronage.

For further particulars and terms, apply to Mr. GEORGE, jun., Southwark-chambers, Southwark, or at the Wharf, Caen Wharf, Rotherhithe. Waterside Warehouse under the Arch, adjoining Caen Wharf. The above Wharf, the depôt for Messrs. LUARD, BEEDHAM, and Co's Caen and other Stone.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONIC WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5l. upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from ..... 12s.

Yeoman Marble ..... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Diaries fitted up, &c. &c.

MAGNUS'S ENAMELLED SLATE.—Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c. &c.—The beautiful material has been introduced into Buckingham Palace, the Royal Mews at Osborne, Apsley House, Strathfieldsaye, &c. &c., and it is now taking the place of marble in the mansions of the nobility generally. It is also extensively used in the construction of the principal steam-vessels, and other public buildings. It can only be distinguished from real marble by its superior brilliancy of polish, and it is more durable, and less liable to chip at the edges than marble. The choicer productions, such as black and gold, sienna, jasper, verd antique, jet black, &c. are not more than one-third of the price of marble. Among the articles manufactured at the Pimlico Slate Works are chimney pieces, consoles, billiard and table tops of all descriptions, pedestals, pilasters, columns, plinths, tazzas, mural tablets, baths, washstand tops, &c. &c. Cisterns, dairy shelves, flooring and plain slate-work in general executed on exceedingly moderate terms. Welsh slate slabs, of the finest description, at very reduced prices.—N.B. The trade supplied with whole cargoes, self-faced, or planed on one or both sides, direct from the quarries. A book of prices will be forwarded on application to Mr MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

The Builder.

No. CCLXX.

SATURDAY, APRIL 8, 1848.

HALF a dozen books are before us, concerning which our readers may desire to hear a few words. Books of examples multiply fast: if architects go wrong hereafter *in imitation*, they will deserve little mercy. What *has* been done by our "middle-aged" predecessors, is being put, cut-and-dried, into the hands of our sucking Wykehams,—roofs, doors, windows, mouldings and all, with "their subordination, and the joints of the stone-work marked upon them,"—and in proportion as they stick to their copy-books, so will be the amount of praise or otherwise which they will receive. Far be it from us to decry the class of works to which we are alluding: to their value, their importance, their absolute necessity, our readers know we have borne constant testimony: but we certainly are most anxiously looking for a time to come when they will be made better use of than they are at present. To persist in reproducing undeviatingly the productions of a by-gone time, without reference to modern appliances and present views and requirements, which should be the foundation and motive of our works, would fix a stigma upon our age. To study the past, and to wish to resuscitate it, are two very different things,—as opposite as wise and foolish. As a foreign contemporary observes, when speaking of the architectural works contained in the present exhibition at the Louvre (a feeble list, as might be expected, —thirty-eight in number out of 5,180!)* architects no longer create, they content themselves with reproducing,—it is easier and less hazardous. "They despise the present, and care nothing for the future: all their hopes, all their aspirations turn towards the *past*, which alone appears to promise easy glory to all, without giving it to any. This is what the ultras in archæology have brought us to. The architect is abdicating bit by bit, to give place to the antiquary. The artist, essentially a creator, is turned into a measurer and caster, seeking vainly in the past what the present requires and the future will expect!"

If our early predecessors had stood still, what should we have had to imitate? As we have said again and again, recognizable advances in architecture are not made in a day; but for the sake of common sense and the credit of our age, let all doctrine tending to prevent this advance be most decisively discouraged, foremost in which is the ridiculous but unluckily too often repeated dogma,—"do nothing without precedent." Consider this said to our chemists, to our machinists, to painters, to sculptors, and its absurdity becomes manifest at once. Let the *principles* which guided the great masters in our art guide us, for these will lead us onward as they were led: and let us regard the countless forms and ornaments which they produced, not merely as the store to which alone we are to be confined, but as evidence of the power of fancy, regulated by science, as examples for our study, and as incentives to emulation.

* Contributed by twenty-two exhibitors, and of which thirteen are archæological, nine architectural.

We will not run away, however, from the books before us. Mr. Blackburne's work, called "Sketches for a History of the Decorative Painting applied to English Architecture during the Middle Ages,"* is finished to the extent at first proposed, and is most creditable to the author. It contains twenty-two plates, very nicely drawn, and coloured and gilt, like the objects represented, including wall paintings, screens, tombs, pulpit, &c., and is accompanied by a historical essay, shewing much pains-taking research. When we mentioned the first parts of the work some time since, we urged that the assigned limits were too narrow for the subject, and should be enlarged. This suggestion, we are glad to see, will be adopted in the shape of a second volume, and we hope that with it Mr. Blackburne will give an essay on the principles which guided the early decorators in the disposal of the colours.

We extract a portion of our author's remarks on the painting of roofs and ceilings, "It is to be observed," he says, "that in the open timber roof, the applications appear in many cases, in some necessarily, perhaps, from their construction, mainly on the principal timbers and mouldings: in others, the colours are introduced on every member. The roof of Aldenham is a very interesting and elaborate example of the latter kind. That of Impington, St. Mary's, Cambridgeshire, is of the former, and shows a simple arrangement of two columns, separated by a waving line, the fillets being white, on the faces of the tie-beams, very effective. The cornice also, which has an imitative battlement, produced by the introduction at equal distances simply of spaces of red colour, bordered by narrow white edges or fillets, intended to indicate the crenelled portions, or the naked wood of its fascia, is equally so.

"In the ceiled and in the groined roof, whether of wood or stone, the panels and spaces between the ribs received generally the principal decoration: the arched ribs in the one case, and moulded framework inclosing the panels in the other, being more or less ornamented in colour and gilding to accord. In some of the ceiled roofs, the panelled appearance was given solely by painting. This is exemplified both in the nave and transept ceilings in the Abbey Church at St. Alban's, and is a peculiarity apparent in some of the earliest examples, viz., those of the transept and the apse of choir at Peterborough. In the transept at St. Alban's, the ribs or framework are imitated by lines of dark brown and white colour, with yellow flowers as bosses at the intersections of the squares, separating the whole ceiling into bays corresponding with the number of the main arches of the structure, each of these bays being subdivided into spaces or panels alternately painted with the Holy Name, and angels supporting the emblazoned shields of benefactors. The panelling of the nave ceiling is produced in like manner by lines of red, brown, and white, with a kind of purple flower as a boss, the square of the panels being cuspated or enriched with imitative tracery in red colour, and in the centre the monogram ℑℌ𝔰. in white, on a ground of dark brown. In the corresponding ceilings of Peterborough, a similar practice is apparent.

"Where the ceiling is not thus imitative, but of the more general description, decorations on the mouldings of the framework are, in many cases, very profusely introduced, as in that of the Deanery at Worcester. In others, however, even under a full enrichment of the panels, the mouldings frequently appear decorated to a lesser extent, and are occasionally found altogether devoid of coloured ornament. Both in the richer one of the choir, and the more simply decorated ceiling of the nave, at Great Malvern, the mouldings inclosing the panels, judging from their present appearance, seem never to have been painted, and the same peculiarity is exhibited in St. Michael's Church, Coventry. In the groined roof, the rib mouldings usually shew the more enriched character. The ribs of the groining in the choir at St. Alban's are covered with colour, diapered with minute ornaments in gold, &c., on the ogees and hollows, the beads being white, banded alternately red and green; and there are, besides, many other examples, in which similar ornaments are introduced to an equal extent."

It may be observed, that nearly all the examples given are of the 15th century, and that, with few exceptions, blue and red, with gildings, are the only colours used.

Of the extent to which colours should be used in churches we have not now to speak; we will simply say, with a divine of the 17th century,—"There is, indeed, an excess to be avoided in beautifying holy places; but this consists rather in the kind than the measure of ornament. There are a sort of light, meretricious decorations, apt to infuse ideas unsuitable to the solemnity of the place and the sacred uses to which it is designed. The church must not be dressed in the attire of a harlot, but of a grave and serious matron; and provided the ornaments are agreeable to this character, the more magnificent they are, the more effectually will they engage our respect, and dispose us to reverence and devotion." And then we would say with old Fuller,—"He must have a fixt aim and strong hand who hits decency, and misseth gaudiness and sluttery."

Another book of examples, but of a more recent period, is Mr. C. J. Richardson's fourth volume of "Studies from Old English Mansions, their Furniture, Plate, &c.,"* which completes the series, and will serve to preserve all the best works of the reigns of Elizabeth and James, as well as some much earlier.

The readers of THE BUILDER are so well acquainted with Mr. Richardson's effective style of drawing, and the range of subjects to which, up to this time, he has more particularly given his attention, that they scarcely require to be informed of what the book consists, or how it is executed. We may mention, however, as amongst the contents, the porch to the gate-house at Kenilworth; Gawsworth Hall, Cheshire; Interior, Gravel-lane, Houndsditch; Longford Castle, Wilts; Staircase, St. John's Cambridge; Various Views and Interiors of Aston Hall; with ceilings, friezes, candlesticks, and numerous details.

Without professing the same unlimited admiration of the style as our author, it is due to him to say that he has shewn, by judicious selection, that it has many excellences, and that few of the abominations which were once termed Elizabethan belong to it, but were "weak inventions of the enemy." The previous volumes have been very popular, and this will doubtless not be less so.

Amongst the more purely archæological works, yet bearing on our subject and exemplifying our remarks, is "A Manual for the Study of Monumental Brasses," recently published by Mr. Parker, for the Oxford Architectural Society, which would have scarcely been called for, but as containing a descriptive catalogue of 450 "rubbings" in the possession of the Society. The work is very conveniently arranged, and the introduction contains much information, pleasantly conveyed. The following extract will serve as an example. The writer is speaking of the exe-

* Williams and Co., Strand.

* Thomas M'Lean, 26, Haymarket.

cution of brasses, and the numbers which still remain:—"It is obvious," says he, "that brasses were not always the work of local artists, and that their designing and execution were in the hands of a few persons. When we consider the numbers required, and the condition of the sister arts, it is also not improbable that those who were employed in their production formed a guild, originally perhaps composed of foreigners; and 'that the same minds which designed the architectural structures of the middle ages also designed the sepulchral monuments.'* Brasses are now found in far greater number in England than in any other part of Europe. The whole number still remaining here is probably not less than four thousand, and traces of as many more, which are now destroyed, may be found. On the Continent, the specimens are far from numerous; some fine examples exist in the churches of St. Sauveur, Notre Dame, and the Cathedral, Bruges;—a late mural one remains at St. Bavon, Ghent, and it is not ununlikely that several might be discovered in the country churches in Belgium. In France, very few seem to have survived the revolution. One of the fifteenth century is in Amiens Cathedral. Some are to be seen at the cathedral of Aix-la-Chapelle, Meissen, and Constance, and in other parts of Germany. One fine example from Seville, in Spain, is described in the latter portion of this volume. There are a few in Funchal Cathedral, Madeira, and in Denmark there are known to have existed some of the fourteenth and fifteenth centuries. Italy is entirely without them; but some incised slabs are to be found at Rome.

Most of the brasses in England are found in the counties on its eastern side, Norfolk, Suffolk, Essex, and Kent. Many are to be seen in Cambridgeshire, Northamptonshire, Bedfordshire, Hertfordshire, Buckinghamshire, Middlesex, Berkshire, Oxfordshire, Surrey, and Sussex; but in the western and northern counties they are more rare."

We must postpone the remainder of our budget of books, that we may have space to mention a proposal for the establishment of a society for the publication of architectural knowledge, which bids fair to supply a great want.

The causes of the formation of this society are chiefly the three following facts:—

1. The want, in the English language, of a work which can faithfully represent itself as a dictionary of architecture.

2. The necessities frequently experienced, on the part of students, for such an aid to their labours, which are obstructed not only at the outset, but often to the termination of life, by the *rudis indigestaque moles* of materials which they hardly can find means to attack.

3. The regret at its absence from the library (which leaves a void of the greatest importance in the construction of a course of education), and the anxiety for the appearance of such a work, manifested by the senior practitioners, in whose hands is deposited the skill of future generations, and often urged by us. In 1845, Professor Cockerell said "he wished the body of English architects, taking the dictionary of Quatremère de Quincy as an example, would produce a perfect book upon the art, one man taking one part and one another part, so as to render it of the highest authority, of extreme use, and of a character to reflect such dignity and glory on all concerned, that he was anxious to see it commenced."

The projector of the association, Mr. Wyatt Papworth, thus sets forth what he considers it should undertake, as funds become available,—

"Republications of the works of the fathers of the art, after a careful collation of such MSS. as can be arrived at, and the earlier editions; so as to have editions of the standard authors, with their commentators, enriched with notes conveying the pith of modern discoveries and theories.

In 1610 an edition of Serlio was published, and several of Palladio, in English, followed: but none of the architectural classics have been published since, with the exception of Vitruvius. Fragments of Vasari have appeared, but not the complete work; which is to be regretted, as it deserves to be read generally, even if only in the recent French translation.

Publications or re-issues of executed works of authors of equivalent talent, who may not have left writings in MS. or type, or continuations of works in the same style.

Abstracts of translations of modern authors, with such illustrations and notes as may be needed, with memoirs and list of their works.

Publications of works (either of text or plates) by modern authors, English or foreign, which may be presented to and approved by the Society, or which may be assisted by contributing a portion of the funds for the sake of ensuring a place in the great work to a *brochure*, memoir, or essay, whose merits are acknowledged, but which might otherwise be published without uniformity.

Arrangements of the many valuable essays and hints which have appeared in the miscellanies of the last fifty years, as well as in those of the present day.

A digest of the theoretical books, arranging each division of an author's works under the appropriate article of the dictionary.

A polyglossary, or table of synonyms of technical words in the different languages.

The plan of operation will consist in the selection by the committee, or by the recommendations of the members, of a work or subject; by the mature digestion and revision of such contributions as may be forwarded to the editor; and the prompt publication, by the society, of such work under the inspection of the general editor, distinguishing the names of the parties from whom the articles have been obtained: thus, not an elementary work, trenching upon the province of the professional man, would be the result, but a series of papers, which would be essential to the 'Architect' in the fullest sense of the word."

The subscription is proposed to be one guinea per annum, for which three quarto volumes may be expected. There are difficulties in the way, not the least of which will be that of finding efficient editors willing to act gratuitously; but these may, and doubtless will, be overcome. We invite the co-operation of our readers, and anticipate for the new society, when formed, a long career of usefulness.

* "Waller's Brasses," Part X.

THE GAS MOVEMENT.

PROOFS OF RISE OF PROFITS WITH FALL IN PRICES, DRAWN FROM COMPANIES' OWN 'RETURNS.'

In reverting, oftener than once, to the much less real than ostensible revelations of the gas house involved in that convenient and loosely ordered Parliamentary return, whereby the gas companies doubtless confidently hoped to frustrate the very end in view, and thus to retard the general movement onwards towards a vastly wider and cheaper diffusion of the benefits of gas-light, by exhibiting to the public and its legislative protectors an ostentatious but most fallacious display of *apparently* enormous outlays of 'fixed' or 'authorised' capital, and of comparatively low and moderate, or even occasionally pitiful dividends on *that* capital, to the cautious exclusion of the much less enormous capital *in reality called up* and outlaid or expended, and of which we almost uniformly fail to find the slightest notice taken in the 'abstract of return,' in which so capital a secret, all but universally, 'hides its *diminished* head' amongst the equally scarce and invisible 'bonuses,' with which it stands confessed to other eyes than those for whose behoof the abstract of return was rendered:—

In announcing, moreover, that the general rule of that return,—exhibited in the records of a slow and unwilling progress downwards in price, but upwards, as we anticipated, in prosperity,—appears to be, that as surely as the price is grumblingly and dilatorily reduced, so surely are the diffusion and the dividends proportionally increased; and, on the contrary, that as surely as a reduction of charges is resisted, or a retrogression made to higher, so surely are the diffusion and the dividends nipped in the bud;—we promised, after clearing the way by a gentle exposure of the intrinsic nature and value of the whole return, in other respects a mockery, a delusion, and a snare, to present a few of those details establishing the generality of the rule which really renders this return a *relatively* valuable and instructive one, though *absolutely* worthless and fallacious.

Such, therefore, is our present purpose; and if we can thereby convince (if we still, indeed, require to convince) the gas authorities, metropolitan and provincial, that *their* most *sterling* interests are identical with the most *enlightened* interests of every class of the community—even of the most humble who can at all afford to enlighten the physical darkness of their dwellings with even the most paltry rushlight, a class who are by far the most numerous, and hence by far the most important, humble though they be, as a general stay and support in the diffusion of any article adapted to really universal utility and consumpt, such as gas-light is,—and if we can thereby facilitate and hasten those immense reductions which not only *may*, but *must* and *will* be yet made almost everywhere in the present average price of gas—a price almost everywhere prohibitive as yet to its diffusion even amongst a tithe of the great mass of the people to whose benefit it is, when pure and cheap, an article of household economy so excellently well adapted,—then the object which we have so much at heart, for the promotion—for the wide-spread and universal diffusion—of so admirable an element of comfort, cheerfulness, convenience, morality, and cleanliness, shall have been happily attained. And, as already remarked, we do indeed believe that the more enlightened and more enterprising of the gas directors, now more alive to the right mode of promoting their own self-preservation and self-interest than they have been, will at length be triumphantly convinced, even by their own returns, that we were right in so long insisting on a steady, a rapid, and an immense reduction of price below the present average: so much so, indeed, that now at length they will clearly see that the sooner they come down to the level of the public expectation the better for themselves no less than for the public. In truth, as our more recent records of progress testify, not a few of them have already fairly entered, voluntarily, on the very path so often pointed out.

But as for the absolute or literal amount or limit of the dividends about to be quoted, we believe that quite enough has been said on previous occasions (*ante*, page 5 of present, and page 551 of last volume of The Builder) to convince our readers that they constitute no criterion whatever of the actual amount of dividend on the capital *paid up*, and are only useful, as already said, as a proof of the relative advantage of largely diminishing the charges made for the article yielding the dividends, whatever these, in relation to mere outlay, may really amount to, even exclusive of those sterling bonuses which occasionally amount, as we have recently noticed, to at least 50 per cent. in addition to the nominal dividends, themselves in all probability worth in general at least another 50 per cent. more than their merely apparent value in the "Abstract of Returns."

The price of gas in general having been frequently declared by the advocates of monopoly to be one almost altogether regulated by, and dependant on, the price of coals, we shall incidentally take occasion to shew, from these returns, that so far from this being the case, immense reductions have over and over again been made, and yielded dividends of increasing value, while the price of coals either remained

at much about the same figure, or actually rose considerably in amount.

Our selections shall be merely alphabetical, necessarily excluding many striking instances for which we cannot possibly find room; and accordingly the first we come to is,—

Ashton-under-Lyne. From 1829 to 1847 the price of gas there was reduced from 12s. to 6s. per 1,000 cubic feet, and accordingly the dividend on the full capital fixed by the Company's Act increased from 6*l.* 8s. to 13*l.* 4s. per cent. per annum! As the price thus fell to exactly one-half of its previous amount, so the dividend rose till it was even more than exactly doubled. Coal, too, in the face of all this, increased in price, the cannel from 14s. to 19s. per ton, and others from 7s. 6d. to 10s. 5d.!! Moreover, for three years previous to 1829 no dividend at all was ever reaped from the 12s. per 1,000 feet.

At Birmingham, the price was reduced from 12s. in 1826, to a range from 6s. 8d. to 3s. 9d., with 10 per cent. off, in 1846; and accordingly the nominal dividends rose from *nil*, in 1827, and 5 per cent. on 120,000*l.*, in 1828, through 8 per cent. in 1831-2, to 10 per cent. on 240,000*l.* in 1846! Moreover, during all this time, from 1826-7 to 1846-7, the expense of coals had gradually risen from 4s. per ton to 12s. 3d., and ultimately to 21s. 3d. for the better sort!!

At Bradford, the price was reduced from 11s. 3d. in 1824-6, to 6s. in 1845-7; and accordingly the dividends rose from 4*l.* on 15,000*l.* to 10*l.* on 45,000*l.*! Coals averaged about 9s. to 10s. per ton during the whole period.

At Brentford, the price was reduced from 15s. in 1828-33, to 8s. in 1846, and the dividends accordingly rose from *nil* and 2*l.* per cent. alternately, on 37,500*l.*, to 6*l.* on 57,500*l.* in 1846. Here too, if anywhere, from the expense of mains of great length, through unfrequented roads, in a large district, comprising several towns and villages at a distance from each other, the risk of evil results from a reduction of price might have been anticipated. But since, on the contrary, a reduction from 15s. to 8s. increased the dividends from nil to 6*l.* per cent., there is every probability that even here a further reduction of price, from 8s. to 4s., would bring up the dividend ultimately to at least 10*l.* per cent., if not, as in so many other instances, double the dividend by halving the price. The unfavourable circumstances in which this company have been placed, however, have been mitigated, to a small extent, by a reduction in the price of coals, from 26s. 6d. in 1825, when the first dividend of 2*l.* per cent. was reaped, to 23s. in 1845-6, when 4*l.* and 6*l.* per cent. on a greater capital were reached.

At Bridgewater, the price was reduced from 15s. in 1835-6, to 8s. 4d. in 1845-6, and the dividend accordingly rose from *nil* and 2*l.* 10s. on 4,000*l.* to 7*l.* 10s. and 5*l.* on 6,000*l.*: coals increasing in expense from 13s. to 14s. per ton.

At Bury, the price was reduced from 10s. in 1827-40, to 7s. 6d. in 1845-6, while the dividend on 6,570*l.* rose from 328*l.* 10s. to 985*l.* 10s. in all per annum: coals increasing in expense from 20s. and 17s. 6d. to 22s. 3d. and 23s. 10d.; discounts, nevertheless, given on price of gas, of 2½ up to 30 per cent., according to consumption, with discount also for prompt payment.

At Cheltenham the price was reduced from 10s. 4d. in 1820, and 9s. 3d. in 1830, to 4s. 8¾d. in 1846, while dividends rose from *nil* in 1820-3, and 5*l.* in 1824, to 8*l.* 10s. in 1843-6: coals at 17s. per ton throughout.

At Derby, while the price was *raised* from 10s. in 1820-26 to 12s. in 1827-30, the dividends, at first *nil*, and then 10*l.* in 1822, diminished again to *nil* in 1827, and 5*l.* in 1828. In 1831 the price was again reduced to 11s., thence in 1832-5 to 10s., and in these years 15*l.* on 10,000*l.* were reached for the first time; and again in 1839-40, after which larger discounts, reaching to 50 per cent. were given off the price, and the dividends in 1841 mounted up to 35 per cent. on 16,250*l.*, and 10*l.* and 7*l.* 10s. in succeeding years. The price of coals fell, however, from 11s. to 9s. 9d., and the price has ultimately been reduced to 6s. 6d. in 1846, whence doubtless further harvests of profit will be ere long reached.

We cannot afford space for so many instances in every letter of the alphabet, however, and we must therefore pass over many other striking proofs of the generality of the rule to be established by such details.

At Halifax the price was gradually reduced from 13s. in 1823 to 6s. in 1846-7, and the dividends as gradually rose from 3*l.* 10s. per cent. in 1824 to 8*l.* in 1847: coals fell from 7s. 10d. to 6s. 9d. per ton.

At Leeds, while the price was reduced from 10s. in 1821-6 to 6s. 8d. in 1841, the dividends rose from 7*l.* 10s. in 1821 to 25*l.* in 1841-2. By the amended Act of the company the dividends were limited, so that while 10*l.* per cent. on old stock, with 6*l.* on new, were yearly and regularly thereafter secured on an immense increase of "fixed capital," the company were obliged to give the public a share of the benefits by further reductions of price to 3s. per 1,000 cubic feet in 1847!! And will it be credited, moreover, that during the whole of this period of decreasing prices and increasing prosperity and profit, not only was there no reduction in the price of coal, but common coal may be said to have increased in price from 6s. 10d. in 1821-2 to 7s. 6d. and 7s. in 1845-7, while the price of cannel coal was also rising gradually and permanently from 9s. 2d. in 1829-30 to 13s. in 1845-7!!!

At Leicester, reductions from 14s. to 5s. 6d½. increased the dividends from *nil* and 3*l.* to 7*l.* At Lincoln, reductions from 13s. 6d. to 7s. 6d. raised them from 4*l.* to 10*l.*; at Liverpool (respecting which we have already said so much), while reductions were being made from 15s. to 4s. 6d., it is merely stated that the dividends from 1820 to 1840 were not limited, while from 1841 to 1846 they were limited to 10*l.* per cent. on a fixed capital accumulating by excess of profits from 50,000*l.* to 200,000*l.*, with power to raise other 50,000*l.* into additional capital.

Amongst the metropolitan companies, the British, by reducing its prices from 13s. 9d. to 6s., increased the dividends on an immense fixed capital, from 5*l.* to 6*l.* 18s. 10d. and 5*l.* 11s. 1d. The city company by reductions from 15s. to 7s. raised the dividends on its fixed capital of 200,000*l.* from 7*l.* to 10*l.* The Equitable, by reductions from 12s. to 7s. arose from *nil* and 4*l.* to 4*l.* 10s., 7*l.* 10s. and 8*l.* The London, by reductions, from 9s. to 7s. raised the dividends on a fixed capital of 550,000*l.* from *nil* and 4*l.* to 5*l.* and 6*l.* in the face of a rise in the expense of coal, from 20s. 3d. to 22s. 5d. per ton, during an interval, by the bye, in course of which, if we are to believe others of the metropolitan companies, the price of coals was falling from 21s. to 17s. Id. But the fact is, so many discrepancies of this sort display themselves in the different renderings, that it is obvious little or no dependence ought to be placed in any one or other of them. The South Metropolitan raised its dividends from *nil* and 1*l.* 10s. of estimated dividend on a fixed capital of 200,000*l.* to 5*l.* and 6*l.* by reducing its prices from 11s, to 8s., while coals were also rising in expense from 17s. 8d. to 18s. 9d.

At Manchester, during reductions of price from 14s. to 5s. 6d., dividends on a fixed capital of some hundreds of thousands, and averaging 12*l.* to 15*l.* per cent.—occasionally 16*l.* and upwards—were steadily realized.

At Newcastle, in the face of a reduction in price, from 8s. 6d. to 4s. 6d. and 10 to 20 per cent. discount, with a rise in coal from 5s. to 6s. 3d. the dividends increased from *nil* and 7*l.* 10s. to 10*l.*

At Preston, reductions from 12s. 6d. to 5s. raised the dividends from 6*l.* to 10*l.* on a fixed capital increasing from 11,630*l.* in 1821-4 to 52,500*l.* in 1846.

At Sheffield, while prices were being *raised* from 5s. to 6s. 8d. and 8s. 4d., dividends sank from 4*l.* 4s. and 6*l.* 12s. to 5*l.*, and ultimately 2*l.* 8s.; and at Stamford, where the price stuck at 11s. from 1823 to 1845, the dividends began with *nil* and ended with *nil*, some small dividends of 2*l.* to 5*l.* intervening! Coals, too, all this while were falling from 25s. 10d. to 20s. a ton!

At Wakefield a series of reductions from 12s. down to 3s. brought up the dividends from *nil*, 5*l.*, and *nil*, to 7*l.*, 8*l.*, and 9*l.* At Wigan, though coals were almost doubled in price,—7s. 6d. to 14s. 10d.—reductions in the price of gas from 12s. 6d. to 6s. brought up the dividends from 5*l.* to 12*l.*, and even 15*l.*, with occasional intervals of 5*l.*, all as estimated on a full fixed capital of 10,160*l.* Reductions at Wolverhampton from 15s. to 4s. 6d. raised the dividend from *nil* and 5*l.* to 10*l.* and 15*l.*, estimated on a fixed maximum capital of 11,000*l.*

At Edinburgh, in spite of a rise in coal from 19s. to 29s. 6d., reductions in the price of gas from 8s. 6d. to 6s. 6d. not only sustained a steady series of dividends of 6*l.*, but increased them to 6*l.* 10s. At Glasgow, with a rise of coal from 16s. to 22s. 6d., a reduction of price from 6s. 8d. to 5s. increased the dividends from 3*l.* to 7*l.* 10s. in two years. At Paisley, notwithstanding a rise of coal from 21s. to 26s. 3d., reductions from 10s. 4½d. to 5s. 9¾d., raised the dividend, as estimated on a fixed maximum capital of 48,000*l.* from 3*l.* to 6*l.* 8s. and 8*l.*

We might have quoted almost scores of other details of a like order, but enough, and more than enough, has been adduced in proof of our assertion that the general rule has been, and is, that a reduction in price assuredly brings an increase in profit and prosperity. We have in fact been so liberal with our quotations, that we have not left room for even a single other comment in conclusion.

WORKS IN BERLIN.—The *Allgemeine Preussische Zeitung* of the 26th mentions public works of great extent which are being undertaken to occupy the poorer classes. Canals, churches, and schools, are in the course of construction.

THE FEVER HOSPITAL COMPETITION.

SIR,—As a member of the committee of the London Fever Hospital, I think it right to confirm the statement made in your number for April 1, respecting the competition for the new building.

The proposal to appoint a limited number of competitors, and to purchase the plans of those who were not employed, emanated from myself; and my object in making the proposition was to secure the advantage of the united talents of all the competitors. The power of the committee to carry out the building was not for a moment questioned, and a sub-committee was appointed to make preliminary arrangements, which were from time to time confirmed by the general committee, the noble president being in the chair on most occasions.

The chief struggle towards the close of the competition was between Mr. Fowler and Mr. Mocatta, during which the noble president warmly advocated the design of the former, having admitted in the outset that he had a prejudice in favour of Mr. Fowler, although he hoped that this would not interfere with the interests of the hospital.

The secretary, throughout the whole proceedings, evinced the same bias, and in his zeal as a partisan, appeared to forget that he was merely the organ of the committee, although filling the two offices of secretary and solicitor.

In spite of this powerful advocacy, the ground having been fought inch by inch, the plan of Mr. Fowler was objected to by the medical officers, who, as well as a large majority of the committee, considered the other design, in many important particulars, much more desirable, safe, and appropriate.

The next move resembled a practice which prevails in railway committees, namely, to throw out Mr. Mocatta on the standing orders, and the committee were called upon to count the beds in the wards, and then to refer to their own instructions, on the plea that a slight deviation in this respect was fatal to Mocatta's plan.

The committee, not being of opinion that any material deviation from the standing orders had been made, and considering the plan satisfactory and much superior to that of Mr. Fowler, it was necessary to resort to another expedient, namely, intimidation; and the committee were assured that Mr. Mocatta's plan could not be executed for the prescribed sum, which circumstance would involve *personal liability*.

On application being made to the architect, he found more than one builder who would undertake the work with the above limit. But his lordship laid it down as a condition that no builder named by the architect should be employed, and expressed great doubts respecting the capability of any architect to build an hospital so well and so satisfactorily as Mr. Fowler.

At length the day for the decision arrived, and this was settled by ballot, the numbers being nine for Mr. Mocatta, three for Mr. Fowler. On this result being declared, the president rose from his chair and intimated that he should resign his seat on the Building Committee, as he would not incur the responsibility of acting with any architect in whom he had not full confidence. But the secretary and solicitor of the hospital reminded his lordship, that the money being vested in the hands of the president and trustees, he could not escape responsibility by leaving the committee.

At this critical moment the bright idea flashed across the minds of the president and the solicitor, that the committee had no power to act in reference to the building! At the next meeting of the committee a letter from his lordship was read, stating that if he had known at first how the law of the case stood he should have acted very differently, but after what had occurred, he thought the most fair course would be for Mr. Mocatta to revise and complete his plans, and forward them to the trustees for approval. Accordingly the working drawings and specification were prepared, and Mr. Mocatta, under the instruction of the committee, proceeded to drain the surface of the ground, preparatory to commencing operations. But one of the trustees expressed a desire to see

all the plans which had been sent in, and acquiesced in the sentiments of the president *in favour* of Mr. Fowler's plan, and *against* the responsibility which had been so ably demonstrated as being the inevitable result of the employment of any other architect. The other noble trustees were apparently convinced by these arguments, and accordingly the bill which had been passed by the Commons was thrown out by the Lords. But during this discussion, several communications took place between the trustees and the committee, and counsel's opinion was taken respecting the terms of the Act and the liability of the trustees.

It having been decided that the power rested with the president and trustees absolutely, according to the strict letter of the law, the question was raised, whether the committee could exonerate the trustees by taking on themselves the responsibility? but this was found to be impracticable, unless each member were made *individually* liable. The president, therefore, intimated that he should be perfectly satisfied to submit Mr. Mocatta's plan to six respectable builders (not recommended by him), and that if it should be found that the building could be erected for the sum prescribed, no further objection would be raised. It was then proposed, that three members of the committee should be appointed to co-operate with the president and trustees, and that the united body should have absolute power to complete the building.

This proposal was adopted at the anniversary of the institution. The first step taken by this joint committee was to appoint Mr. Fowler as the architect, and to vote a sum of money to Mr. Mocatta as a compensation for his plans, his trouble, and his disappointment.

The sugar-plum thus voted was 200*l*. This proceeding, having been reported to some members of the committee, excited great disapprobation, and was generally considered to be an act of injustice to Mr. Mocatta, and discourtesy to the managers of the institution, who had been displaced from their office by a legal accident, and were thus placed in a very invidious position with reference to a gentleman whom they had deliberately appointed as architect to the hospital, after a severe competition.*

At the next meeting of the committee, I moved the following resolution :—

"This committee having been informed that it is the intention of the president and trustees to pay to Mr. Mocatta the sum of two hundred pounds by way of compensation, instead of retaining his services as architect,—

"Resolved, That in the opinion of this committee such payment, if made out of the funds of the hospital, would be a mal-appropriation of the said funds. The committee also consider that the dismissal of Mr. Mocatta, under such circumstances, would be an act of injustice, implying a reflection on his professional character, quite inconsistent with the fact, that the principles of his plan were approved by the committee and medical staff; and that this treatment of a professional man, is at variance with the admitted and recognised custom in all fair competitions."

Being aware that the members of the committee very generally participated in my sentiments on this matter, and having had frequent opportunities of conversation respecting it, I was astonished to find that not one of the gentlemen present rose to second the motion, and found myself in a predicament very much resembling that of Don Quixote, when he made his attack on the windmills; my colleagues, instead of giving any assistance, remained passive, and appeared to be paralyzed, as was Sancho Panza on the above renowned occasion.

Having observed the interest which you express in your journal in reference to the fairness and equity of competitions in general, I trust this very brief outline of a very remarkable specimen, will not be uninteresting to your readers. If all the particulars were stated, with the official correspondence, and the artful dodges of the legal secretary, the narrative would be still more amusing and instructive.

The most remarkable feature in the transaction is the circumstance, that a gentleman, a member of an honourable and respectable profession, should allow himself to be placed in so unfair a position with reference to a brother architect. I have only to add that I have no personal acquaintance with these two gentlemen, and therefore cannot plead guilty to prejudice in favour of either of them. My only desire has been, and is, to advocate justice, without which a competition is a mockery and a delusion, instead of being, what its name would imply, a trial of skill.—I am, Sir, yours, &c.,

JACOB BELL.

15, Langham-place, April 3, 1848.

* The nature of this legal accident ought to be explained. According to the deed under which the trustees are appointed, they are merely the guardians of the funds, the expenditure being under the control of the managing committee. In the Act of Parliament under which the Railway Company purchased the present hospital, the purchase-money is vested in the president and trustees, to be expended in building a new hospital, in such manner as the said president and trustees shall think proper. In order to be consistent with the trust-deed, the words should have been "in such manner as the managing committee shall think proper." This inconsistency was not pointed out to the committee by the solicitor, until after the committee had occupied several months in performing what had always been considered to be their duty, but which, according to the present reading of the Act, appears to be the office of the trustees. So much for the advantage resulting from the services of a legal secretary!

EXHIBITION OF THE SOCIETY OF BRITISH ARTISTS.

THE character of this exhibition is improved this year, as much by the exertions of the members themselves, as from the reformed system of hanging. The next exhibition is likely to shew greater advance, as the present will inspire the non-members with confidence, and be the means of making them paint purposely, instead of sending the refuse of contemporary exhibitions, as hitherto.

Amongst the pictures, there are some of great merit and originality: take, for instance, Mr. Anthony's "Village Green," abounding in the highest qualities. At the first glance, one feels inclined to laugh at the seeming defiance set to nature; *seeming*, only, though, for the truth and feeling expressed are startling; the wonderful diversity of action, without assumption or display—the exquisite silvery tone of the distance, so expansive, yet definitely made out—are admirable. A cooler quality of colour in the foreground shadow would, we think, improve the picture amazingly, and enhance the value of such colour as that of the left hand group. The smaller pictures by this artist all exhibit nature, originally but truly understood. Amongst the best are "The Hay Cart—Stormy Weather" (87); "On the Coast of Galway" (222); "Women at a Holy Well praying for the return of the absent" (385); "Le Menage Paysanne de Normandie," exquisite in breadth and colour, but too like Gerard Dow (533); "A Mountain Stream," &c.

Pallanza, on the Lago Maggiore, North Italy, by Mr. Pyne, is a beautiful specimen of this deservedly popular painter, the middle distance exhibiting his precision of drawing, and knowledge of perspective: the water beautifully lucid, undisturbed, excepting by the positively moving steam-boats.

Smaller specimens, of which there are seven or eight, are all most covetable, more especially a warm bit over the mantel-piece in the large room, "Entrance to the Menai Straits" (58), and (245) "Saint's-day, Venice"—much like Turner.

Some of Mr. Clint's usual coast scenes are exquisitely fresh and true. A fine "Sunset on the Coast of Yorkshire" is one of the best pictures in the collection.

Mr. Allen contributes a number of smaller pictures than usual; amongst the best are (132) "A Water Mill," very nice in colour and execution; (407) "Mill on the Greta," (460) "In the Clwyd Vale," &c.

Mr. Baxter's heads are exquisitely coloured and felt. No man extant could paint better, and very few as well as (480) "The Wreath," or 69, "Italian Girl;" or a sweet pair, entitled "Happy Moments" (541), and "Sad Moments" (251).

The dreamy but poetical productions of Mr. Woolmer are agreeable to all, but much too vague to convey anything more than suggestions of the artist's intentions. (213) "A Summer's Evening," is a nice specimen of his taste and poetical feeling, as are (232) "View in the Wood, near the Hague, Holland," "The Pilgrim at the Well" (366), and the "Bridge of Sighs" (456).

The two Wilsons have some excellent productions, one, especially, by the younger, an "Unfrequented Path, a Scene in Marden Park, Surrey," the trees of which are capitally touched in.

Holland's clear, forcible painting always tells well wheresoever employed. In addition to some first-rate bits of his usual subject, "Greenwich Hospital," &c., he has some exquisite delineations of flowers, wonderful transcript of nature, perfect as far as regards colour and arrangement.

We are glad to observe that Mr. Tennant has this year eschewed departure from his right path, and painted English River Scenes (11), (120) "On the Wye, near Monmouth," (220) "A Rocky Glen," (249) "Near Bexley Heath, Kent," &c.

Mr. Boddington has diverged somewhat from his beaten track, and revels in warm sunshiny "Shades of Evening" (81), a clever representation of a difficult effect; a little more knocking about would benefit its somewhat formal treatment. Other pictures, in his usual generally appreciated manner, vary in their general merits and demerits.

Mr. Lewis, the new member, is decidedly an acquisition; his picture (470) "'Tis Opportunity that makes the Thief," exhibits considerable power, parts of it being capitally painted.

Mr. Hurlstone harps too much upon the same string, but produces nevertheless some fine results. His large picture, "Mendicanti of the Piazza Navona, Rome," is nice, but forced rather in colour. "Un Pescator" is also an agreeable impersonation of everyday life.

Amongst pictures by non-members, a beautiful production by Windus, "Morton before Claverhouse" (488), calls for commendation, if only from its perfection of mechanical handling. Seldom such power over the material has been attained, and the character about the heads, particularly that of the old man, is extraordinary. "The Coming Footsteps" (499), sweetly painted by Mr. Marshall, and the "Morning Toilet" (111), are both charming representations of refined rusticity.

NOTES IN THE PROVINCES.

THE foundation-stone of a new church was laid at Fordcome Green, Penshurst, on Friday week, by Lord Hardinge, who had previously sent funds home from India for the purpose of building the edifice.——Donations are in course of collection at Folkestone for the erection of a monument to the celebrated Dr. Harvey, discoverer of the circulation of the blood, who belonged to that town. Earl Radnor offered the choice of a site on his estate, and the architect to his lordship offered his professional services gratuitously. ——The town of Romford, according to the *Chelmsford Chronicle* is "under great excitement," in consequence of the refusal by the gas proprietors to accede to the but too 'reasonable' demand of the gas consumers to be supplied with their gas at 7*s.* 6*d.* per 1,000 cubic feet, in place of 8*s.* 4*d.* "An opinion prevails that the gas proprietors are standing in their own light," as they unquestionably are. "Much asperity has been expressed on both sides, and most of the shops in the evening have been lighted with oil or candles." As the inhabitants have been "meeting in great numbers," and the majority of gas consumers have given the directors notice that they will use their gas no longer, they have only determinedly to follow the spirited example of the Woolwich gas consumers in establishing their own association and their own gas-works in the face of the stupid directors, whom they ought to inform, when they do give in, which they undoubtedly will, that it is 'too late.' The expense of getting up a sufficient gas establishment the Romford people would find by no means so great as they probably imagine.——The Town Council of Bridgnorth have just given leave to a new gas company to lay down pipes in the streets, as the price paid by the town (and, doubtless, by the private gas consumers,) is deemed to be excessive, each lamp costing twice the sum charged at

Ludlow, where the facilities for making gas are much less than at Bridgnorth.——The parish church of Chippenham has been lighted with gas, repewed, and the floor levelled and repaved. The new pews are low and open, but some of the sitters have been allowed to add doors to them.——The operative bricklayers at the borough jail and asylum, Birmingham, have been adopting resolutions to procure a settlement of the dispute pending between Mr. Pashby and Mr. Hardwicke and their workmen. The resolutions, however, charge these gentlemen with injustice, oppression, and violation of faith, and are therefore not very likely, we should fear, of meeting with such a reception as to "procure a settlement of the dispute."——The new church of St. Luke, at Eccleshill, was consecrated on Tuesday week. It is in the perpendicular style of the 14th century, with a steeple and spire. It is fitted up with galleries, and will accommodate 820 persons, one-half free. The site was given by Mr. George Baron, and 1,000*l.* of its cost of 2,650*l.* were given by her Majesty's Commissioners for building churches, the remainder being raised by subscription. Mr. W. Rawstorne, of Bradford, was the architect.——The *Bradford Observer* also notices the consecration of the church of St. John the Baptist at Baildon, recently rebuilt in the style of the 13th century, with a nave, chancel, and south aisle, and of larger dimensions than formerly. It measures 66 feet by 40, and accommodates 500, with gallery at the west end—280 sittings free. The cost of rebuilding is estimated to be about 1,000*l.* Messrs. Mallinson and Healey, of Bradford, were the architects.——The Hull council have resolved to raise 12,000*l.* for the erection of baths and washhouses, on the plans of the model establishment in Goulston-square, Whitechapel.——Operations are in progress for the removal of a portion of the massive sea wall of the northern boundary of the wet docks, Leith, preparatory to the commencement of the new dock for steam vessels. A Bill passed last session of Parliament authorised the construction of extensive works, at the estimated cost of 135,000*l.*

POETRY AS A PRINCIPLE IN ART.

At the Decorative Art Society, March 9th, Mr. Dennys read a paper "On Poetry, considered as the life-giving principle of the Arts." After attempting to define poetry, the writer argued that the manifestations of poetry are not confined to language, and that no work of art can become immortal (in human phrase), which is not vitalized by a poetic mind. That a great painter is a great poet, as also are great sculptors, architects, and musical composers. That human labour, to have a prolonged existence, must have a portion of the worker's soul transfused into the work, which, if great in its aims, and noble in its character, like Angelo's "Last Judgment," or Milton's "Paradise Lost," or Shakspeare's "Othello" and "Macbeth," will then take its place with the "Iliad" of Homer, the Phidian marbles, or the three orders of architecture; and that all things purporting to be works of art, but lacking the life-giving energy of poetic feeling, soon die and are forgotten.

It was remarked, that with few exceptions, scarcely a single modern work in the exhibition rooms of last year would enjoy even a British reputation for half a century. They were either odes and sonnets of a timorous muse, or humble imitations of *higher fancies*, but having no vitality of their own. The spirit of poetic truth,—the elixir of existence in the Laocoon and the Niobe of the Greeks,—was not to be seen there. References were then made to the Portland vase, the bronze gates by Ghiberti, and cups by Cellini, to illustrate the argument that it matters not in what *material* men work when actuated by the spirit of beauty, as born of imagination, and nurtured by an entire devotion of the mind to its work, and which is called genius; and further, that this all-vivifying spirit is poetry. The writer then, in order to shew the mode in which poetry is manifested, described it as consisting in a *beautiful thought*, but necessarily requiring mechanical and builder-like contrivance to constitute it a work of art; and he proceeded to urge that the power, firstly, to imagine, and then to construct, an "Iliad," or "Paul preaching at Athens," is of necessity rare, and also that even with much imagination, a lively fancy, but without an all-absorbing devotion, a concentration of thought and purpose, and a masterly builder-like mind to arrange and dispose of each part so as to make a consistent whole, no man can become a truly great artist.

It was then stated, that the power to perceive and appreciate beauties, which we are not competent to express, has been given to make us wiser and better; and that the use of it in Shakspeare, Mozart, and Angelo, is in enabling them to assist the perceptions of the dull and unimaginative, and that the purposes of art, when rightly directed, work upon grosser minds, and excite a feeling for the beautiful and its train of happy consequences. That all the world is full of poetry, all nature teems with it, and more of it is imprisoned in the pregnant hearts of the multitude than even the tuneful muse gave utterance to; and that it is thus every new beauty which genius unveils, wears the similitude of something not *altogether new*, something dimly and indistinctly seen before. To the susceptible and beauty-loving mind of the young and innocent, it was observed, every object in nature has its phases of beauty.

Mr. Dennys then proceeded to examine the operations of music, painting, and sculpture, upon the mind; and he mentioned, first, Luther's Hymn, as sung by Braham, and accompanied by Harper on the trumpet, which he said might awaken thoughts, emotions, and aspirations which belong to another and more exalted existence. This he maintained to be the musician's *beautiful thought*, and that is poetry.

It was remarked that, "happily for mankind, the institutions which starve and degrade the body, cannot entirely pauperise the mind, and that man's spirit will note, converse with the unseen, and that the eternal beauties of the creation smiling upon the heart even of the shackled slave, *will* generate within him that sunshine of the soul which, whether uttered or only felt, is poetry. This it is which sweetens the never-ceasing toil of the ploughman and "swart artisan."

The biography of Michaelangelo afforded Mr. Dennys much matter in supporting the practical relations of his argument, "that the essential principle of all the arts is the same," and he dwelt upon Angelo's qualifications as an artist, at greater length, in order, as he said, that a better understanding might be arrived at, respecting the loads of vapid sentimentality and trash annually exposed to the public, as works of art, at "a shilling a head, and catalogues a shilling;" the latter commodity, he said, is supposed to be a guide to the meaning (and much they require such a guide), and an index to the poetry of the pictures, portraits, miniatures, busts, and statues. Sometimes, it is true, we meet with a little poetry in the catalogues, but rarely ever in the pictures. The social facts which, he supposed, give rise to this state of art in this country, was adverted to, and it was said, that society, having departed from truth, so must the artist. The public are pleased with trifles, and art sinks into a manufacture of those trifles, and supplies them. Society pays with cheerfulness — it knows that the bauble will pass for a gem.

The writer then observed, that the manners, habits, and feelings of a people must determine the character of the arts. He dwelt upon the solemn grandeur of our Gothic cathedrals, as being the works of architects, whose earnest devotion and truly poetic enthusiasm are there so incomparably well expressed, that it is scarcely possible to enter one of these temples unoppressed with awe. He contended that society in general is now unfavourably constituted for the production of such great works of art; that it wears a mask, and is not what it seems to be. Men are not content to be their simple selves, but are imitators and copyists, and the state of art is a reflex and exponent of such conditions.

Monument to the late Mr. Walter.—Arrangements are in progress for raising, by subscription, a monument to the late Mr. John Walter, of the *Times*, "to do honour to his memory; to stimulate others to a similar career of enlightened enterprize; and to originate an act of public respect and gratitude to the press of our country."

THE NEW THEATRE AT THE ROYAL POLYTECHNIC INSTITUTION.

The Polytechnic Institution in Regent-street has lately undergone very considerable enlargement, by the erection of a theatre for optical exhibitions and other similar purposes. The full attendance of the public to witness the interesting development of the hydro-electrical microscope, physioscope, and dissolving views, rendered it desirable to provide both larger accommodation, and for giving a still wider range to the lenses and other instruments. For this purpose an excellent theatre has been built, under the direction of Mr. James Thomson, architect, nearly 120 feet in length and 40 feet in width, clear of the walls, with an altitude of 50 feet between floor and ceiling, which appears to be admirably adapted for its purpose, and reflects great credit on the skill of the architect.

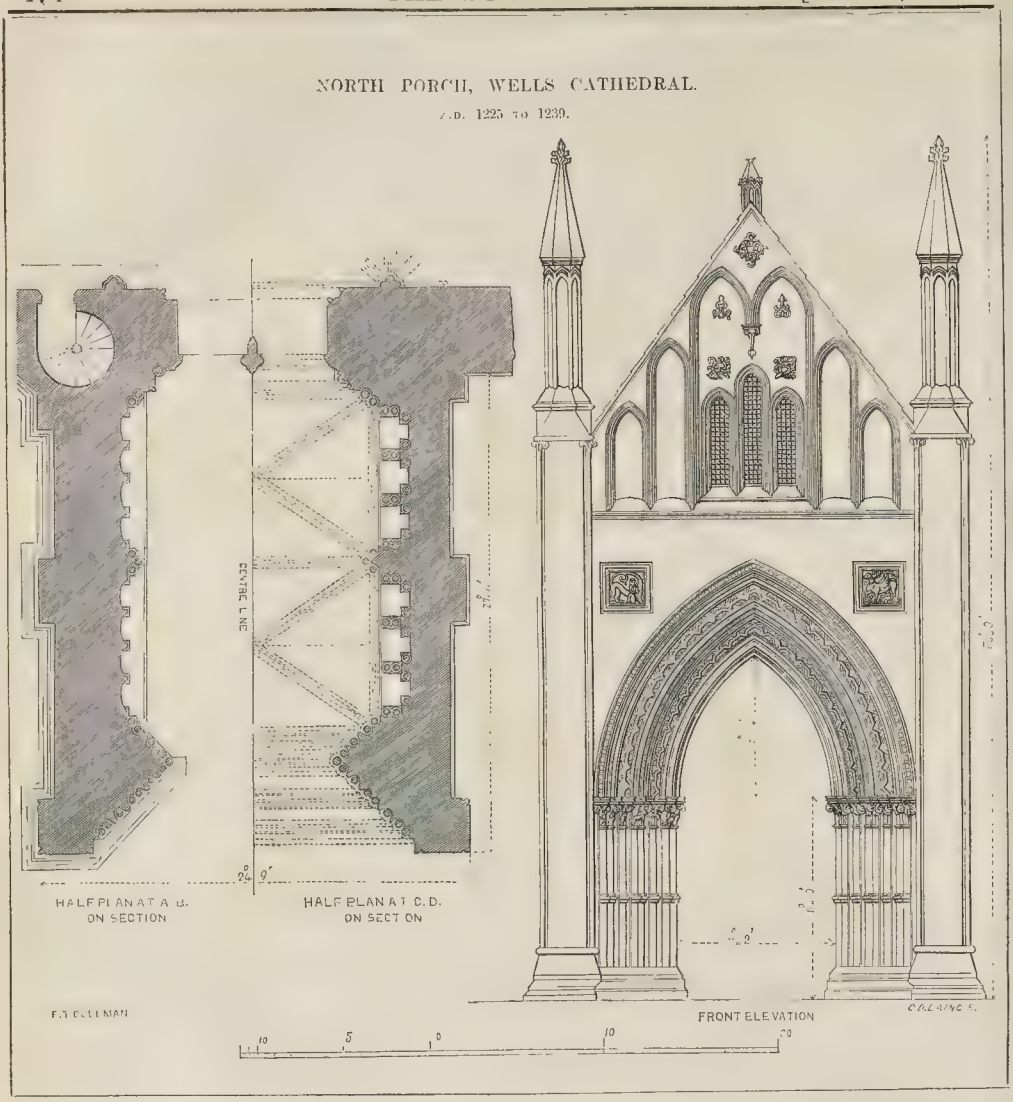
In its general character and construction it may be thus described:—the internal walls have massive piers and arches rising to the height of about 30 feet, from the key-stones of which spring metal cantilevers, for supporting galleries, the whole length of the building; from these, as a podium, the wall rises some 6 or 7 feet, and from thence springs the elliptic-coved ceiling, formed of large iron girders, of which the rise is 13 feet, and the length 50 feet. These girders are in one casting, from the house of Messrs. Bramah and Robinson, of Pimlico, and are amongst the largest, in point of span, that have been executed: they were all previously proved as to their soundness by the hydraulic press, and are good specimens of the ability of the firm in question. These girders rest on York-stone templets, and the feet of them are hollow, as a means of providing ample water-way;—they are of the ordinary section, with flanches at top and bottom, having iron shoes to receive the wood purlins which support the arched ribs that serve both for the boarding of the roof and the internal plastering.

The covering is of marine metal (Baron Wetterstedt's patent). The previous gallery of this institution was covered with the same metal about ten years ago, and it was found to answer so satisfactorily as to be again adopted.

On the summit of the roof is a skylight 50 feet in length and 12 feet broad; this is provided with two moveable shutters, or blinds, each 25 feet long, having a series of iron rollers 12 inches diameter, running upon a tramway, and moved by a cogged-wheel and vertical shaft, so as instantly to close that large opening by the simultaneous movement of the two shutters from opposite ends—this is for the purpose of exhibiting the optical illusions in broad day, and in an instant to restore the light again for the general promenade of the public. The shutters were executed by Messrs. Barron and Turner.

The seats consist of two inclined planes: one, which we will call the pit, descends from the level of the old gallery floor to the floor of the theatre, and the other ascends at the old gallery level, and rises gradually to the very top of the side walls. Each of them is supported by a strong frame-work of timber, consisting, both longitudinally and transversely, of a series of principals, queen posts and braces, the whole resting on strong cast-iron columns, having stone plinths and brick piers brought up from the basement. Beneath this upper range of seats and the lower one is a large room, 40 feet by 33 feet, and of a height varying from 10 feet to 30 feet; in this, which is called the Manipulating-room, are placed all the apparatus of the optical and mathematical instruments, by which the objects are produced on the disc.

The disc alone is an object of considerable interest: it is the largest plane constructed of wood, and rendered moveable, that we have ever seen, being 33 feet by 27 feet in area, nearly 900 feet super. It consists of a crane-like construction, upon which is framed a series of horizontal and vertical braces, and the whole is covered with boarding and oil canvass. This was constructed by Mr. Strachan, the able stage machinist, and whose contrivance to stretch the canvass in case it should get slack by change of temperature, is both simple and effective. This immense screen is made to move upon a centre so easily, that no machinery



is found necessary to effect it, the slightest impulse from the hand being sufficient.

In respect of warming and ventilating the building, very considerable pains have been taken by the architect, and the arrangement seems calculated to answer both purposes well.

A large bed of hot-water pipes is formed beneath the lower range of seats, heated by a contiguous furnace; and all the fresh air, which is supplied to the building by a flue opening to the external atmosphere, passes over these pipes, and enters the theatre by gratings beneath the seats at various elevations. The furnace is so arranged as to be able to obtain its supply of air only from two upright shafts at the back of the theatre, which open immediately under the ceiling, and thus remove, as by a pump, all the vitiated air.

The apparatus for warming was erected by Messrs. Benham and Son: the general works were executed by Mr. M. Timpson, the builder.

The façade in Regent-street is 86 feet long, and nearly 60 feet high. It is in character an Italian composition of the Palazzi kind, but with Grecian details; the architect aiming at greater simplicity and breadth than was otherwise obtainable. The whole is surmounted by the stone figure of Minerva, which formed part of the previous front, and was executed by Mr. E. E. Papworth, a pupil of Mr. Bailey, R.A.

The total cost will probably not be less than from 10,000*l.* to 12,000*l.* Great credit is due to the directors for their spirited endeavours to meet the demands of the public,—especially to Mr. Mountford Nurse, as the prime mover in so important an undertaking, having for its object the capabilities of affording, in the most efficient manner, popular illustrations in every department of science.

NORTH PORCH, WELLS CATHEDRAL.

The accompanying engravings illustrate the north porch of Wells Cathedral, an exceedingly interesting specimen of the Early pointed style. They comprise a plan of the porch, at two stages, an elevation and section. This porch, in common with the whole of the western portion of the cathedral, was built by Bishop Joceline de Welles, between the year 1225 and October, 1239, when it was dedicated. It retains some of the characteristics of the preceding style, walls of considerable thickness, shallow buttresses, and zig-zag mouldings: so much so, indeed, that Britton, in his "History and Description" of the cathedral, is disposed to ascribe it to an earlier period than that named,—the evidence, however, is conclusive.*

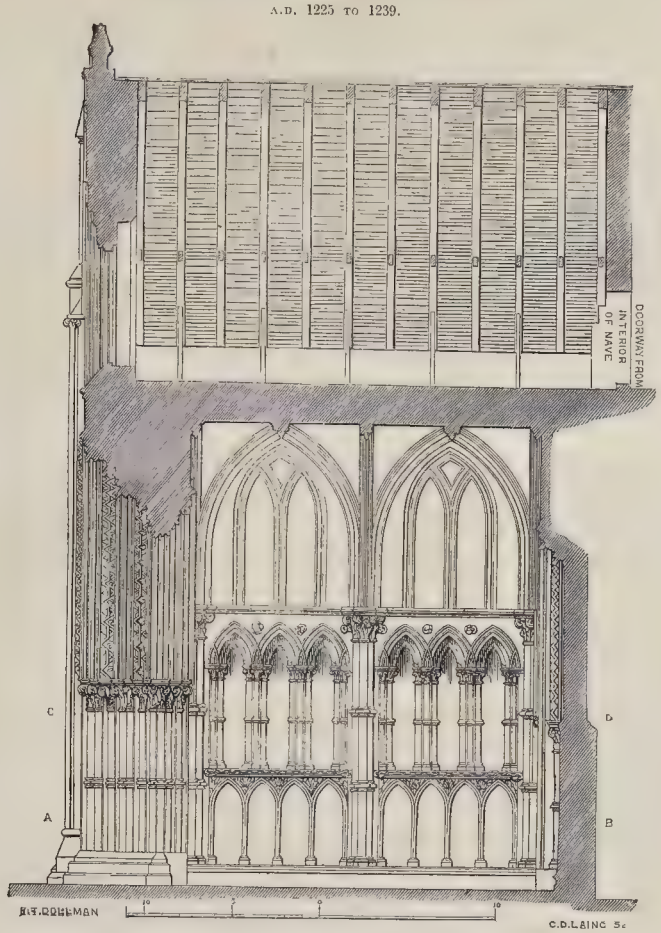
In our fourth volume will be found various illustrations of parts of this cathedral, Sugar's chantry (p. 102 and p. 104), Priest's door, Ladye chapel (p. 307), Stall ends (p. 391), and Litany desk (p. 403); and, in the fifth volume, a view of the Vicar's close (p. 338), as well as some notices of the restorations, which are now again going on. Mr. Ferrey, in whose hands they were, has resigned the appointment, in consequence of a difference of opinion in respect of some of the arrangements.

Mosaic of the Middle Ages.—Mr. Digby Wyatt announces an illustrated work on the geometrical mosaic of the middle ages: the specimens to be set forth in chromo-lithography, to give the exact appearance of the originals. An interesting paper on mosaic by this gentleman will be found in our fifth volume, page 537.

* Mr. Britton's interesting History has been lately reprinted in a cheap form by Green, of Wells (Rivington, London), as a hand-book for visitors. Many of our readers will be rejoiced to hear that Mr. Britton has recovered from a most serious attack of illness, after his medical attendants had declared his case hopeless, and is now as energetic and active as ever. He is again at work on the auto-biography, to which the subscribers to his testimonial are entitled.

NORTH PORCH, WELLS CATHEDRAL.

A.D. 1225 TO 1239.



LONGITUDINAL SECTION.

CARVED WOOD-FRIEZES.

Among all the architectural details which our ancestors, during the middle ages, strove with such untiring imagination to vary, the "string-course" holds an important position. Its form and place by no means tend, like some accessories, to fetter the artist in the nature of his design, but, on the contrary, offer a long continuous void, into which he may insert whatsoever his fancy dictate, whether from the bounteous fields of nature, or from the wilder gardens of legendary lore. Our ancient churches present three kinds of string-courses: firstly, those which are simply hollow, and enriched at more or less distant intervals with square pateræ; secondly, those (generally upon a larger scale), in which are introduced—

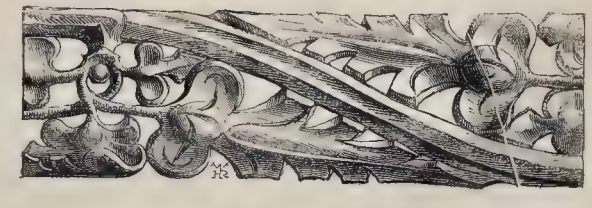
"Monsters, and hydras, and chimeras dire."

Or, in other cases, figures, human and divine, representing subjects in the life of our Lord, or in that of a patron saint; and, lastly, those which are carved or sculptured into representations of natural plants, among which are pre-eminent, the ivy, the hazel, the oak, and the vine-tree. Of the latter species, the accompanying engravings offer two examples, both from carved wood of the middle of the fifteenth century, the one being taken from the interior decorations of Alderton Church, Wilt-

CARVED WOOD FRIEZES.

(FIFTEENTH CENTURY.)





shire,* and the other from the exterior of a timber-house in Rouen, of which part of the embellishments some years back found their way into this country. Both are exceedingly fanciful adaptations of the "vine," and though far from elaborate in finish, effective for the situations they were originally intended to hold.

COMPETITION ESTIMATES.

COST OF READING GAOL.

Sir,—We often hear of the "estimates" for public buildings, and you constantly record the amounts tendered in competition; the actual results, however, very seldom meet the public eye.

Accidentally looking through a Brighton paper, the *Guardian*, of Wednesday, the 29th March, I read a letter from Mr. Frewen on the subject of the proposed "new gaol at Lewes." With that letter I have nothing to do, but he adds this postscript, which I forward you, and which gives the two important facts of the ultimate cost of a building estimated at 25,000*l.*, and that the architects were only paid their commission on the amount of the estimate. If I recollect rightly, this Reading Gaol was a competition affair, and the two facts to which I advert may serve to explain some of the secrets of such competitions.—I am, Sir, &c., A. B.

The following is the postscript alluded to:—

"P.S. Since writing the above letter I have received a letter from the Clerk of the Peace of Berks relative to the gaol at Reading, of which the following is a copy.—N.B. There is nothing in this account for land.

'Abingdon, 18th March, 1848.

Sir,—Absence from home prevented me receiving your letter till to-day. The gaol at Reading was *not* built under an estimate; but, after the plans had been arranged, tenders were sent in for building according to schedules of prices, and the work to be measured. The architects, however, were required to calculate what the total cost would be, and they stated 25,000*l.*, upon which they agreed to take their commission, whether more or less. The cost turned out to be as follows:—

Mr. Jay and Messrs. Bakers, for building, according to measure and valuation in schedule prices	£35,935	8	10
Messrs. Cappel and Co., patent cement floors	550	10	0
Claridge and Co., for asphalte work	818	3	0
May, for grates	314	3	0
Smith and Son, for locks, &c.	675	17	9
Thomas and Son, for ditto	173	4	6
Haden and Co., for apparatus to warm and ventilate, and for other engineer's work	1,743	15	0
Pontifex and Walling, for water fittings, &c.	1,329	9	5
Faraday, for gas fittings	584	5	10
Payments for labour and materials for work done under the direction of W. Crickmay after Messrs. Baker left, finishing internal arrangements, levelling courts, building wall and entrance, &c.	2,841	6	1
Messrs. Scott and Moffatt, architects	1,250	0	0
W. Crickmay, clerk of the works	406	14	0
	£16,622	17	5

I am, your very obedient servant,
Geo. B. Morland,
Clerk of the Peace of Berks.
To C. H. Frewen, Esq., M.P.'"

The British Museum.—The number of persons admitted to view the Museum last year (1847), amounted to 830,965, against 750,601 in 1846 and 685,614 in 1845; the number of visits made to the reading-rooms for the purposes of study or research to 67,525 (in 1810 the number of students was about 1,950); the number of visits by artists to the sculpture galleries, to 3,508 (a falling off, as compared with 1846, of 616); and the number of visits to the print rooms to 4,572. The report of the department of printed books shows that about 328,484 volumes were consulted in the course of the year, or 1,121 per diem.

* An account and illustrations of this church, which has some interesting peculiarities, will be found in our third volume, page 229.

STRENGTH OF BEAMS.

Sir,—Your correspondent "X. Y. Z.," requests information as to the following:—

"A church bell with its appurtenances weighing five tons, is to be supported in the middle by a beam, having a clear width between the bearings of 20 feet;—

"Required to know the best form of beam in either of the following materials, and which of these materials is best suited for the purpose, viz., English oak, Baltic timber, or cast iron."

According to the known mathematical formula, based upon practical experiments, we find that an *oak* beam of 12 inches in depth and 8 inches in breadth, with a distance of 20 feet between the points of bearing, will sustain with *safety* a weight of a little more than 5 tons.

We find also that a beam of Riga fir of the same dimensions, viz.: 12 inches by 8, with 20 feet between bearings, will support *with safety* a weight equal to only 3 tons, 3 cwts., 1 qr. But if we cut this fir beam to a depth of 4 inches, in the manner shown by the dotted lines in fig. 1, which is drawn to a scale of 12 feet to the inch, and raise the two pieces AB and CB, and insert a

Fig. 1.

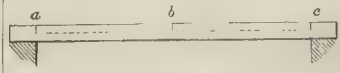
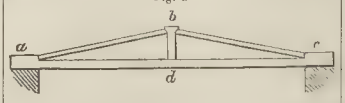


Fig. 2



truss BD 2 feet high, as shown in fig. 2, then the strength will be increased sixfold, and the trussed frame-work (made out of the same piece of timber, which would only bear about 3 tons) will support a weight of 3 tons, 3 cwt., 1 qr. × 6 = 18 tons, 19 cwt., 2 qrs.

If, on the other hand, the oak beam is cut and trussed in the same manner, then will it bear a weight of 5 tons × 6 = 30 tons.

It may be as well, perhaps, to remark here, that the dimensions of a beam of Riga fir to sustain thirty tons, when cut and trussed, as shewn above, will be 12 inches in depth and 12½ inches in breadth.

A simple cast-iron beam, 8 inches in depth and 3½ inches in breadth, will sustain a weight of 5 tons with *safety*. This, however, is not to be depended upon for the purpose named. Your correspondent, "X. Y. Z.," will, I think, from the above, be able to see and judge for himself as to the material that may best suit his purpose. C. A., London.



Sir,—I have reason to believe your correspondent "X. Y. Z.," would find a beam (to support a bell of 5 tons in the middle of it), if constructed in a similar manner to the accompanying sketch, the most simple and strongest mode he could adopt. It is desirable to render the support of the bell as independent as possible of the walls, by means of a collar and upright posts under the beam.

A Subscriber.

A Meeting of Metropolitan Trades Delegates was held on Thursday in last week, to receive a report of a committee on the depressed state of the working classes. According to that report, about one-third of the 200,000 metropolitan artisans and mechanics are entirely dependant on parochial relief, another third only occasionally employed, and subsisting chiefly on the proceeds of their small stock of furniture, clothes, &c., and only one-third employed—one-half of them only at remunerative wages.

LONDON CHURCHYARDS, AND SUGGESTED PROVISIONS.

Sir,—In justice to your excellent periodical, as well as your humble correspondent, I hope you will allow me to mention how exactly the suggestions for "Joint Parochial Cemeteries" in No. 173 (May 30, 1846), anticipated the important resolutions of the London Clergy Committee, under the presidency of the Dean of Manchester.*

Whilst not presumptuous enough to pronounce that any hint was actually taken from me,—whilst that would be no derogation to high-mindedness and principle,—I may claim the meed, as observed by a brother editor of yours, of a useful pioneer in leading the public mind, through your widely seen pages, to ideas really as important to fair parochial and clerical interests, and private local feelings and time-hallowed associations, as they are, and must be, to public decency and salubrity.

In abatement of which, it is only open that some other joint parochial plans may have been previously offered, though without the writer's knowledge; since he was certainly the first to point out how local divisions and associations might be retained in a junction cemetery. And this might still be added to the well-digested clerical plan, which, beyond that, he will not presume to criticise. Nor is it even necessary for the purpose to substitute the whole for part, as the calculation for 150,000 inhabitants would still answer for any provincial metropolis or district, and it is believed has been remembered in several;† and an eighteen-penny rate, by several yearly instalments, would generally cover the extreme expense.

I much regretted to have made a mistake in the total number of acres in the metropolis and suburbs. But this would not affect accounts of the state of particular churchyards, or a comparison of proportion in twelve parishes,‡ in the subsequent pamphlet, quoted substantially in a leading article of the *Times* last April.

After churchyards, what astonishing *cramming* may take place in "dissenting and general grounds," might be partly learnt from a visit to one of the extensive family of "Bunhill Fields," a little to the right of the Old Kent-road. On a very moderate calculation, *fifteen hundred* bodies—whilst the number is more likely to be near *two thousand five hundred*—are deposited in a year in a place very little more than *a quarter of an acre!* § True, "superficial" decency may be more observed than in some churchyards, and there may be, yet, no complaint in the immediate neighbourhood; but coffins apparently not two days in the earth, "with their cloth as fresh as a birth-day suit," are exposed on the sides of fresh graves: and what must be ever the mystery of such fearful *tides without an ebb?*—I am, &c.

J. D. Parry.

March 25, 1848.

* Vide the *Times* of Thursday, the 23rd inst.

† The dreadful grounds at Leeds, where a powerful instrument, with a slang appellation, was made to cut through coffins and bodies, either for destruction or merely taking off the head or foot, for "room," and where the grave-diggers were dying off,—or loathsome to approach, as sometimes in London,—have been closed, on the motion of the council, by the Bishop of Ripon, who favourably received the writer's pamphlet. And how many grounds nearly as bad may there not be in Great Britain and Ireland?

‡ Parishes. Burial-ground. Inhabitants.

St. Andrew's, Holborn, has one acre to		15,000
St. Bride's	,,	18,000
Bloomsbury	,,	20,000
St. Margaret's, Westminster	,,	20,000
Aldgate	,,	20,000
Whitechapel	,,	20,000
Bethnal-green	,,	20,000
St. Clement Danes	,,	25,000
St. Saviour's, Southwark (at least)	,,	25,000
St. James's, Clerkenwell	,,	30,000
St. Stephen's, Coleman-street	,,	32,000
St. Sepulchre's	,,	35,000

Including together about 350,000 inhabitants, with 17 acres at the utmost. Marylebone and St. Pancras have about 16 for 272,000, averaging 17,000 to an acre. In small city parishes, perhaps, the greater average may be rather under 10,000, though the confined situation of course aggravates any insalubrious effects, but some would average a much higher, and perhaps a double proportion.—*Urban Burial* p. 18.

§ Others such, and larger, as that in Golden-lane, St Luke's, where the further part is crowded avariciously, and the nearer portion left neat for show, must, in time, without a check, become cruel abuses.

AMERICAN ARCHITECURE.

NEW CUSTOM-HOUSE, NEW ORLEANS.

A CUSTOM-HOUSE is about to be built in New Orleans, and is thus described in the *Daily Delta* of that city:—"The height of the building is to be eighty-five feet—in four lofty stories. The whole exterior will be of *granite or marble ashlar*. Each façade is to be composed of three projecting compartments, which are the distinguishing features of the principal entrances. The pedestella-like appearance of the lower story is strikingly marked by rusticated joints and a heavy belt-course. Thence, the side projections are faced with pilasters, and the centres enriched by massive columns, supporting a deeply relieved entablature, the cornice of which is sustained by consoles, forming panels in the frieze, which are perforated with lights to the fourth story. The plain portions of the façade on Canal, Custom-house, and New Levee-streets are to have each a large iron-door of opened work, communicating with rail-roads, which are also to be connected by means of hoistways, with rail-roads on the several stories, the whole machinery of which will be worked by steam-power, for the receipt and delivery of goods.

It will cover a space far larger than that covered by any other building in the United States, 99,000 square feet, or 32,000 square feet more than is covered by the capitol in Washington; and it is to accommodate the Post-office, collectors' offices, land offices, U. S. courts, and the many millions of cubic feet of goods to be stored therein under the present warehousing law. The estimated cost of the edifice is about 850,000 dollars."

A view of the proposed building, which accompanies the article we have quoted, leads us to form a less favourable opinion of its merits as an architectural work than the description.

RESISTING POWER OF BRICKS, FLAT AND ON EDGE.

SIR,—Actual experiments on the crushing weights of brickwork are very valuable to the architect and engineer, and I therefore am anxious to preserve, in your valuable paper, a record of two careful inquiries on that subject made in January last.

On Thursday, the 27th January, two brick piers, each 9 inches square in the plan, and 2 feet 3 inches high, were constructed. They were built of good sound Cowley stocks, set in cement of the usual proportions, and of good quality. One pier was built with bricks laid flat, the other with bricks on edge. They were proved on the 29th (two days after), with the following results:—The pier having the bricks laid flatwise compressed a quarter of an inch, then cracked under a weight of 25 tons, and broke to pieces with a weight of 30 tons. The second one, with the bricks on edge, did not compress, cracked with a weight of 30 tons, and broke to pieces with 35 tons.

City, April 3. W. T.

METROPOLITAN COMMISSION OF SEWERS.

A SPECIAL general meeting of the Metropolitan Commissioners of Sewers was held on Saturday morning, Lord Ebrington, M.P., in the chair, to take into consideration what course should be adopted in consequence of the almost entire refusal of the House of Commons to grant any sum, in the Ordnance estimates for the present year, to carry on the Ordnance survey of the metropolis, already considerably advanced by the corps of Sappers and Miners, under the authority of Government, and for the sanitary purposes of the Commissioners of Sewers.

Lord Ebrington said the meeting had been called for the purpose of considering certain propositions with regard to the Ordnance survey of the metropolis; but before they entered upon the business, he called upon Mr. Hertslet, the clerk, to read the report of Mr. Austin, their consulting engineer, on the necessity that existed for the same.

Mr. Hertslet then read a voluminous report, which stated that no plan that could be relied on at present existed, causing a great waste of public money, as regarded public improvements of parishes, construction of railways, and the valuation of property, and especially at the present moment for the arrangement of practical measures for the improvement of the public health: the commencement of the preliminary work without delay would probably save a year of the immense mortality in the metropolis from preventible sickness, for, in the absence of the skeleton plan and levels of the surface, whereby a correct and comprehensive view of the whole drainage area may be taken, it would be impossible to design with confidence and accuracy the works of improvement so loudly demanded and universally acknowledged as essential to the improvement of public health. The report shewed that it would be most unwise to attempt to connect existing surveys of separate portions of the metropolis, and urged strongly the importance of proceeding with the work.

Mr. Chadwick said, that apart from the economy of health and working ability, of premature and excessive mortality, of the bereavements of children, of orphanage and premature widowhood, preventible sickness and misery, in mere pecuniary saving this work in which we are engaged is the largest economy of our day. Under any form of calculation the economy is enormous. In the metropolis it amounts to 1*l.* per head on the whole population—to 2,000,000*l.* per annum at the least—to be eventually achieved. In the whole of England and Wales, the eventual economy must amount to between 14,000,000*l.* and 15,000,000*l.* per annum. To this economy the works we have in charge to execute are the most largely contributary, and the success of these works depends on a well-considered and skilfully-executed survey, for which we have now to seek the means. For want of a nail the shoe was lost; for want of a shoe the horse was lost; from the failure of the horse the rider was lost; is an adage which feebly represents the sequence of the ruinous parsimony which withholds, or the carelessness which neglects to secure, the first means of the economy—the complete survey. There are no public proceedings more discouraging to those who would labour for systematized and economical administration, whether local or general, than the whole proceedings in Parliament in relation to a general survey. I felt it my duty to urge the importance of a general survey for the sake of more fair and equal valuations and collections of poor-rates. These representations having failed, the charge and the collections continue unequal and oppressive. Captain Dawson made representations, which were supported by myself and others, of the importance of a general survey for that purpose; but the landed gentry in the committee of the House of Commons rejected the propositions. A competent authority has estimated that the expense incurred to the land by that rejection will be upwards of 2,000,000*l.* I speak on the authority of a competent observer, when I state that had the general survey, with the proper system of levels, been carried out as was recommended before the extension of railways, upwards of fifteen millions of expense would have been saved upon the total expenditure incurred and in progress in that class of works, and a much better direction have been given to them. Then, what a scene of worse than waste have we in extended cesspools, of whole districts of sewers constructed at wrong levels, of rates from year to year misapplied in the dark for want of a general survey in the branch of administration which it is our duty to endeavour to retrieve! At one time, and in one state of the revenue and disposition of Parliament, it was in contemplation to have all the towns surveyed by the Ordnance corps from the consolidated fund. Recently, in an altered state of the revenue and disposition of Parliament, it has been proposed that each town shall pay the expense of its own survey. The survey being a means of a large pecuniary saving, those who save money by it ought undoubtedly to contribute to the expense. But where the saving is so general, the expense of achieving it may be properly, as well as most conveniently, defrayed from a common fund, apart from the risks and almost certainty of local misdirections and misapplications. We thought, from the reasons set forth in the resolutions, that the metropolis, which had contributed so long and largely to the general fund from which the expense of surveys in other parts of the country has been defrayed, is entitled to some small share of contribution in return. At that time, moreover, as expressed, there were no other means of getting the survey forward. At the present time, however, we are in a somewhat better condition as to the control of funds, and far more will certainly be lost by any delay on the question of contribution by Parliamentary grant, than the amount of any sum that might be voted. Mr. Chadwick concluded by proposing the following resolution:—

"That if Parliament shall not sanction the continuance of the survey of the metropolis out of its regular turn by the Ordnance out of the moneys voted by Parliament, this court requests the Ordnance to continue the triangulation, which they alone have the means of doing effectively, this court undertaking the repayment of the expense of the same, if necessary, the estimate not exceeding 4,000*l.*"

Mr. Broderip seconded the resolution, and said he could not see the justice or the policy of withholding the means, when much larger sums had been spent on provincial towns, to which the metropolis had paid its share.

Mr. Leslie said that an hon. member had told the House of Commons that this survey would cost 250,000*l.* He had since then seen several of the opposition members, and they had declared to him that they did not understand the vote that had been come to. He thought the Government should bring in a short bill to authorise the Commissioners of Sewers to expend 36,000*l.* out of the rates, for was a work of such magnitude to be stopped for 36,000*l.*?

Sir H. de la Beche considered that as they had a right to make a plan for their works, they had a right to levy rates for that plan. The sappers and miners had been ordered to quit, and it was only by the courtesy of the Master-General of the Ordnance that they had been retained, to wait for the decision of the court this day. They might separate the triangulation from the general survey, for which 1,000*l.* had been advanced, and it would cost something above 2,000*l.* more, and whatever might be done as to the survey, he had no doubt they would be right in coming to a decision to retain the sappers and miners for the triangulation. As a portion of their plan comprised the City of London, he thought that body would not object to the payment of 150*l.* for their portion of it. He strongly pressed upon the court the necessity of a decision with as little delay as possible to save the triangulation, already done to about one-sixth; and the block plan for Westminster had considerably advanced.

Mr. Slaney said to provide the sum of 3,000*l.* it would not exceed an increase in the rate of ¼d. in the pound for the district benefitted, and it was of the first consequence they should proceed with the survey. It was a great point that the persons were there, with their machinery all ready; and although the expense of 3,000*l.* would be incurred (less than ¼d. in the pound), it would be spread over a length of time corresponding with the benefits received. He, therefore, thought they had strong grounds to lay their case before the House of Commons, even for the payment of the sum out of the Consolidated Fund.

Mr. Leslie said that although he considered it absolutely necessary that the work should be done, he thought they had no legal right to charge the inhabitants with the expense. He could not but think that the House of Commons had been entirely misled on this subject.

The Chairman then put the resolution, which was carried unanimously.

The following resolutions were then put *seriatim*, and agreed to unanimously:—

"That at the time when the new Commissions of Sewers were issued, the several courts were not in a position either to raise the funds or to organise the force, nor had they the rights of entry upon buildings, such as are possessed by the Board of Ordnance, and as are necessary to execute a survey adequate to the wants of the metropolis.

That for the reasons set forth in the first report of the Metropolitan Sanitary Commissioners, such a survey is of paramount and pressing necessity.

That the views of the Metropolitan Sanitary Commissioners, as to the important influence which the drainage works of the metropolis is likely to exercise over the drainage of the provincial towns, are corroborated by the continued inquiries from various parts of the country, as to the progress of the works under the Metropolitan Sewers Commission,—inquiries which render it probable that the plans adopted by the metropolis will be followed by provincial towns.

That the assistance already afforded by her Majesty's Government has greatly advanced the period for the execution of the works requisite for the sanitary improvement of the metropolis, by which works a large pecuniary saving, and a corresponding saving of health and life, will be effected.

That it appears from the evidence of the officers of the Ordnance survey (first report of the Sanitary Commissioners, p. 423, evidence of Colonel Hall and Captain Yolland), that upwards of 200,000*l.* have been expended from the Consolidated Fund towards the completion of an Ordnance survey for the part of England which has already been done, where works of sanitary improvement are not more urgent than in the metropolis.

That of this extra outlay beyond the proportions which would have been expended if the survey had been completed in these towns at the same cost as the survey of the southern counties, the metropolis, according to the proportion of its rental, which is upwards of ten millions, has contributed 32,000*l.*, or upwards of one-sixth.

That on this ground the request was justified that the expense of the triangulation and a block survey of the metropolis should be paid for out of the Consolidated Fund—namely, for the triangulation and for the block survey, 24,218*l.*, that is, less than one-fourth the estimate of General Colby for making and engraving a plan and survey of the metropolis, on the same scale and style as that for Dublin; a low rate of return for the contribution of the metropolis towards the surveys of other towns.

That nevertheless, under the circumstances (including those of the disturbance of the several drainage works in the metropolis), and the necessity of consolidating the works as early as possible, the saving of time in commencing works for the advancement of drainage and other sanitary works in the metropolis was of the highest moment.

That from all the information which has been collected on the subject, it appears that the pecuniary loss involved by the delay of works is enormous, and that one week's delay of sanitary measures involves a loss of as large a sum as that which has been requested of the Government as the equivalent to the metropolis for its contribution towards the survey of other towns."

Mr. Hume, who entered late, said the discussion in the House of Commons was a very unsatisfactory one, because no one appeared to know anything on the subject beyond this, that the Board of Ordnance, having a staff, had offered to complete the survey of the metropolis at a smaller expense than was practicable in any other way. He wished to know what had been the practice with regard to other towns which had been surveyed, because he could not agree

that London should be surveyed out of the public money if other towns had not been.

Viscount Ebrington said, that the expense of the surveys of provincial towns had never come before the country in any way, because the surveys had been taken as a whole. He knew that levels were laid down in the Ordnance surveys not only of the towns, but of the whole country of Ireland. Their map of Dublin was the most beautiful and minute work of art of the kind ever seen; the lamp-posts, the door-steps, the trees, and pattern of every garden being laid down with the utmost precision. There could be no doubt that many towns did enjoy the benefit at the public expense of maps containing all this minute information, and the question was whether, if they did not want more than other places, they should receive less.

Correspondence.

POROUS BRICKS.

Sir,—Having lately suffered extremely from moisture penetrating external walls above the level of the ground, owing to the porous nature of the bricks in this locality, I beg leave, through the medium of your valuable journal, to solicit a reply from some of your many practical readers, how I am effectually to prevent the same, either by external or internal application.

A Constant Reader.

Southampton.

Miscellanea.

Duty on Bricks.—The total amount of duty paid on bricks, in the several Excise collections in England for the year 1846, amounted to 625,507*l.* 4s. 8d., 591,817*l.* 2s. of which was collected in the country, and 33,690*l.* 2s. 8d. in London. The total amount of duty collected in 1847 amounted to 672,781*l.* 1s. 3d. Of this sum 637,898*l.* 10s. was collected in the country, and 34,882*l.* 11s. 3d. in London.

The Use of the Triforium in Modern Churches.—A correspondent suggests that the triforium might be used for lighting churches after dark. He says:—"Each lesser division of the triforium might be filled with stained or embossed glass, and a gas-burner, with a reflector, placed behind each. The following advantages would be gained by this arrangement. 1. The position these lights would occupy commands the whole nave, with the opposite aisle of the church. 2. Being entirely away from any of the windows, no light would be wasted, as is usually the case. 3. Unsightly gas-pipes and lamps would be avoided. 4. We should enjoy the beauties of stained-glass as well in the evening as in the morning."—W. S.

Smoky Chimneys.—Sir;—Your correspondent "Thomas Thom," says that he "need not point out the absurdity" of having the smallest end of a flue downwards: and you most justly observe that "the absurdity of this is not so certain as he thinks." Mr. Thom may refer to "Tredgold on Warming and Ventilating," third edition, p. 231, as an authority in his favour, where the author strenuously, but most erroneously, insists on the necessity of not contracting the throat of a flue. He says, "it is like contracting the *aperture* of a pipe which supplies a jet." Now there is a curious fact with respect to jets of water with which Tredfold was not acquainted. If there be two cisterns of equal size, and in the bottom of each there be an orifice of the same diameter, and from one of those orifices there be a pipe of the same diameter throughout as the orifice, and from the other a pipe increasing in diameter, the cistern having the discharge pipe with the increasing diameter will be emptied through its conical pipe more rapidly than the other through its cylindrical pipe. The case will be the same with smoke or any other fluid. I should be glad to hear from Mr. Thom, or any other of your correspondents, how this is to be accounted for. If Mr. Thom wished to be satisfied that one of the best modes for curing a smoky chimney is to make its upper opening larger than its throat, he may inquire at the Bank of England, where he can ascertain how one of its late governors, by enlarging the upper part of the flue, cured the smoking of a chimney which had baffled all the endeavours of the chimney doctors.—I am, Sir, &c. N. R.

Projected Works, &c.—Advertisements have been issued for tenders, by the 14th inst., for the erection of a new military prison at Forton Gosport; by 1st May, for the erection of the church and parsonage-house at Prestwood, Bucks; by same time, for works at the Bedford County Prisons; by 14th inst., for building a ward at the West Ham Union Workhouse; by 20th, for the rebuilding of the parish church at Rockcliff, near Carlisle; by 12th, for the various works to be done in the erection of a villa at Addingham, near Ilkley; by 15th, for the formation of a wharf wall at Grangemouth, 633 feet long, and 22½ feet high; by 11th, for building sewers in Cripplegate; and, by same time, for taking up and removing foot and carriage-way pavements in Limehouse causeway.

Church of Santa Croce.—The fame of this ancient church, writes a correspondent of the *Athenæum*, has increased as time—the test of artistic excellence—has rolled on, establishing the merit of its works of art, as well as the fame of the illustrious dead whose ashes repose within its precincts, and whose works still live to stimulate our efforts and direct our energies to high attainments. On entering the temple—rendered doubly solemn by the associations that crowd upon the mind—stands the sarcophagus of the giant-minded Buonarotti—great in architecture, great in sculpture, great in painting. His frescoes are our most stupendous examples, and in his three-fold capacity he has added to the fame of the Eternal City. The sister arts, lamenting his loss, are well placed at his tomb: for upon each of them he has stamped a sublimity that will ever attest the altitude of his genius. Here sleeps the profound Galileo—no more the object of persecution, condemned to the dungeon cell. Then, from the chisel of Canova we have a personification of Italy weeping over one whose memory is dear to Italians of the present day—"Il Principe della Tragedia"—Alfieri. We next come to a monument of a worthless period of art, erected to the instructor of princes, Macchiavelli; and here, unregarded and without a stone to mark the spot, lie the ashes of Lorenzo Ghiberti, whose splendid doors bear testimony to his genius, though no epitaph records it. In works of the "Renaissance" Santa Croce affords many beautiful examples, though valuable specimens have been wilfully destroyed or hidden under whitewash, the traces of figures and the *relievi* of glories being still obvious through the ignoble covering. Four chapels of the transept were painted by Giotto, but afterwards defaced with distemper. The late Cav. Peruzzi had this removed from one of the sides of the family *capella*, and brought to light the only fresco that is now visible.

City of London Union.—Blind Builders.—We have received the following list of the tenders delivered on Monday last, for the erection of the "City of London Union," at the office of Mr. Richard Tress. The quantities, according to our informant, were supplied by Mr. Eppy and Mr. Hunt:—

Diggle	£73,957
Smith	51,961
Pollock	49,938
Jackson	49,464
Hicks	47,770
Higgs and Son	46,415
Locke and Nesham	46,200
Pearce and Guerrier	46,200
Patrick	46,100
Trego	45,944
Lawrence	45,637
Carter	45,500
Knight and Sons	45,500
Cooper and Davies	45,334
Jay	44,736
Wilson	44,699
Pritchard	44,533
Taylor	44,500
Norris	43,970
Rider	43,800
Wilson	41,890
Piper	41,314
Livermore	41,115
Higgs	40,980
Hills	40,931
I'Anson	40,384
Nicholson	39,940
Curtis	38,884
Crook	37,883
Glenn	35,275
Hawtrey	33,100

We have not time for comment at this moment; and, in truth, it is little needed.

Competition.—Plans, elevations, and sec
tions, are wanted for the Marylebone Bath
and Washhouses, subject to the restriction
intimated in advertisement.

The Progressive Society of Operative Carpenters met on Wednesday eve
ning, 29th March, with their wives and friend
to tea socially. The secretary read a repor
which stated that the energies of the societ
had been directed towards fitting up their pre
mises, which enabled them to employ most
their unemployed members, and that th
executive were then engaged in establishin
classes for instruction in connection with th
trade, hoping by these means to turn to goo
account the few spare hours of the buildin
operatives. Several members of the societ
urged the necessity of self-improvement an
self-control.

Institution of Civil Engineers, Marc
28th.—The paper read was "The Engineerin
of the Rhine and the Moselle," by Mr. G. B. W
Jackson. This communication was writte
during a short visit made to Holland for th
purpose of inspecting personally the work
with which the author had become familiar i
the writings of Beaudemoulin, Vanden Bergh
Defontaines, Hibbert, Krayenhoff, Ockhar
and Wiebeking. The ancient works, as f
back as the time of the Romans, were briefl
described, and descriptions given of the mod
of straightening the bed of the river, and
constructing the dams, weirs, division arm
spurs, and shoreworks, and the method
blasting the rocks, which latter considerabl
impeded the course of the stream.

Arrangement of the Committee rooms in the new House of Common
—These rooms are, perhaps, in their preser
state, scarcely open to criticism; but we ma
as well, while they are incomplete, sugge
that, in finishing them, attention should be pa
to rendering them well adapted for th
auditory which they will often contain.
present, with bare, hard walls, the reverberatio
of sound in them often renders the loudest ar
clearest speakers inaudible.

Belgium.—The King has commanded th
restoration of the Palace at Antwerp, and th
as many workmen as possible shall be em
ployed on it. Several other public works a
also to be commenced immediately, amon
which is the Quay of St. Michael.

[Advertisement.]

CITY OF LONDON UNION.

Mr. Editor,—Finding you are in possession
the list of public tenders, and insert them in yo
columns, I have no doubt that your attention w
be called to the above estimates, which appear
be erroneous, and particularly so, when the lowe
amount is nearest to the architect's estimate; co
sequently, the lowest tender was at once accepte
upon condition of that gentleman giving increas
security to the amount of 1,000*l.*, which he refus
to do. The guardians considered themselves entitl
to ask for this further security, and upon M
Hawtrey not complying, rejected his tender. T
next, as a matter of course, was then inquired afte
and the same demand was made upon him, whi
he readily acceded to—and a larger amount,
necessary—and gave very satisfactory proof of h
ability to execute the work, and is well known as
respectable builder, and named the gentlemen f
his securities, which could not be doubted *in t
city of London*; but after a long discussion betwe
the committee, Messrs. Curtis', of Stratford, tend
was accepted. How is this? Messrs. Crook a
Son are next on the list, and all those gentlemen i
creasing on the amount of the architect's estimat
I should like to know how far guardians are justifi
in using the funds to serve their friends; there bei
3,609*l.* between Mr. Glenn and Messrs. Curtis, a
2,175*l.* between Mr. Glenn and Mr. Hawtrey, wh
tender was accepted, had that gentleman acced
to the wish of the Board,—thus making an amou
of 5,784*l.* above the lowest tender, which is reject
on the ground of 1,000*l.* being required for furth
security. There does appear a mystery that requi
explanation; and, for our safety, I hope it will n
be refused through the medium of your valuab
journal.

I am, Sir, yours truly,

April 7, 1848. A Guardian.

[Advertisement.]

Mr. Editor,—Knowing that your columns
at all times open to make right any evil that
individual or public body may fall into, allow m
through the medium of your various corresponden
to ask *why* the guardians of the City of Lond
Union rejected my tender for the erection of th
new workhouse? I have no doubt you will be i

formed of the amount of the various competitors, and there you will perceive I am the lowest but one; and, at the time the tenders were opened, there was some little hesitation on the minds of the committee whether Mr. Hawtrey would engage in a work of such magnitude. Consequently, I was called in before the committee, when they inquired of me if I had ever built a workhouse; my reply was no. They again inquired if I was prepared to give security to the amount specified by the specification, or a further sum if necessary; my reply was yes. They then asked me if I had sufficient plant to carry out such a work; I answered in the affirmative. This ended the business of the day.

I was summoned the following day to name my securities for the increased amount, which I did, by two letters, written in the handwriting of gentlemen expressing their willingness to become security to the amount required.

I also inclosed a testimonial from an architect for whom I have executed work nearly to the amount of one hundred thousand pounds.

After all this the only reply I have is, that Messrs. Curtis's tender is accepted, the amount being 3,609*l.* more than mine.

I am, Sir, your most obedient,
JOHN GLENN.

Liverpool-road, Islington.

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, APRIL 11.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 12.—Graphic Society, 7 P.M.

THURSDAY, 13.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.; Architectural Association.

FRIDAY, 14.—Archæological Association, 8½ P.M.

TO CORRESPONDENTS.

"*E. J. C.*"—The book has not reached us.

"*G. C.*"—Bartholomew's "Specifications." (Williams, Strand.)

"*J. H.*" shall hear from us. THE BUILDER may be obtained in Liverpool of Willmer and Smith, who receive a weekly parcel.

"*T. L. D.*"—We will wait.

"*Competitor.*"—The medal of Society of Arts is not yet awarded.

"*Frequent Reader.*"—The Dean in each case.

"*N. A. R.*"—We cannot advise.

Received.—"J. J. M.," "J. J. S.," (too late), "J. L. H," "S.," (shall appear), "G. S. D.," "An Ardent Student," "W. R." "Constant Subscriber," "C. B. R.," "R. W." (Pasley's Work), "S. B." "R. R." (In transactions of Civil Engineers), "H. K. R.," "D. P." "G. G. S. (thanks), "C. N."

ADVERTISEMENTS.

NOTICE.—ROYAL POLYTECHNIC INSTITUTION, incorporated by Royal Charter. ARTISTS and MANUFACTURERS of the USEFUL and ORNAMENTAL ARTS, and PATENTEES of NEW INVENTIONS, especially of WORKING MODELS, are respectfully informed that their Works should be forwarded to the Institution for DEPOSIT IMMEDIATELY, or they will not be in time for the Two Days of the Conversazione.

The INSTITUTION will be RE-OPENED to the Public on the 2nd instant. R. J. LONGBOTTOM, Secretary.

ELDRED'S ART EXPOSITION,
FOR THE PROMOTION OF
ARTS, MANUFACTURES, &c.
Under the Distinguished Patronage of
HER MAJESTY THE QUEEN, and H.R.H. PRINCE ALBERT.

The Works in PORCELAIN, STATUARY, PARIAN, CHINA, &c. will be open to the SOCIETY OF ARTS, John street, Adelphi, may be had at the Establishment.

*** Tickets of Admission to this Exhibition Gratis.

London: H. ELDRED, Printseller and Publisher to her Majesty and the Royal Family,
(ADJOINING THE CLARENDON).

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pots, Green and Plain Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Bosses, Cassels, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, on half the usual price. 3, Providence-row, Finsbury square, from Albion Wharf, Blackfriars bridge.

BY BRITISH AND FOREIGN LETTERS PATENT
STONE, CHALK, PLASTER, SAND, &c.
—TO CAPITALISTS.—Valuable Investment. The produce of soft stone, or chalk quarries, &c., are entirely and rendered impervious to all the radical causes of superseding other material, in quality, durability, and cheapness, for all building, paving, hydraulic, monumental, and decorative purposes. Engineers, architects, sculptors, &c., are earnestly invited to inspect various specimens.—Further particulars are offered, to *bona fide* parties, on their application to Messrs. HUTCHISON, WILDRIDGE, and Co., the Patentees, East Temple Chambers, Whitefriars, Fleet-street.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,
WITH SUBBOLT AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 6, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

WEST of LONDON and WESTMINSTER CEMETERY, Old Brompton and Fulham-road, 2 miles only from Piccadilly. Consecrated by the Bishop of London in 1840. The public are invited to inspect the Cemetery, which is open daily, for interments, from Eight o'clock in the morning until sunset. Tables of charges, and other particulars, may be obtained at the office, 123, Piccadilly.

A portion of the ground is unconsecrated.
JOHN H. RUDDICK, Secretary.

BRICKS.—Superior White Facing Bricks, and Hard Brimstone-colour Paviors, for Stables, &c. &c., may be had at W. and S. WRIGHTS', Brick and Tile-works, Hamwell, Midlesex.

The above can be taken at the Grand Junction Canal and Great Western Railroad, from whence goods can be sent to town and all parts of the country, at a trifling expense. Moulded Bricks and Tiles made to order on liberal terms.

TO BUILDERS, ENGINEERS, FOUNDERS, &c.
WARD and HART, Honduras Wharf, Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire-Brick, Lumps, Tiles, Clays, &c., have got an extensive and superior stock, and invite Builders, Gas Companies, Engineers, Shippers, &c., to inspect it and purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large arrival of first-rate Stourbridge Welsh, and Newcastle Bricks, and Patent Corn drying Kiln Tiles, so admirably adapted for Malting, &c. &c. Stock Bricks, Dutch Clinkers, Windsor and other Oven Tiles and Bricks. FOUNDERS' LOAM and MOULDING SAND, HOUSE SAND, RED AND WHITE; Lime Haver Sand, Ballast, Cement, Country Pan, Plain, Ridge, and Paving Tiles; Chimney-pots, Drain Tiles, Pipes, &c. Goods made to pattern.

*** A quantity of Welsh Bricks now in the River

WILKINSON'S Improved SEWERS are guaranteed to be more durable than the hardest burnt bricks, quite smooth inside; can be supplied in lengths of 12 or 16 feet, either complete or the bottoms only. House Drains are made with loose cover, to any shape or size. Further particulars may be had on application to W. B. WILKINSON, Prudhoe street, Newcastle-on-Tyne.

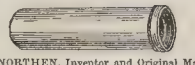
LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS.—A certain preventative of leakage, superseding the use of the metal plug tap which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and have given the greatest satisfaction. Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 30, New Cut, Blackfriars-road.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAP
For Sewers and Drains of all kinds.
Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours. It is quite self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CURIE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

4-inch.	6-inch.	9-inch.	12-inch.
6d.	8d.	1s. 1½d.	1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain-pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

JENNINGS'S PATENT INDIA-RUBBER TUBE COCKS can be had of any size, at prices, not exceeding those now made for the Ping Cock.

For JENNINGS'S PATENT JOINTS, WATER-CLOSET, and PATENT VALVES, a list of prices may be had by enclosing a stamp.

JENNINGS'S SHOP-SHUTTER SHOE and FASTNER can be had in malleable iron, at 2s. 6d. per shutter nett to the trade. A list of testimonials may be seen by applying at the manufactory, No. 23, Great Charlotte street, Blackfriars road.

TO ARCHITECTS AND BUILDERS, VISITING JUSTICES, BOARDS OF GUARDIANS, &c.
A. MAY begs to call their attention to his Improved DRYING CLOSET, by which Cloths can, at a very moderate expense, be dried in thirty minutes. He is prepared to give Plans and Estimates suitable for any size, public institution, or private Dwellings. In private Dwellings these Closets can be heated by the ordinary kitchen fire.

A. M. has a superior arrangement for supplying Hotwater Baths, Washhouses, Sinks, &c., which he can also recommend, by which he is enabled to avoid the general inconvenience of getting first a quantity of cold water from the hot-water pipes.

MANUFACTORY AT EAGLE COURT, DEAN-STREET, HOLBORN.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Ray-street, Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper than common cocks. In waterway, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required for confined situations, the balls can be made smaller and the rods shorter than usual.

BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.

Underhay's Patent Silent Stool Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.

We beg to submit one of the many testimonials in our possession:—

London Works, near Birmingham.

DEAR SIR,—We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action.—We are, yours obediently,

Mr. F. G. Underhay. FOX, HENDERSON, and Co.

Messrs. W. CUBITT and Co., of Gray's-inn-lane, and Messrs. T. CUBITT and Co., Pimlico, bank, also many other eminent firms who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purposes.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING,
For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and hands without injury—do not become hard or stiff in any temperature—but are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, copper branch and hose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints of hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

THE ARCHITECTS', CIVIL ENGINEERS', BUILDERS', and GENERAL FIRE and LIFE INSURANCE, ANNUITY, and REVERSIONARY INTEREST COMPANY.

NOTICE IS HEREBY GIVEN, that the Directors of this Company have made a FURTHER CALL of TEN SHILLINGS per share, on each and every share in this undertaking, and that the same is made payable on or before Tuesday, the 2nd day of May, 1848, at the Union Bank of London, No. 2, Princes-street, Mansion-house, in the City of London, where receipts will be given for the same.

Interest at the rate of 5*l.* per cent. per annum will be charged on all sums remaining unpaid, in respect of this Call, after that day. Dated the 6th day of April, 1848.—By order of the Board of Directors.

H. FELTON, Secretary.

69, Lombard street.

ARCHITECTS', CIVIL ENGINEERS', BUILDERS', and GENERAL FIRE and LIFE INSURANCE COMPANY, 69, Lombard street,

LONDON DIRECTORS.
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Insurances against Fire on the usual terms. Life Insurances and Deferred Annuities at moderate rates.

SHARES.—Without the aid of a single advertisement, and that too, at a period of unparalleled commercial difficulty—viz., the close of the year 1847—13,500 shares, representing 350,000*l.*, or one-fourth of the intended capital of One Million, were subscribed and paid for. A second series is now being issued, a considerable portion of which have already been taken up. On the allotment of the remainder preference will be given to the building interest and parties likely to benefit the Institution.

Prospectuses, forms of application, and every particular may be had at the Office, 69, Lombard-street.

JOHN REDDISH, Manager.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY.

REPORT OF THE DIRECTORS.

Presented at the Annual General Meeting, held at the Society's Office, on Thursday, March 2nd, 1848.

Having, at the meeting held in January, 1847, presented to the Proprietors and Assured a very full account of the Society's affairs, your Directors have but little to communicate on the present occasion.

It may, however, be satisfactory to those now assembled to learn that, notwithstanding the increased and active competition arising from the yearly establishment of many new Life Assurance Offices, the business of this Society still continues to advance.

In proof of this, it will be sufficient to state the following facts:—

I. In the number of policies granted on the lives of clergymen, a class of persons generally distinguished for longevity, has been greater during the year ending June 30th last (the period comprehended in this report) than in any one year since the commencement of the Society.

II. The Society's income, which was 116,382*l.* in the year ending June 30th, 1846, amounted to 122,906*l.* in the year ending June 30th, 1847.

III. The number of NEW POLICIES issued within the year has been 513, and the amount assured thereby 287,078*l.* Being an increase, both in the number of Policies and in the sum assured, over those of any preceding year.

In conclusion, the Directors are happy to inform the Proprietors, that the Society has not in any degree suffered from the great mortality which has prevailed of late throughout the kingdom, the claims, both in the course of the year ending June 30, 1847, and also within the six months ending with December last, not having equalled either in number or amount those of preceding years.

Tables of Rates and Forms of Proposal can be obtained of any of the Society's Agents, or by addressing a letter to

GEO. R. PINCKARD, Resident Secretary.

Office, No. 20, Great Russell-street, Bloomsbury, London.

PATENT ARCHITECTURAL ROOFING TILES, for covering Churches, Schools, Villas, Railway Stations, &c.—As a substantial and ornamental covering, they are not only far superior to all other Tiles, but are preferable to slating likewise, and equally light. The colours in Blue, Red, and Brown, as they are made in patterns adapted to every style of Architecture, the cost scarcely exceeding that of the ordinary Pantiles. —Prospectus and full particulars upon application to the Secretary, at the Company's Offices, No. 168, Strand; or at the Depot, Essex Wharf.—Price 6*d.* 6*s.* per thousand, or from 16*s.* to 28*s.* per square, according to size and pattern.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 22nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address 4, Wharf, Macclesfield-street South, City-road Basin.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1*s.* 3*d.* per square foot; "Seconds," at 9½*d.*—N.B. These Tiles being manufactured in the true Encaustic system of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords the Profession and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GRIFFE and GRELLIER'S Marble Wharf, Belvidere road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 28a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193*a*, Piccadilly. March 1, 1847. These machines may also be seen at Mr. Slipper's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Foundry, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

MOSER and Co. respectfully inform the Nobility and Gentry, their Lease having expired, they intend REMOVING TO PREMISES NEXT DOOR, in consequence of which they are compelled to SELL at a GREAT REDUCTION on its original cost, a large portion of their IMMENSE STOCK, consisting of beautifully sculptured Marble Chimney Pieces, in the Louis XIV and Elizabethan styles Bronzes, Candelabra, and Fire Dogs, of beautiful designs; Stoves of every description, allowed by competent judges to be the best and largest assemblage of the kind in England.—May now be viewed.—The business carried on precisely as usual.—No. 51 and 52, Frith-street, Soho-square.

SMITH and ENGLISH, ENGINEERS, BUILDERS' MACHINISTS, IRON and BRASS FOUNDERS and GENERAL MANUFACTURERS, PRINCES-STREET, LEICESTER-SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old- street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and despatch.

GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

IRON WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c.: all of the best description, at very moderate prices. CAST IRON UPSETS.

TO BUILDERS and CARPENTERS.— Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 42s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d. per 1,000.
3d.	4d	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 14s per cwt.
Best Town Glue 38s. Do Scotch, 52s per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury square.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading from Baker-street, Portman-square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

Best Patent Cut Clasp.

4d.	6d.	10d	20d	per 1,000.
6d.	8d.	1s. 4d.	1s. 10d	,,

Cast Butts.

2 in.	2¼ in.	2½ in.	3 in.	
11d.	1s. 2d.	1s. 4d.	2s.	per doz

Also Best Patent Sash Line.

3	4	5	6	per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.	

Every other article equally reasonable.

Catalogues of Prices can be had on pre-paid application, inclosing postage stamps. Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors.

TO BUILDERS AND CARPENTERS.

BURT and POTTS, York-street, West- minster, Wholesale and Retail Ironmongers, Smiths, and Stove Grate Manufacturers. Delivered free within five miles.

Cast Iron Rain-water Pipe.—

2 in.	2½ in.	3 in.	3½ in.	4 in.
1s. 1d	1s. 4d	1s. 5d.	1s. 9d	2s. 2d. per yard.

Sheet Floor Brads, 14s. per cwt. All other Nails in proportion.

Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.

A variety of Best Black Ground and Bright Register Stoves.

Elliptic Stoves, with inside back, 3½d. per in.

Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars 3 ft. 3 ft. 6 in. 4 ft.
£3. £3. 8s. £3. 15.

Iron and Steel of every description.

R. FULKES, Wholesale Ironmonger, Stove and Range Manufacturer, 91, Park-street, Camden Town, London.

Best Cut Clasp Nails, 16s. per cwt.
Best Cast Lath Nails, 11s 6d per cwt.
Improved Flush Mortice Locks, with large Brass Furniture, fitted with Dixon's Patent Spindles, 7s. per dozen.
Cash Rim Locks, with large brass furniture, and brass striker tayles 11s per doz.
Elliptic Stoves, 3d. per inch.
Register Stoves, 6½d. per inch.
Best Self-acting Ranges, fitted complete, with Oven and Boiler, Revolving Shelves

3 ft	3 ft. 6 in	4 ft.
2l. 17s. 6d.	3l. 6s. 6d.	3l. 15s. 0d. each.

Orders from the country, containing a remittance or Post-office order (made payable at the Camden Town Post-office), forwarded same day.

STOVES, FENDERS, AND FIRE-IRONS, SELLING OFF. F. EDWARDS, 20, Poland-street, Oxford-street, respectfully informs his numerous scientific patrons, and the public, that he has taken the new and extensive premises, No. 42, Poland-street, which will be ready for him, by the month of June, when he intends opening with an entire new and extensive assortment of stoves, fenders, and fire irons, kitchen ranges, &c. The present stock is now selling at a great reduction, every article is marked in plain figures, from which no abatement can be made, a fine opportunity now offers to gentlemen, architects, and builders.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch-street, W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street, and E. PARKS, 140, Fleet-street; also of all respectable Ironmongers.

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner.—BURBIDGE and HEALY, 130, Fleet-street.

IMPROVED COOKING APPARATUS.— MARRIOTT'S PATENT.—After forty years constantly manufacturing all kinds of Cooking Ranges, can confidently recommend this as the most perfect and economical one ever produced; it will roast, bake, boil, fry, stew, heat a steam-closet and kettles, will burn any thing, is very cleanly, and a positive cure for a Smoky Chimney. May be seen daily in use at the Manufactory.

IMPROVED WATER-CLOSETS, PORTABLE or FIXED.—MARRIOTT'S PATENT.—This useful article is manufactured of the best materials in all its parts, and kept in a variety of shapes, by W. A. MARRIOTT, who has reduced the price to 4l. 10s., at the Manufactory.

NEW PATENT CHIMNEY-TOP for SMOKY CHIMNEYS. This article is the most unique and perfect Chimney-top yet in use, and less in price than any others. Wherever it has been fixed it has not failed to give satisfaction.

MANUFACTORY, 89, FLEET-STREET, London.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 108, Argyle-street, Glasgow, having proved by eight years experience his DRY METER to be unrivalled begs to say, that nearly 20,000 are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS. — The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are leading to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs. G. and J. DEANE fit up single apartments or houses on true scientific principles, and in the most artistic style; and as every thing is got up in their own workshops, G. and J. DEANE can engage for the strictest punctuality and the lowest possible charges. N.B. Plans and estimates prepared. GEORGE and JOHN DEANE, Gas-fitters, opening to the Monument, 46, King William-street, London-bridge.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

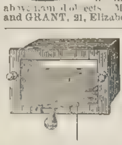
VENTILATION. — FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater inducements for its adoption. For the CURE of SMOKY CHIMNEYS and the thorough, but safe and agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled, and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.

Orders received by FAIRS and Co., No. 139, New Bond-street; BUNNETT and CORPE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham-street, Pimlico.

N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

GRANT'S PATENT ROTARY WIND- GUARD, for the prevention of Downward Drafts and cure of Smoky Chimneys, by discharging a Strong Current of Air at the Mouth of Chimney Pot. The attention of the Public and the Trade is respectfully solicited to this simple Apparatus. The Patentees guarantee its effecting the purposes named. Let the wind blow from what quarter it may, it is not liable to derangement; can be easily and cheaply applied, and does not in any way interfere with the Sweeping the Chimney. This apparatus is also applied to work an archimedean screw or fanner, for exhausting the vitiated air from public or crowded rooms. In no instance has it failed to accomplish the above named objects. Manufactured by the Patentees, LAMBERT and GRANT, 21, Elizabeth-street, Eaton-square.





DR. ARNOTT'S CHIM- NEY VENTILATOR. F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £150,000 or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.

M. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be intrusted with will be promptly attended to. It answers admirably for multiplying Tracings.—Lithographic Printing Office, 15, Cheapside, London.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

ATKINSON'S CEMENT. — WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement. Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufac- tured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious quantities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM 5, MAIDEN-LANE, TO 22, STEEL-YARD, UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering, perfectly resembles Stone—utterly resists Wet—does not discolour by Damp—wants no Paint—never cracks or blisters—adheres to any substance without previous preparation—is not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel-yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses.—

1. It rapidly acquires the hardness of stone.
2. Unlike other external cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT. —This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay, requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-moulds, Paterns, &c., &c., 36-inch Centre, Flowers fixed complete, 24s each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

The Builder.

No. CCLXXI.

SATURDAY, APRIL 15, 1848.

AT this eventful moment in the history of our country, it is the duty of every man whose voice is listened to, to raise it in defence of order, and for the condemnation and dispersion of doctrines tending to array class against class, to render capital insecure, destroy public credit, and plunge the whole nation into anarchy and distress. London passed nobly through the ordeal of Monday last: it afforded a grand and gladdening spectacle to the friends of humanity and advocates of national progress and amelioration, and shewed the advantages that are to be derived from extended education and liberal institutions.

The building operatives displayed for the most part an excellent spirit, and entitled themselves to the admiration of their countrymen, as they have done on many previous occasions. The great majority of them know perfectly well that the interests of the employers and the workmen are indissolubly connected: that public order and security for property are as essential to their own prosperity and well-being as they are necessary for their masters', and are most careful to conduct themselves with that end in view.* It has become apparent, however, to us, and to all lookers-on, that, amongst a section of them, doctrines are most industriously circulated calculated to lead to very distressing results. The demands of various bodies of operatives, recently promulgated in various parts of the country, include many of the impracticabilities and injustices now involving the French Provisional Government, and France herself, in the greatest confusion and distress.

We have good reason to believe that we possess the confidence of the thoughtful and intelligent portion of the building operatives, and that they know us to be their earnest friend and warm advocate. They know well that we have ever shewn an anxious desire to promote their interests and aid their advancement, and our doings have been but a faint reflex of our feelings. We may risk the loss of this confidence by the assertion which, nevertheless, we are bound to make, that those who prompt them to demand legislative limitation of the hours of labour and the amount of pay; protection against machinery (a long ago exploded error); and the abolition of the middle-man system, all which we find set forth in reports of various meetings of trades' delegates,—are not the friends of the industrial classes. Those who urge them to do this may honestly believe that they are advising rightly, but if so they act in ignorance, and most earnestly we caution our readers, that they may not hastily commit themselves to a course which would bring increased distress and more widely-spread destruction.

To prevent a man who is his own master from rising early in the morning or working late in the night, when employment is offered him, is manifestly impossible, and, if it were possible, would be unjust and tyrannous. The competition of workmen amongst themselves will not be restrained by the will of the masters or the *dictum* of the legislature.

In previous articles we have alluded to the result of legislative protection of labour in France. The much talked-of "organization of labour" there, means disorganization of labour. Capital has taken flight, trade is at a stand-still, and ruin stares all in the face. For the love of God and our country let us do nothing to bring about such a state of things in England.*

The revival of a war against machinery amongst us is out of the question. In Leipsic we hear it has commenced furiously. The printers, for example, (who *ought* to know better) have declared that they will destroy the establishments of those masters who have more than one press out of every six working by machinery. Sapient blockheads! Have they ever considered what the condition of the world would have been if the medieval copiers of books had succeeded in preventing the introduction of the first machine for printing? Or how many thousands of men were put into work by at first throwing a few individuals out of it? We give our own operatives, however, the credit of having mastered the truth here involved, and we will not regard the cry for protection against machinery as seriously made.

The demand for the suppression of middlemen—of *masters*, in fact,—for, short of this, if the principle be admitted, there is no stopping, —equals the last in absurdity. Are intelligence and skill, and capital—the result of these—to have no reward, and no opportunity of bringing into productive action the labour of less able hands, which, without their intelligence and capital, must remain unproductive? And where are you to stop? If the small master—the sub-contractor—is not to be permitted to come between the workmen and the general contractor, on what ground will the general contractor be permitted to come between the workmen and the employer?

As we said before, therefore, the demand is for the abolition of *masters* altogether. Let this be done, and contemplate with calmness, if you can, the inevitable result. It is by means of accumulated capital that all our advances have been made: without it we should fall into a state little superior to that of barbarous nations. "Capital," says the Paris *National* in a recent article, as if the truth had but just dawned on the writer, "is but the result of the savings of labour. And, on the other hand, by the aid of capital it is that labour becomes developed, more perfect, more active and fruitful. What is more, in the present state of things, the rights of property being mixed up with all that exists, capital is absolutely necessary to labour. The relations between capital and labour are neither more nor less than the bases of social order, the foundation of civilisation. Let labour stop, and capital becomes unproductive: let capital withdraw and labour ceases." Without capital, and without enterprise (which accumulations of capital produce), large undertakings involving risk, and slow in return, would never be engaged in. "The hope of profit," says Charles Knight, "sets the capital to work, and the capital sets the labour to work. If there were no capital there would be no labour. Capital gives the labourer the power which he has not in himself, of working for a profit." And, again, "Whatever tends to make the state of society insecure, tends to prevent the employment of capital. In despotic countries, that insecurity is produced by the tyranny of one. In other countries, where the people, having been misgoverned, are badly educated, that insecurity is produced by the tyranny of many. In either case, the bulk of the people themselves are the first to suffer, whether by the outrages of a tyrant, or by their own outrages. They prevent labour, by driving away to other channels the funds which support labour."

On higher ground, however, than the certainty of the evil returning to themselves, we implore the operatives to weigh well their actions, and avoid any step tending to make property insecure, and prevent the employment of capital. We will not pretend that no alterations in the government and constitution of society are necessary. With the statement before us that of the 200,000 artisans and mechanics at present in London, only one-third are in any degree satisfactorily occupied, one-third employed but half their time, and the remaining third entirely out of work, and in a state of pauperism,—coupled with the accounts of distress which have been forwarded to us from Manchester, Sheffield, Leeds, Birmingham, and other large towns, such an assertion would be childish and insulting. Their complaints must receive the most patient consideration; the causes to which the distress may be attributed, must be subjected to the most severe and sifting inquiry by men who know that labour has its rights as well as capital, and are prepared to make these rights clear, and protect the operatives in the exercise of them.

Much may be done by you yourselves to bring about the desired end; get knowledge, cultivate your understanding, and your tastes: be orderly, industrious, and good. Set forth your grievances by all constitutional means, and rely upon a speedy attainment of justice: but as you would avoid involving all in one common ruin, be not led into a hopeless and destructive contest for objects which would be

* At a meeting of the committee of the Builders' Society, held at the Freemasons' Tavern on the 4th, it was resolved,—"That it is of great importance that those who are anxious to preserve good order and to maintain the peace of the metropolis, should, at the present time, publicly manifest their desire to uphold the authority of those who are intrusted with the preservation of the public peace. That, with this view, it is expedient that the numerous and important body of men engaged in the various departments of the building business should enrol themselves as special constables in the various localities in which they are engaged, the preservation of order being of vital importance to the employed as well as to the employer. That we, the undersigned, invite all persons in our employ to co-operate with us in the discharge of this important duty.—Thomas Cubitt, Henry Lee and Son, Armstrong and Smith, John Kelk, William Cubitt and Co., Haward and Nixon, J. and C. Rigby, Samuel Grimsdell, Thomas Rider, John Soward and Son, T. J. Stephens, W. Norris, J. and C. Panson, T. and W. Piper, W. Lawrence and Sons, Joseph Griffiths, I. Unwin, R. Hicks, Haynes and Co., J. and G. Munday, Seth Smith, Thomas Grissell, Colebatch and Marsh, Richard Ashby, J. Crook and Son, George Bird and Co., John Rumens, Shewin and Co., John Jay, D. Nicholson, W. Mears, H. Burton, B. and N. Sherwood, Edward Mitchell, S. Stevens, R. Lacy, S. M'Currey, E. Waller, W. King, John Spicer, J. Hatchinson, H. Clarke, G. Cranfield, James Jordan, Baker and Son, J. and H. Bird, J. G. Davis, Josiah Bushby, E. Underhill, Charles Freake, James Danger, Locke and Nesham, Winsland and Holland, L. and G. Mansfield, R. Lawrence and Son, G. Myers, M. Patrick, T. W. Hartley, Isaac Wilkinson, James Tulloch, George Pink, James Chadwick, J. and W. Bennett, J. Pryer, P. Nowell and Sons, Francis Read, Hermon and Son, John Nottley." A large number of men were in consequence sworn in, and acted efficiently.

* The *Democratie Pacifique* says,—"A general bankruptcy is imminent, and the Provisional Government, struck with stupor, postpones the most urgent measures to the opening of the Constituent Assembly. In the meantime the workshops are in a state of disorganisation; each day thousands of workmen are thrown upon the streets, and when the Constituent Assembly shall meet, it will find itself in presence of 800,000 men and women without work and without bread." The *sequestration* of the Orleans Railway by the Government has caused much discontent and fear. One of the "clubs" has since advised the Government to take possession of the Bank of France, the Insurance Companies, all railroads, canals, mines, and minerals! The stoppage of trade in Paris is operating on England. We understand that at Leeds, during the past week, some of the leading firms engaged in the iron and machine making businesses have discharged a large proportion of their hands, in consequence of orders, which were in progress for France and other parts of the continent, having been countermanded. This, added to the refux of silk and flax workers from France, causes a considerable number of persons to be now out of employment in Leeds. Ultimately, however, if England hold her own, she will be benefitted.

ruinous if attained, and are the suggestions of ignorance if not of evil design.

That the condition of the working classes may be greatly and permanently improved is our earnest prayer: the completest hindrance to it would be anarchy and misrule.

LANDAFF CATHEDRAL,

its history, condition, and contemplated restoration.*

I have always felt that the real objects of the Institute of Architects could, in no way, be more effectively advanced than in communicating the particulars of any large or interesting works upon which we may be professionally engaged, and thus whilst conveying "local" information, obtain for any doubtful point in construction or arrangement, the advantages of that wisdom which some believe to dwell in a "multitude of counsellors." With these feelings, I have thought that you might be interested, and the work be benefitted by a short paper upon the history, condition, and contemplated restoration of Landaff Cathedral.

Upon the history of the cathedral, I shall not detain you at any great length. The data and documents upon which an archæological discussion could be based, are so scanty and unsatisfactory, that at best the inquiry would result in mere conjecture. I have referred to all those works which I thought would throw light on the subject, but without obtaining any satisfactory evidence as to the gradation by which this cathedral was brought to completion. The scanty information afforded by the old writers has, however, the rare charm of considerable unanimity. They all agree that the See of Landaff is one of the oldest in the kingdom, honoured, as Wotton says, "by being the ancientest see in the kingdom, as we have evident authority to shew." The first bishop is stated to have been "Dubritius," who died in 522, on an island off the Caernarvonshire coast, and whose bones were in 1120 translated to Landaff by Bishop Urban, the founder of the present cathedral. Dugdale, in his "Monasticon," says, "There is much of uncertainty in the history of Landaff, as well in relation to its see as to its bishops, till the latter end of the ninth century; but he adds that, "Dubritius was consecrated the first archbishop of Wales, sitting sometimes at Caerleon and sometimes at Landaff, for which reason he is reckoned the first bishop of the latter see."

In 1091, "The Normans, who were early settled in this district under Fitzhamon, seized all the lands of the district: the church was almost levelled to the ground, and the revenues so confiscated, that out of twenty-four canons it could not maintain two."

Urban was consecrated the thirtieth bishop of Landaff in 1108; and to him all concede the honour of having founded the present cathedral. "At his first coming, he found his bishopric in a very poor and miserable condition,—the church razed almost to the ground; and complaining thereof to the King and the Pope in 1119, he procured letters and gathered large sums together; he pulled down the old church, which was but 28 feet long, 15 feet broad, and 20 feet high; and in 1120, according to Leland and Godwin,—or in 1129, as stated by Dugdale,—he commenced the fabric dedicated to St. Peter and St. Paul. Bishop Godwin (who wrote in 1601) describes this building as "a very elegant one, 300 feet long, 80 feet broad, and adorned at the west end with two stately towers of great height, and a neat chapel of our Ladye: a work truly magnificent, and to be remembered with honour by posterity." Urban died in 1133, travelling towards Rome. From this period to the beginning of the last century there is no further record of any kind that I can find relating to the cathedral, and here conjecture must commence.

If Bishop Godwin be correct in supposing the church commenced by Urban to have been completed by him with two towers and a Ladye Chapel, and to have been 300 feet long, it must have disappeared between the period of his death, 1134, and 1180 or 1190, which will, I think, be conceded as the earliest date at which the present Early English structure could have been commenced. The extreme length of the present building is only 260 feet, and its breadth 76 feet. Of pure Norman work, such as we may believe Urban to have executed in the beginning of the twelfth century, we only have the large arch between the presbytery and Ladye Chapel; the remaining portion of a window on the south side of the presbytery, so curiously stopped up at a later period; portions of a Norman string-course, with a fret ornament, running round the walls of the presbytery (being the string-course of the Norman clerestory); a variety of Norman fragments walled into the presbytery; and the two doors at the west end of the north and south aisles, which, though later in their detail and finish than the large arch, may fairly be considered as of Urban's time, particularly if he commenced at the east end and worked westward toward these doors.

The size of the chancel arch, the importance and decoration of the aisle doors, clearly prove that they could have formed no portion of the early and insignificant church knocked about by the Normans, and eventually demolished by Urban: for although the preservation of doorways and chancel arches of Norman churches, rebuilt in the thirteenth and fourteenth centuries, is of frequent occurrence, yet in this instance I think they must have originated with Urban and not have been removed or perpetuated by him.

The character and finish of the large arch at the east end of presbytery, clearly proves that it must have opened into a chancel or Ladye chapel: and thus we may believe Urban so far to have realized Godwin's description as to have completed, "a neat chapel of our Ladye." And the existence of pure Norman work, so far westward as the two aisle doors, may be taken as presumptive evidence that Urban completed "a work truly magnificent, and to be remembered with honour by posterity," even if his western towers were fabulous. Certainly these doorways are of rich and beautiful design, and the general character of all the Norman work remaining is of a pure and good period, corresponding with Urban's prelacy. What befel this Norman church, or how it could have been so completely destroyed in the short period between Urban's death in 1180 or 1190, as to have rendered necessary the almost entire rebuilding of the church in a new and distinct style remains a mystery. Whether fire or storm, those destructive agents of so many of our fine ecclesiastical buildings, or the fury of contending factions, achieved this ignoble work, I am at a loss to conjecture; but clear it is, that if Urban's and the Norman work had reached the west end, within the short period of about sixty or seventy years, a new cathedral must have been commenced in a fresh and altered style, and very complete must have been the destruction, or more of Urban's supposed work would have remained. Here are no traces of that gradual and clearly-marked transition from Norman to Early English, which we find so evidently and so instructively displayed at Canterbury, Norwich, Gloucester, St. David's, and Buildwas Abbey. The jump is sudden and somewhat abrupt; no interlacing arches, no clinging to Norman form and even Norman detail, so common down to the beginning of the thirteenth century. With the single exception of the western doorway (in which the circular arch is retained, though the detail of the shafts and mouldings are Early English) the new work was commenced free from any taint or prejudice of a past style, and stands forth as pure and beautiful an example of Early English composition and detail as any with which I am acquainted. An able writer in the "Ecclesiologist" thus speaks of it:—"The exquisite Early English work of this part of the church is truly beautiful; not the least idea is obtained by the wretched drawing given in 'Winkle's Cathedrals.' To stand opposite the western front—itself once a marvel of art—and view through the now vacant and ruinous windows the paganized nave beyond it, with its flat pedimental roof, its ridiculous vases and urns, its stuccoed walls, is inevitably to feel the most forcible contrast between the speaking graces of the Christian and the burlesque absurdities of the revived pagan style."

Mr. Britton has truly observed, and Professor Willis echoes the remark—"It is a favourite maxim with some antiquaries to carry back the date of every church as far as possible, and, like the late Mr. King and Mr. Carter, they do not hesitate to assert peremptorily that the oldest part must be of the age of the first foundation." Now, although the antiquarian writers on this cathedral may not have reached this last stage of archæological disease, some of them have fallen into the error just described, and argue strongly that the Early English work of the cathedral is of Urban's time (that is to say, the beginning of the twelfth century). Sir Richard Colt Hoare, in his edition of "Geraldus Cambrensis," says—"On a careful examination of this cathedral with the abbey of Lanthony, in Monmouthshire, which was built about the same time (1103), and which, though richer in its ornament, bears a great resemblance to Landaff as to general architecture, we have evident proofs that the Saxon and Gothic orders, or round and pointed arches, were adopted indiscriminately to doors and windows in the same building about the beginning of the twelfth century, or 1100." And he adds—"The buildings at Lanthony and Landaff prove that the pointed arch was adopted at a much earlier period than at St. David's (rebuilt in 1180), and had obtained a greater degree of elegance and perfection, the former (Lanthony) erected soon after 1108, the latter (Landaff) in 1120."

Gough, in his "Cambrensis," says,—"The remains of the old cathedral are very beautiful, the door-cases all Norman, richly moulded. The rest elegant Gothic, though built so early."

Now, although from the affinity of England to Wales," where our ancestors sojourned, if not as absolute conquerors, yet as authorised visitors, "we may fairly believe architecture to have been almost on a level in point of date, we can have no reason for imagining that the Welch were some 70 or 80 years in advance of the English in the periods of their architecture, or that the change from the circular to the pointed arch, by us called "Early English," should more properly have been called "Early Welch." If this is allowed, I am unable to believe that any antiquary can assign an earlier date than 1180 or 1190 to the west front and nave of this cathedral; for though it is perfectly impossible to fix with peremptory certainty the exact date when one particular stage or style of art ended and another commenced, yet we find that from the period when the pointed arch first made its appearance and became blended with the Norman semicircle, years elapsed before the newer style or form had shaken off the influence of its predecessor. "For a long time they differed only in form, the general characteristics, the details and accessories of the two arches remaining the same."

We find in numerous instances, as at Gloucester, Canterbury, the Temple Church, and even St. David's Cathedral (so infelicitously quoted by Sir Richard Hoare), that this transitional feeling existed in full force—nay, that the Norman preponderated—although the portions I allude to are well known to date about the end of the twelfth century. You will, I think, share my disbelief in the theory that the pure and pointed work at Landaff could have been commenced sixty or seventy years before the Norman arch had elsewhere ceased to prevail. In Buildwas Abbey, which is one of the earliest transition works I know (the date of which is stated to be about 1135), the indication of Early English form or feeling is very slight. In the section of one of the bays of the nave of St. David's Cathedral, built in 1180, you find the only Early English work consists of a small arcade, between two series of clearly defined Norman arches!—certainly not a very convincing proof that Early English work was in existence in the sister cathedral of South Wales sixty years before this work was commenced.* I have, upon this point, trespassed largely upon your patience, but I think it both

* Read at a meeting of the Royal Institute of Architects.

* With reference to Lanthony Abbey, it is clearly a transitional building. The west front principally Early English; internally, the Norman arch and detail is freely mixed with the Pointed arch. In the additions to Gough's "Camden," it is stated, "that the present ruin of Lanthony Abbey was not the *original* church belonging to the abbey, founded in 1136, but is of *later date*, being constructed soon after the introduction of the pointed style, and *previous* to its general adoption, for both that and the circular are exemplified in its construction, and appear to have entered into the original plan." This is perfectly clear, but does little for Sir Richard Hoare's argument.

important and instructive to analyse a question of this sort, on which our own judgment is at issue with common report.

Henry (prior of Abergavenny) was consecrated bishop of Landaff in 1191, and died in 1218. He was a person of much consideration and energy, and appears to have made great changes in the temporalities of the chapter. He may, with at least as much probability as belongs to some antiquarian assertions, be supposed, if not actually to have recommenced the erection of his cathedral in the new style of his day, at least to have promoted works, the character and period of which are so evidently coeval with his twenty-seven years of power.*

The lower portions of the north tower, and all the remaining part of the south tower, the nave, and clerestory remaining, are all of the same pure "Early English" character. In the columns and arches of the nave and choir a slight variety of arrangement occurs without deviating from the style: somewhat more ornament is introduced, and by the time they reached the "Ladye Chapell" the gradation of style becomes apparent; and with a view to give increased richness to this more sacred portion of the building, or from the more "decorated" fashion of the day, when they arrived thus far east, vaulting is introduced, mullions and circles are executed in the side windows, and in the easternmost window tracery becomes apparent until it almost assumes the character of a "decorated" window.†

In the two bays of the presbytery a fault (as geologists might term it) occurs, which it is difficult to account for. These arches are evidently of a later and more depressed form than those in the nave and choir, and from their form and detail are of a later date than the Ladye Chapel. Whether this portion of Urban's work may have remained uninjured and undisturbed until after the completion of the Ladye Chapel, when they may have thought it necessary to assimilate the Norman piers and arches more closely to their pointed neighbours, or whether some injury took place to this part of the cathedral, which rendered rebuilding necessary at a later period, I have no means of determining, but it is curious that in this portion of the building we find more Norman remains than elsewhere. There still exists the Norman string course in its original bed, with a sort of "embattled fret" carved upon it, running round the three sides of the presbytery: we find plinths and portions of cylindrical shafts, which may have formed (as at Norwich) the arch between the choir and presbytery: there is the large Norman arch over the screen; the curious remains of a Norman window, so unceremoniously blocked up by the Early English architect who built against it; and in the rough masonry of the walls of this part we find walled-up numerous fragments of Norman mouldings and ornaments. One might almost suppose this portion of Urban's original cathedral to have escaped the early destruction I attribute to the rest of his building, and to have been preserved intact by the Early English architects who rebuilt. At some later period, for fashion's sake, or from decay, we can imagine these arches to have been reconstructed or remodelled, leaving, as I believe they did, the Norman clerestory undisturbed. The string course even now remains; and in the view given of the north front by Godwin, in 1713 (when it was almost perfect), it will be observed that a semicircular and apparently Norman line of windows is shewn in the clerestory of this part, as distinguished from the Early English in the nave. Of the history of this alteration or portion of the work, I can find no trace.

The "decorated" altar-screen is stated, in Browne Willis's and all the other histories of the cathedral, to have been erected by a Bishop Marshall, who was consecrated in 1478! but as the detail is pure "decorated," it must have been completed, in all probability, 100 years before this time. I have little doubt but that the piers and arches of the presbytery and this screen were erected at the same time, or by the same architect—an opinion which is confirmed by the fact of the base moulding on the south side being raised considerably above the opposite pier on the north side, and corresponding exactly with the level of the base of screen and the base of the sedile which it immediately adjoins. The decoration and enrichment of this screen, attributed to Bishop Marshall, have, no doubt, reference to the painting and gilding upon it. "There are eleven niches in the principal level, painted with roses and hyacinths interchangeably." The centres of the roses and flowers of the hyacinths are gilt. The roses are white (which quite identifies the decoration with Bishop Marshall),—the white rose being the device of the house of York, used for decoration only in the reign of Edward IV. and Richard III. Bishop Marshall having been preferred to this diocese by Edward IV., the adoption of his badge was a natural and proper compliment. "Under these eleven niches is a row of eight niches, painted in fresco, exactly like the former. At each end of these are three real niches painted in the same manner; within these are two little ones, with a pilaster between; the ground-work throughout is interchangeably blue and red, and the ornaments over all the niches are gilt. At each end is a door leading into a vestry." Thus far I can confirm, from the remains of this screen, the description given by Browne Willis. He then proceeds to say—"Above the altar-piece are two rows of large niches, in which formerly there have been figures. In both rows the middlemost niche is larger than the rest; and on each side are two lesser ones. The two largest niches probably contained the images of our Lord and the blessed Virgin, and the other twelve were for the twelve Apostles. Under the two large niches are the ten commandments, written with gold letters, within a frame, and over all is a handsome freestone window." Unfortunately, the destruction of this upper portion of the screen has been complete (doubtless the work of puritan or political fanaticism). Nothing remains above this line, but we have found walled into the various portions of the Italian structure fragments of corbels, canopies, and buttresses, which evidently, from their size and form of moulding, belonged to this screen.

From the period when Godwin described Urban's Church to have been complete, of certain dimensions, "and work truly magnificent," there is no notice of the cathedral until 1719, when Browne Willis, an antiquary of that day (who also published histories of St. David's, St. Asaph, Bangor, and Hereford cathedrals), moved, as he says, "out of a sad contemplation lest so glorious a structure as this church, honoured as the ancientest bishop's see in the kingdom, raised, enriched, and beautified by the piety of so many noble founders, should be utterly destroyed and become a woful spectacle of ruin; and further excited by the rumour of a projected design to remove the see hence to Cardiff; he collected together various records and matter, and gave with his work certain draughts of the said church, in order to illustrate the descriptions thereof." These draughts, as you may imagine, are not very clear in their distinctions of style, or in the best possible perspective, but they are most valuable as helping the description, as being the only records we have of what the old cathedral was (before lightning, storms, and Wood of Bath played such havoc with it); and, consequently, as being our principal guide and authority in the restoration.

I will not detain you by a detailed account of its state in 1719. Browne Willis goes into a minute description of it, and gives a plan, with references to the various parts and monuments, and a south and a western elevation. It was then falling into a state "of deplorable decay," though perfect in its internal arrangements. There was a large building in front of the south Norman doorway, which he calls the "Consistory Court;" and a porch opposite the "decorated" south door. Both these excrescences have disappeared, and I should much doubt if they formed any portion of the original design.

Soon after his survey, destruction had full sway. On the 20th of November of the following year, the remaining battlements and pinnacles of the north tower (which had escaped the storm of 1703) were blown down, and destroyed a considerable portion of the north aisle. On the 6th February, 1722, the "roof and floor of the south tower fell in, and destroyed a good deal of the tower." The complete ruin of this old structure must have followed very rapidly on Willis's visit; and in 1721 we find the Archbishop of Canterbury interesting himself in its proposed rebuilding (I cannot say restoration). He obtained 1,000*l.* from George I., and, like our bishop of the present day, tried in vain to get anything from the Prince of Wales. Sufficient funds were, however, eventually raised to erect the frightful shell which now encases the original piers and arches.

About 1735, Wood of Bath, commenced the desecration of this fine old work, and of his own prior fame: for most assuredly a more barbarous or tasteless grafting of uncongenial modernism upon an ancient stem was never perpetrated; and never was the sarcasm of the historian Whitaker more justly deserved than in this instance. He says—"The cloven foot will appear! for modern architects have an incurable propensity to mix their own absurd and unauthorized fancies with the genuine models of antiquity! They want alike taste to invent, or modesty to copy." All that can be said in extenuation is that the corrupt taste of that day gave a fashion to this work, the power of which Wood may have been unable to resist; I wish it was in evidence that he had tried to do so. That this fashion approved such barbarism may be inferred from the accompanying letter, which I find copied in the Cole's MSS. in the British Museum. It is written by a Rev. Thos. Davies to Browne Willis, who appears still to have taken much interest in the old wreck.

"23rd Nov. 1736.—The church on the inside, as far as tis ceiled and plastered, which is something beyond the west end of choir, looks exceeding fine, and is a very stately and beautiful room. The area of the whole church is to be considerably raised, so that when finished it will (in the judgment of most people who have seen it), be a very neat and elegant church, unless, indeed, the altar-piece, which looks like a huge portico, spoil the whole effect."

Mr. Coles illustrates his amusing MS. by elevations of the west and south fronts, and a view of the altar portico, which it was feared (and not without some reason) might mar the whole effect.

We find no traces of the portico at the west end, nor can I learn that the pigeon-house cupola was ever carried into effect. The altar was removed some few years ago.

The bishop's throne, the pulpit, and stalls consist of an Ionic colonnade, with niches at the back; they still exist in their pristine propriety and beauty, and I can conscientiously recommend them to any architect about to build assize courts; the pulpit and throne would form admirable judge's seats, and the stalls a most dignified row of seats for the magistracy.

I do not imagine that much was done to Mr. Wood's structure until 1840, when the plaster ceiling and lead over the nave being in a very bad and unweathertight condition, a considerable sum was expended in repairing and making good as it then existed.

So much for the history of the cathedral.* A very few words will describe its condition when the present restorations were commenced.†

T. H. Wyatt.

* "He founded twelve prebends in his church, and was buried near the altar."

† There is good reason to believe that the present Ladye Chapel was the addition of "William de Breos," the 43rd bishop, from 1265 to 1287. He was buried close to the altar, and his tomb still remains.

* Considering the wars and tumults that devastated this county under the Norman barons, the Llewellyns, the Glendowers, the Owen Tudors, and the Puritans, it is not surprising that history is wanting. "The castellated palace of the bishop the ruins of which are very extensive), was destroyed by Owen Glendower in the same rebellion by which the cathedral suffered. Hen. IV. There was a library belonging to the cathedral before the civil wars, but it was dispersed by the fanatic and ignorant rebels; part of it, and great heaps of Common Prayer Books, were burnt at Cardiff in a manner evincing the most wanton malignity. To add brutal insult to despotic fury, the Cavaliers of the country and the wives of several sequestered clergymen were invited to the castle to warm themselves in a cold winter's day at the fire made of the books which were then burnt. It is not, therefore, strange that the effects of such unparalleled depredations should still remain, and that scarcely anything but the name of a cathedral now appears at Landaff."

† Next week.

ON GEOMETRICAL STAIRCASES.

THE principle on which geometrical stairs are constructed is, *that any body must rest in equilibrium* that is supported on three points, and although the support of each step is not beneath its centre, the step cannot nevertheless change its position so long as its attachment to the wall prevents it from tilting.

The cross section of a step of a stone geometrical stair is triangular, so that each step is a right-angled stone prism, of which the one corner forms the nosing of the step, and the other two corners are joggled to the steps above and beneath them: the plane of the tread is continued to about an inch from the surface of each riser, and the other line of the joint runs perpendicularly to the line or angle of the stair.

The thickness required to give the necessary strength to stone steps varies, of course, with the kind of stone employed; but, as a general rule, steps of 4 feet long may be made 2 inches thick at the thinnest place, and half an inch of additional thickness may be allowed at the interior angle for every additional foot of length.

Where geometrical staircases are made of wood, it appears to be the best plan to arrange them as if stone were the material, and on the continent this is generally done, but the quantity of wood required is an objection to this method where wood is scarce, and in this country it is the usual practice to make all wooden staircases out of boards, whether geometrical or otherwise. When made in this manner the treads and risers should not be less than 1¼ inch thick when the length of the step is 4 feet, and it is usual to allow a quarter of an inch of additional thickness for every foot of additional length. The risers should be dovetailed in to the covers, and the treads should be fixed to the risers by screws put in from beneath the stair.

Cast iron geometrical stairs are now much used in some situations, and there is every probability that their use will greatly extend; they combine lightness with durability and strength.

There is one leading principle common to all stairs, which, since I have touched upon the subject, I may here set down. That a stair may be agreeable in its use, the breadth and height of the step must have a fixed proportion to each other, the breadth of the step being increased as its height is diminished. A step of 12 inches broad is usually made 5½ inches high, and this is found to be a convenient proportion, and a rule may be formed from this example which will be found to agree tolerably near with other cases in practice: $12 \times 5\frac{1}{2} = 66$, which, if taken for a constant numerator, will give $\frac{66}{10}$, or 6⅗ths for the height of a step 10 inches wide, which is about the usual proportion.

Blondel affects greater refinement in the settlement of this question, and gives a formula, deduced by means of the principles of maxima and minima for determining the relative proportions of risers and treads. Let x equal the space over which a person walks on a plane, and z the height to which he could with the same ease ascend vertically, then, if h equal the height of the step, and w its width,

$$h = z\left(1 - \frac{w}{2}\right).$$

The question, however, is one of practical convenience, and is not to be determined by scientific considerations, though science may represent the proportions experience has ascertained. The length of a man's step is a definite quantity; if he steps up he cannot at the same time step equally out, and therefore the breadth of the tread has to be diminished as its height is increased. G. J. R.

WARWICK LUNATIC ASYLUM.—A plan for this building by Mr. Harris (to whom, in conjunction with Mr. G. Godwin, as our readers will remember, the second premium for the Middlesex Asylum was recently awarded) has been adopted. It provides for 300 patients, and is capable of extension. The estimated cost is 45,859*l.*, exclusive of gas, the chaplain's house, farm buildings, and the architect's commission. These additions would increase the amount to about 60,000*l.*

THE FRENCH ARCHITECTS' REPRESENTATIVE IN THE NATIONAL ASSEMBLY.

ON the 26th ult. a large number of architects met in Paris, at the Ecole des Beaux-Arts, to select a candidate to present for election as one of the national representatives. A senior member of the profession was at first desired, and Messrs. Labrouste, Blouet, and Duban were severally invited to stand, but these having declined, M. César Daly, recently mentioned by us as the editor of the *Revue Generale de l'Architecture*, was proposed, and a ballot being taken, received 244 votes out of 365, and will accordingly be sent to the poll. M. Hector Horeau, another architect, is a candidate to represent the department of Seine-et-Oise. He sets forth in his address the works he has produced as an architect, his travels, and the fact that by means of his education alone, without fortune, he has been able to create for himself an honourable position,—as grounds on which to claim their support.

ROYAL INSTITUTE OF ARCHITECTS.

AT a meeting, on the 3rd inst., Mr. C. Fowler in the chair, Herr Boisserée was elected corresponding member, and Mr. Penrose was elected fellow. Mr. R. W. Billings read a paper, "On the Ancient Architecture of Scotland." After stating the earliest remains of construction in Scotland to consist of one or two Roman bridges and earthworks of stations, some Druidical remains of considerable extent, and the Picts' houses resembling beehives in form, Mr. Billings mentioned that the first recognizable style of importance in that country was the Norman; and he pointed out the similarity of style in the architecture of that period in Scotland to that of the north of England. The transition to "Early English" and "Early Decorated" took place in the two countries almost simultaneously; but at the end of the thirteenth century—when the dispute for the Scotch crown caused the severance of the two kingdoms—a striking difference became visible between their styles of architecture. This became the more marked as the alliance which had then sprung up between Scotland and France grew stronger. From that time forward the architecture of Scotland has borne the impress of her ally; and the ancient and modern houses and hotels of Edinburgh of the present day resemble very much those of the French capital. It is also to be remarked, that during the period last alluded to (the latter end of the decorated period), there existed a considerable affinity between the ecclesiastical and domestic architecture in Scotland: for instance, the hanging tracery of Roslyn Chapel is found also in the courtyard of Linlithgow Palace, and at Stirling. The "four-centred" arch is not to be found in Scotland,—the circular arch is used at all periods; and from these circumstances the form of the arch, so important an element with us in ascertaining dates, is in that country no guide for the purpose. The writer alluded to the immense strength of the fortresses previously to the introduction of powder; and said that when experience proved that no lengthened resistance could be opposed to that terrific power, the picturesque semi-castellated architecture was introduced,—a style as peculiar to Scotland as the perpendicular or the Elizabethan is to England. The custom of having a small circular loop-hole under each window in the private dwelling-houses was particularly alluded to. The Reformation and the zeal of the followers of John Knox swept away a large portion of the interesting buildings of Scotland; but the real spoliators, he remarked, were the town authorities. Their example was followed by the lower classes,—who in their turn regarded the ruins as "quarries" for obtaining materials; and in the present day railway works are equally destructive to many of the most interesting ruins in the kingdom. Mr. Billings expressed a strong opinion that some official means should be taken to prevent this destruction. In the time of Charles the First the revival of Italian architecture and its mixture with the Gothic produced the picturesque effect so remarkable in the buildings of that period. Heriot's Hospital, Wintown House, and Glasgow College, were especially instanced.

RECOVERY OF COST OF PARTY-WALLS.

SHERIFFS' COURT—MONDAY.

CARTER *v.* MAY.

THIS was an action to recover the sum of 7*l.* 17*s.* for work and labour done in erecting a party-wall. The plaintiff, a bricklayer, had been employed by Mr. Rydon to erect some premises in Gresham-street, City, and had proceeded up to the first-floor joists, when, as plaintiff deposed, Mr. Pullen, defendant's surveyor (defendant was a builder, and the owner of the adjoining property), said that in consequence of an alteration being about to be made by him in the rate of the house adjoining, it would be necessary that the party-wall should be built half a brick thicker. Plaintiff said that he would not do so unless Mr. May would undertake to see him paid, which was agreed to. All this, however, was positively denied by Mr. Pullen, who said he was only acting under the powers of the Act of Parliament, and went on the premises which were being built to see that the party-wall, &c., was properly erected. The plaintiff replied that he told defendant and Mr. Pullen that his contract was different from what was proposed, and he would not work except it was distinctly understood defendant was to pay him for the work, and on the faith of that understanding he went on with the work, and did not speak to Mr. Rydon on the subject.

Mr. Duncan, counsel for the defendant, submitted that, under the Buildings Act, the plaintiff could not recover, as, by a certain section of the Act, the building owner and the adjoining owner were bound on dispute to have a reference. The building owner, in which position Mr. Rydon stood, had the power of doing all necessary work; and the building owner was bound to deliver an account within twenty-one days, and had the power of recovery from the adjoining owner. The counsel contended that the Act of Parliament was imperative on this point—that the builder was to be considered the "owner," for the purposes of this Act generally, and that no inferior tradesman under the contract could recover for work necessary to be done in compliance of the Act, but the expense of which was to be borne and paid by the "adjoining owner." He had, however, a higher ground to rest his case upon, which was, that the defendant was bound to pay the building owner, Mr. Rydon, and had done so. The judge was clearly of opinion that the Act was imperative, and that the plaintiff must be nonsuited.

CLEANSING HOUSE-DRAINS AND SEWERS.

SIR,—That the cleansing of the house-drains and sewers of the metropolis or large towns, depending for supplies of water upon an intermittent system through the agency of pipes, should be effected by the appropriation of a portion of such supply, can scarcely be denied, but appears the readiest and most natural means of attaining the desired end.

It happens, however, in all cases where this system obtains, that the mode of the application and disposal of water supply is such, as to leave the house-drains most frequently uncleansed, even where a good natural fall is taken advantage of and a good plan of drainage as regards the form and size of the channels adopted. The mere allusion to the disadvantage of a bad fall and an injudicious system of drainage, will be sufficiently convincing of the utter impossibility of a thorough cleansing under such circumstances. A little reflection upon the present system of water supply in the metropolis for domestic uses, and the mode of its disposal afterwards, will serve to shew how inefficient it must be for cleansing purposes as regards the drains and sewers.

By the present arrangement, the water in its passage from the house and cisterns into the drains, becomes necessarily charged with impurities more or less dense, and its emission being in small quantities and destitute of force or power in the discharge, the denser substances most frequently become deposited in the drains, accumulating and indurating at the bottoms, decomposing and forming the source of fœtid odours, generating malaria and its evil consequences.

It is an undoubted fact, ascertained by the experiments of practical men, shewn in the evidence before the Sanitary Commissioners

that as much as twenty-nine gallons of water on an average to every house in a district in London, where the sewers were gauged for the purpose on the days of the water supply, is wasted in running or rather dribbling over the waste pipes of the cisterns after the latter have become filled. This waste is without doubt owing to the imperfection of the ball and cock apparatus, from carelessness, or from mechanical defects of construction.

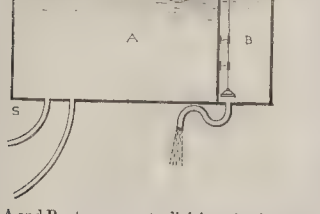
As a consequence of the above, there must be an enormous quantity of water in the aggregate in the metropolis pass uselessly off (assuming the waste to be general), but which, disposed of by concentrating its volume and power judiciously, might be made to effect the greatest advantages in the way of cleansing, as often as the mains are opened for a supply.

How is this concentration of the quantity of water now wasted to be effected and disposed of so as to act with force and power for cleansing purposes?

The answer will be found in the adoption of a simple self-acting mechanical arrangement, comparatively inexpensive, to be attached to and become part of every house cistern, which shall discharge into the drains, at any point most desirable, a given quantity of water, with great force, as often as the days of supply may occur, retaining, at the same time, sufficient for domestic uses.

One of the conditions necessary to effect this object will be, the division of the cistern into two unequal portions, by a partition, the smaller division to contain the quantity to be discharged for cleansing the drains, the larger retaining its contents for household purposes. Should it happen that the partition would reduce the reserved contents below the quantity demanded for domestic uses, an addition may be made to its end or sides, or the depth increased; but this would be seldom necessary, as there is generally found a portion of the contents remaining over from one supply day to another. At all events, in the contemplation of a more frequent supply than at present, as recommended by the Sanitary Commission, the contingency of a failure of water in the cistern need scarcely be taken into the account.

The division of the cistern, and an apparatus for effecting its self-discharge, will be best explained by reference to the annexed engraving of an arrangement invented by Mr. John Hosmer.



A and B—two separate divisions in the same cistern: A being for domestic purposes, B for cleansing the drains and sewers. C—a two-way inlet cock, with ball and lever,—one aperture opening into B, the other into A.

The water from the main being turned on the division B of the cistern becoming first filled, it flows over into A. The water rising in A lifts the ball and lever, until stopped by the pressure of the fluid column upon the valve at the bottom of the division B, with which it is connected by a rod and chain. The water continuing to rise, the ball becomes nearly immersed, when its superior buoyancy overcoming the pressure upon the valve, lifts the latter suddenly to such a height as to allow of a free flow through the syphon-trapped pipe into the drain. The larger division of the cistern A becoming filled, is retained for domestic purposes.

A few words only will be necessary, in alluding to the advantages to be gained in cleansing the sewers, as well as the drains, by the general adoption of this self-acting principle.

From all the cisterns in a district of simultaneous supply of water, the discharges will be simultaneous, or nearly so; first performing the work of thorough cleansing in the house drains, they would become united in the sewers, there forming so powerful a current, as thoroughly to cleanse them also.

Take, for instance, a street of one hundred houses on each side, with its sewer down the centre, and suppose every cistern therein divided, so as to discharge each its thirty gallons of water. Here would be the large quantity of 6,000 gallons poured suddenly into the sewer, forming a powerful current, or assisting the cleansing effect of other discharges should the sewer have collateral ones running into it. And all this good performed with the same quantity of water now absolutely wasted.

* *

RAILWAY JOTTINGS.

A NEW and powerful narrow-gauge locomotive, with an extreme breadth of something like 9 feet 4 inches on the 4 feet 8½ gauge! is in course of construction at Wolverton on a plan recommended by Mr. M'Connell, the locomotive superintendent. The firebox overhangs the rails about 7 inches on either side, and is 5 feet 5 inches in height, as in length. The centres of the cylinders which are outside ones of 20-inch stroke, are 7 feet 6 inches apart. The driving wheels are 6 feet in diameter. The top of the boiler is 7 feet 9 inches from the rail. The distance between the leading and driving wheels is 6 feet 8 inches, and the distance between the extreme bearings 17 ft. 2 inches. In spite of these formidable looking measurements, which a writer in the *Morning Herald* regards as hazardous, Mr. M'Connell expects that this engine will run steady at high velocities.——Some extraordinary rates of speed are said to have been attained at Leeds, with light trains, by another new passenger engine, with four wheels of 7 feet diameter, and a shaft in place of a crank axle. The cylinders are within 12 inches of the road. A speed of 74 miles an hour is said to have been maintained by this engine, with a train of 6 carriages. Messrs. Wilson and Co. are the builders.——The saving effected in cost of water at Camden-town station, and the hotels at Euston-square, from the well lately sunk by the London and North-Western Company at Camden-town, will be little short of 1,200*l.* a year, while the outlay for sinking the well, for engine, pumps, and main to Euston-square, will not exceed 3,100*l.*——According to the local papers, a bridge recently constructed at a large outlay by the South-Eastern, under their engineer, Mr. Bull, is about to assume a novel appearance—the ends having dropped, so as to fail in acting upon the rollers provided for that purpose. It has been deemed expedient to suspend them by iron rods, so as to keep the sides and centre curved ribs in their respective places; so that, when finished, this may be aptly termed a swivel and suspension-bridge.——The Great Western are taking about 250*l.* per week for the carriage of fish from the coast of Devon for the London market.——Captain Simmons has inspected the Dee viaduct structure, and will report to the Board of Trade. The bridge, says the *Railway Chronicle*, was repeatedly tested by heavy luggage trains, purposely loaded, and moved by two heavy locomotives. The speed at times was as high as 40 miles an hour. The utmost deflection obtained was 3-16ths of an inch in the span of 30 feet, and the vibration is said to have been scarcely perceptible.——The Wakefield, Pontefract, and Goole line was opened on Wednesday week. It is 28½ miles in length. At Goole the line opens close to a railway dock, 600 feet long by 250 broad, and is connected with other docks, extending in all over 15 to 16 acres, with 18 feet water at spring tides. The Goole and Knottingley Canal is crossed by an iron bridge 88 feet 6 inches, in single span, and covering both the canal and the travelling path of 11 feet wide. The Knottingley station is said to be in the Swiss style, and of white brick, of which almost every other alternate station is built. Mr. Thornton is the contractor for the whole works, and Mr. Harris the engineer.——The *Sheffield Iris* states that a third portion (within a fortnight) of the tunnel connecting the Sheffield and Manchester with the Midland station, has fallen in.——The Oxford, Worcester, and Wolverhampton line is nearly completed, so far as regards the earthwork and the masonry. One of the bridges on the line, at Martin, according to the *Worcester Journal*, had fallen in. The Worcester tunnel is 264 yards long, and cost about 13,000*l.* The station is in progress. The elevation is Italian, the centre, with a rustic stone basement of booking-offices, surmounted by a stone arcade of nine openings, topped by a pierced stone parapet, and flanked by a campanile of brick and stone; the wings of red brick, with stone dressings, &c.——One of Messrs. Stephenson and Co.'s agents, Mr. Hugh Hart, was lately accused at Dumfries of culpable neglect of duty, in allowing a precipitous bank on the Caledonian line, at Dryfesdale, to remain unfenced, whereby a serious accident ensued. The evidence, however, was contradictory, and the case was dismissed.——The receipts of the French lines have greatly declined, three-fourths of the traffic on some of them having been lost.——End of 1847, 1,395 miles of rail had been opened in France, 3,891 in Germany, 546 in Belgium, 342 in Italy, about 250 in Hungary, 213 in Poland, 183 in Holland, 138 in Denmark, 51 in all Russia, and 18 in Switzerland.——During six months past, 110 persons have been killed by railway, and 74 injured.——Directors are advised to cultivate Indian corn on sunny slopes, as 'food for the million.'——Government, it is said, have taken possession of the electric telegraph for the present, even to the exclusion of the press, and of everything but the state of the markets.

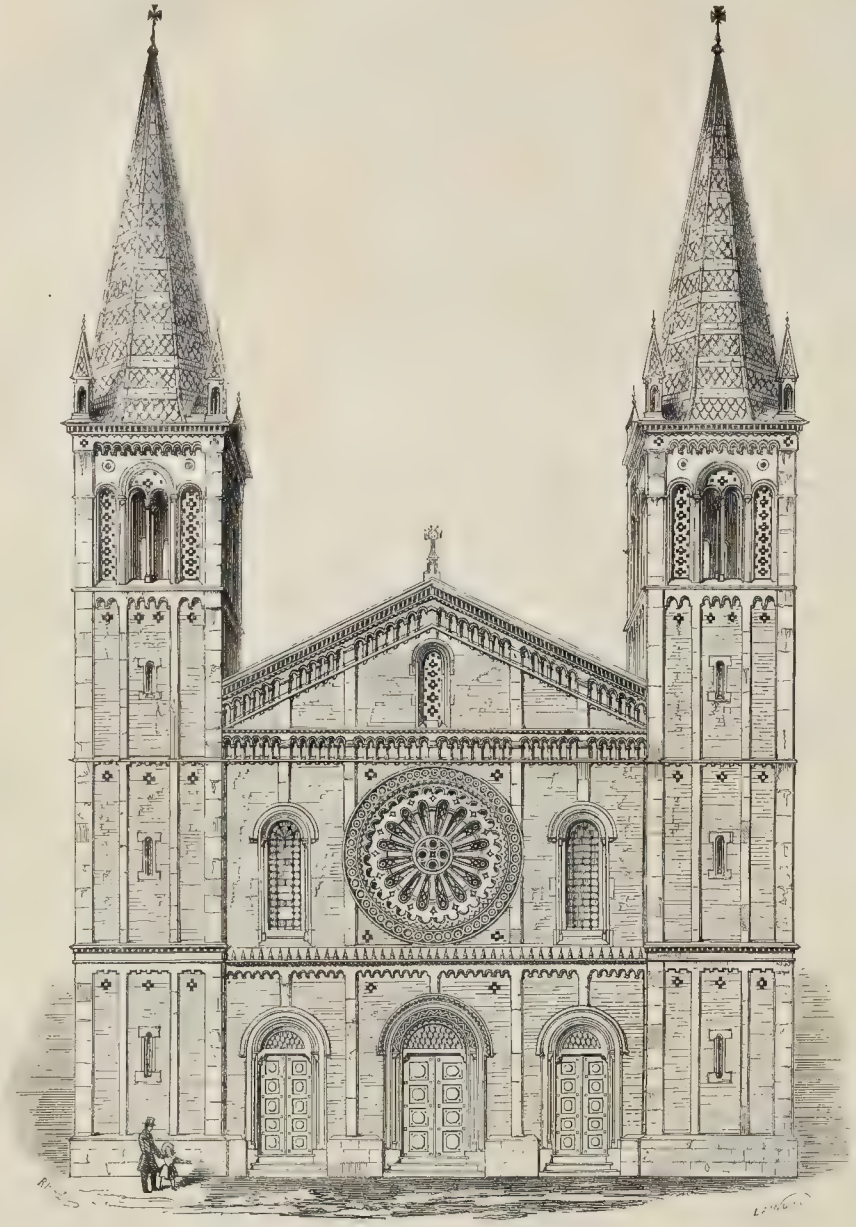
COMPETITIONS.

THE Worcester Corn Exchange Company have issued a vague and unsatisfactory advertisement for "plans, specifications, and estimates," for a corn exchange. No premiums; no pledges. Architects who reply to such are degrading themselves and their profession.——In respect of the "Durham New County Infirmary" competition, a correspondent says he wrote to ask,—"Whether the successful competitor would be intrusted with the execution of the work if he were an architect of known competency? and on the 15th the reply was—'Most probably the successful competitor would be intrusted with the execution of the works.' On applying again, on the 16th, for a clear answer to the former inquiry, and likewise for a defined and full explanation of the words 'most probably,' an answer was received, dated April 2nd (the time of sending being the 7th of April), saying that no definite answer could be given to the queries, and that one must judge for one's self of the meaning to be attached to the words referred to. To this I replied that, as the words 'most probably' do not convey an assurance that the successful competitor, if he be an architect of known competency, will be employed, the risk of sending in is declined, as the inquirer would only have competed for the honour of being employed as architect, and not for the sake of 20*l.* and 100*l.* premiums."——Relative to the Fulham Union Workhouse competition we have some loud complaints. Several weeks have elapsed since the time fixed for a decision, and, indeed, since the decision was made,—yet no public announcement has been made by the guardians, and the competitors are wholly in the dark.

THE NEW DUTIES ON TIMBER.—By the Act 9 and 10 Vic., chap. 23, it is enacted that "from and after the 6th April, 1848, all timber or wood *not* being deals, battens, boards, staves, handspikes, oars, lathwood, or other timber, or wood, sawn, split, or otherwise dressed (except hewn), and not being timber or wood otherwise charged with duty, be charged for the load of 50 cubic feet the sum of 15*s.*; and deals, battens, boards, or other timber, or wood, sawn, or split, and not otherwise charged with duty, for the load of 50 cubic feet, 1*l.*" These duties having come into operation yesterday, we understand that upwards of 3,000 loads of deals, battens, &c., and about 800 loads of hewn timber, were cleared at the Custom-house at this port, the duty on which would be about 3,600*l.*—*Hull Packet.*

BLOOMSBURY BAPTIST CHAPEL.

Mr. JOHN GIBSON, Architect.



BLOOMSBURY BAPTIST CHAPEL.

This chapel is nearly finished, and occupies a square piece of ground between the French Protestant Church and Bedford Chapel, Bloomsbury-street: it is being erected for the Baptist denomination.

There is accommodation on the ground floor for about 460 persons in pews, with a vestibule and two vestry rooms. In the towers are staircases leading to the basement and gallery floors, the whole extent of the former being set apart for two schools, for boys and for girls. The galleries occupy three sides of the chapel, with an organ gallery on the fourth—these will accommodate 470 persons in pews, with a separate gallery for 250 children: total accommodation, 1,180.

The ceiling is divided into panelled compartments, with a large coved circle in the centre, from which drops a pierced pendant, carrying a large chandelier, constructed upon the principle of Professor Faraday's patent, provision being made for conveying the vitiated air into the upper part of the towers, where it is discharged. The span of the roof, clear of supports, is 65 feet. The height from the floor to the ceiling is 39 feet. The whole building is nearly a square, and covers a superficial area of 5,150 feet.

The shell of the building is composed of white brick, with Caen stone dressings. The circular window, seen in the engraving, is 18 feet 6 inches diameter. A degree of ornament has been imparted to the two towers, and other portions of the building, by simply omitting the bricks in a regular pattern.

The height of the spires is 117 feet; they are covered with red ornamental tiles, designed to suit the style. The flank elevations have two tiers of semicircular-headed windows, with moulded brick jambs and stone label mouldings; these are divided by piers, which form five bays to each flank, having enriched strings connected with the towers, and executed in ornamental brick, the whole being surmounted with a stone cornice.

The window casements are composed of moulded zinc, and divided into an octagon and lozenge-shaped pattern; on the glass is to be worked embossed ornaments.

The whole of the work has been creditably executed by Messrs. Locke and Nesham, from the designs, and under the direction of Mr. Gibson, of Westminster.

The cost, exclusive of the site, will be about 8,000*l.*

NOTES IN THE PROVINCES.

A FREEMASONS'-HALL, capable of accommodating "all the brethren of the country," is proposed to be erected at Manchester.——The Liscard Northern Schools, New Brighton, parish of Wallasey, planned by Mr. Charles Reed, of Birkenhead and Liverpool, architect, have been completed. The design is Gothic, and the material yellow stone, in small pieces, and there is accommodation for 400 children. The cost was 810*l.*, exclusive of church and school fittings.——The foundation-stone of a new school-house at Piddleternhide, says the *Worcester Journal*, was laid a few days ago. It is to be of Gothic character, for 80 to 100 children, with dwelling for school master and mistress: funds for the building contributed by the Misses Amelia and Maria Bridges, of London.——A motion is to be made at next Worcester sessions for the repairs of Uptonbridge, by substituting a single iron arch for the two arches and the central pier. ——At the Hereford sessions it was lately ordered, that the shire-hall have considerable repairs; that the plan and site for a lock-up-house at Wigmore being prepared, tenders for its erection be called for; and that various bridges and other works be repaired, &c.—— The chapel of St. John the Baptist, at Baildon, near Bradford, lately consecrated, on its restoration, stands on the former site, with a northern extension, and has the south aisle in the place of the former nave, with the arches formerly separating the nave from the aisle, dressed and restored. The nave and aisle have separate roofs, and the doors on the south and west are of oak, with iron scroll-work. The chancel opens into the aisle by a pointed arch on octagonal shafts, like the five separating the nave from the aisle. The whole is lighted by three, two, and one light windows. The east window of the chancel is filled with Powell's cast glass or quarries, and coloured in Early English patterns; and the west end cinque foil light with stained glass by Barnett and Sons, of York. The seats are open and low, and there are open benches with backs, the whole for 500 persons, stained in oak. The architects were Messrs. Mallinson and Healey, of Bradford and Halifax. The cost, including old materials, was rather more than 1,000*l.*—— St. Matthew's Church, Liverpool, has been burnt down by overheating the flues.—— Estimates for the repair, or rather the entire restoration, of the old Norman chapel, in the old Castle at Newcastle, have been made out, and the works will be immediately begun. The Antiquarian Society there, it is said, will not consider its labours terminated till the whole castle has been completely repaired.——The Newcastle and Gateshead Working Men's Association for improving the public health have decided on carrying out a plan for the erection of improved dwellings for their own social amelioration.——The foundation-stone of the new church at Penrith was laid on Thursday week.

TRUSS FOR SHOP FRONT, LIVERPOOL.



TRUSS FOR SHOP FRONT.

LIVERPOOL.

THE accompanying drawing represents one of the trusses to a shop front now in course of execution in the old Haymarket, Liverpool, from the designs of Mr. H. T. Edwards. The trusses, which are the largest in Liverpool, measure, with the panelled blocking and antefixæ, 9 feet in length, each, by 3 feet 4 inches in the greatest breadth. The drawing is to a scale of 1 inch to 1 foot.

J. T. ASHENHURST.

THE GLASS TRADE AND THE LIGHT AND HEALTH TAX.

SIR,—Seeing an "Architect's Opinion of the Window tax" in THE BUILDER of the 18th ult., allow me to add a few remarks as to the fallacy of taking the duty off glass and yet retaining the window-tax. When Sir Robert Peel proposed the present income tax, the duty off glass was put forth not only as one of the equivalents, but as one of the greatest blessings the trade and the public could have. Amongst other things, we were to have glass at 3d. per foot; a wonderfully increased consumption; at the same time, glass water pipes, glass watch springs, and thousands of articles, were to be manufactured of this material, which were never before attempted, through the interference of the Excise. In short, it was supposed that glass coaches, glass houses, and glass slippers, were to be realised. But what is the fact? When the duty first came off, the public having reserved their orders for the previous six months, and the new Metropolitan Buildings Act coming into operation about the same time, a great quantity of houses were commenced to avoid it, and there was decidedly an increased consumption; indeed, I admit that some descriptions of window-glass were with difficulty obtained. But what is the case now? Why, the wonderfully increased consumption has been gradually dwindling down to worse than its former amount. Four or five of the works are at the present closed, and the remaining manufacturers have blown out, perhaps, two furnaces out of three, keeping on the one merely to employ some of the old hands; and with respect to the price, there is not a manufacturer but will tell you he is losing money in making glass at the present low figure, which is caused by over production, and the desire to keep out the foreigner. And again—"Where, and oh, where" are your thousands of other articles not hitherto manufactured. There has yet been only ONE manufacturer who has attempted it, and he has produced but three or four things which are really useful, and those of extremely limited sale, the principal of which are glass milk pans and glass tiles—the first one person in about 100 ever uses; the second is seen occasionally in quantities of one or two, to throw a light into a shed, &c.

The fallacy lies in taking the duty off an article to render it cheap, and at the same time keeping on a tax which restricts the use of it. It is something like telling a man you may have glass very cheap, but you must not use it. No person will put an extra window into his house because glass is cheap, when he knows it will subject himself to an extra tax. No architect will improve the appearance and health of buildings by introducing windows, because glass is cheap. In fact, although cheap glass is very desirable, under the present circumstances both the public and the manufacturer are deprived of nearly all its benefits.

If Sir Robert Peel had taken off the window tax instead of the duty, if he could not have afforded both, there would have been thousands of persons who would not have cared about the *first expense* of extra windows, but dislike at the present time paying *an annuity for them*; there would then have been an increased consumption, *consequently an increased revenue.* The duty would have been much easier collected than the tax. There would have been none of those abominations, *blank windows*, our friend the architect would not have been cramped in his ideas, and, above all, the public might be enjoying much healthier habitations.

S.

PROPOSED ARCHITECTURAL SOCIETY IN LIVERPOOL.

In January last a number of the architects of Liverpool, being desirous to see the Manor House at Birkenhead, built for Mr. William Jackson, M.P., under the direction of Mr. Reed, twenty of the principal members of the profession there, including Mr. Picton, Mr. Clayton, Mr. Kilpin, Mr. Sherlock, Mr. John Hay, and others, were invited to do so, and after having viewed the house, on which it would seem great cost and care have been expended, were most hospitably entertained. Mr. Jackson, on that occasion when replying to a complimentary toast proposed by Mr. Picton, spoke of his admiration of the architect's art, and expressed his regret there was no architectural society or institution in Liverpool as in other towns, and how much pleasure it would give him to be instrumental in forming a society of architects, where they might, by mutual instruction, aid and improve each other, and give a tone and character to the architecture of Liverpool and Birkenhead.

Mr. Hay, following this up, said how gratifying it was to see so many professional men throwing aside the cares and jealousies of business, and meeting under such circumstances as the present, and suggested the propriety of their taking advantage of it to form a *nucleus for the formation of such an architectural association.*

The idea was warmly taken up; a committee was afterwards appointed to arrange the scheme, and we hope before long that we shall have to record the proceedings of the first meeting of the new society.

ALLEGED SINKING OF THE CASHEL LINE.

RAILWAYS ON MORASSES.

The *Times* of Thursday in last week contained a letter signed "John Macneill," dated from Rutland-square, which said that, from "a publication called The Builder" a paragraph had been quoted by the *Times*, in which it was stated, though "devoid of the least portion of truth, and no doubt for stock-jobbing purposes" that "a part of the *Dublin and* Cashel railway *(the Great Southern and Western)* had subsided where it passes over a deep bog or morass," *and that a certain life or certain lives were even lost in that bog,*—" so circumstantially given" was the statement in The Builder thus complained of, and yet so "devoid of the least portion of truth." Now no such statements were made in the paragraph referred to, which was an extract from some observations which appeared in our pages on crossing morasses in general by railway lines, and did not allude, even in the most distant manner, to the loss of life, nor name "the Great Southern and Western," or "the Dublin and Cashel." But *a paragraph in some of the Scotch papers,* confirming the truth, as we considered, of the information forwarded to us, and on which the merely precautionary and repeatedly called for remarks on crossing bogs or morasses in general were founded, *did state that one life was lost* in a bog at or near Cashel, where a portion of a railway had subsided. The writer of the letter in the *Times* therefore ("John Macneill") must have also previously seen this very newspaper paragraph, and must have been perfectly conscious that the general remarks in The Builder, *actually quoting its words, while contradicting its conclusions,* were merely founded on it. There is therefore something else than a mere desire to correct an error and set the public right, whether for stock-jobbing purposes or otherwise, here plainly manifest, in the attempt to throw the onus of details "so circumstantially given" upon the guiltless Builder, which in fact avoided giving such details, and which, moreover, in place of exciting or countenancing despair in the accomplishment of the line of railway in question,—whether the Dublin and Cashel, or the Cashel and any other line—for sinister purposes, was actually using its best endeavours to contradict the adverse conclusions of the paragraph seen both by The Builder and by "John Macneill," in the one common medium of the newspaper press, by pointing out the effectual mode of overcoming a difficulty alleged to exist,—a mode, in fact, which it now appears, from this very letter, that the engineers have themselves adopted, in this "Dublin and Cashel" line itself; "the rails having been laid on a timber raft or platform"—equivalent to the branches, poles, and other light materials recommended by The Builder; and it even yet appears to be admitted that "some difficulty" did occur in this very case, as in so many other successive attempts to cross morasses by railway lines, notwithstanding repeated experience.* It might be readily conceived how either too despairing or too flattering a statement of alleged fact might be got up for the purposes so freely and so "circumstantially" insinuated against The Builder, but why a series of merely recommendatory general remarks, pointing out, in a difficulty alleged to have existed, the very means which appear to have been adopted, in carrying a railway line across a morass, should be really and candidly, and without sinister intent, charged with anything like stock-jobbing purposes, adverse to the interests of such a line of railway, it is not easy to see; and the more especially in a case where a slight slip of the memory or the wits, has unintentionally betrayed the fact that the real offender *was perfectly well known* to the writer at the very moment that other and less worthy motives than the mere desire to correct an alleged error, or expose a pretended stock-jobbing purpose, must have produced the letter in question.

* Even since the above was written, we observe that the *Morning Herald* announces the "total disappearance" of "a very *heavy* embankment, upwards of 20 feet high," into another Irish bog!

THE SEWERS, THE THAMES, AND PUBLIC HEALTH.

Sir,—Mr. Morewood's estimate of the extent of matter discharged into the Thames through the sewers, is, I believe, sufficiently correct; but it is to be recollected that "this 90,000 tons" is *insoluble;* for the actual weight of exuviæ, yielded by 2,500,000 persons, may be taken as at least 1,250,000 tons, or 10 cwt. each per annum,—therefore it may be assumed that at least *one million tons* of injurious matter impregnates the water of the Thames yearly,—about 90,000 tons being insoluble particles, either settling upon the bed of the river, and lessening its depth, or being, by the influx and reflux of the tide, thrown upon the banks and strands, creating evil to an extent which could scarcely be over-estimated; and this million of tons is not only a monstrous evil, but is a monstrous *loss,* to the community. The question, then, is—as proposed by "N. R."—in place of evil, "How to make it yield the greatest amount of pecuniary profit *to its owners?*"

This query is put in its true form—for the whole value of the refuse of towns is, properly, the property of the inhabitants: first, because nature provides that refuse as the means to reproduce food; next, because its removal is essential to the general health. Its value, when thus removed, should, therefore, be public property.

Allow me, first, to state that a great portion of the fertilising property of exuviæ lies in its volatile products, which, under usual circumstances, escape and are lost. Many efforts have been made to retain and fix these, at the same time effecting deodorization; but, hitherto, *liquids* have been the agents employed, and they add to the difficulty of preservation for removal, because, for commercial and general transport, the matter should be in as dry a state as possible.

Now, these objects can be all accomplished simply and effectually by mixing the general exuviæ with *charcoal.* About two parts in weight, intermixed with one part of exuviæ, will not only take up and retain all the gases, but deodorize the entire, and make the general mass the most valuable manure that can possibly be obtained, because the addition of carbon to the other properties combines all the elements essential to luxuriant vegetation.

Charcoal is, I believe, the greatest absorbent known; it will take up aqueous matter above 80 per cent., and the moment exuviæ, in its semi-fluid state, comes in contact with, and is surrounded by it, all the gases and other ingredients are absorbed and held; almost perfect deodorization takes place, and the material is then capable of easy transport, the value being *at least* 5*l.* to 6*l.* per ton; which can be well believed when it is considered that, in this state, the active fertilising properties of the exuviæ are preserved, particularly the ammonia, and all those in combination with carbon, now so well known to be *essential* as a manure or fertiliser.

But I fear I have already trespassed too much on your valuable columns, and, with your permission, I shall defer a short detail of the simple means for accomplishing this good, the plans for which I am now preparing to place before the Commissioners of Sewers, as I believe that by proper, yet very simple arrangements, the ratepayers of the metropolis may receive in money—for that which they are now so anxious to get rid of—at least *half a million* yearly. This will perhaps be scouted at, but I shall hope to prove the capability.—I am, Sir, &c.,

Jasper W. Rogers, C.E.

LAND SURVEYORS' ASSOCIATION.

A meeting of land surveyors was held at the Freemasons' Tavern, Great Queen-street, on Saturday last, for the purpose of forming a permanent association for the advantage of the profession, and to protest against the employment of the military in the proposed survey of London. The following resolutions were passed:—

"That this meeting are of opinion that the Government are interfering with our established rights by employing the military on those works which constitute the sole occupation and subsistence of one class of civilians."

"That there are at this moment hundreds of surveyors who have been brought up to the profession, and who have therefore an equal claim with other members of the community to the consideration of the Government of the country; and that it is the opinion of this meeting that the employment of professional surveyors on the survey of London would be not only a just act on the part of the Legislature, but, it is presumed, an important benefit to the public."

"That much greater expedition would be obtained from civil surveyors, which would be of great importance in an object of such magnitude as the survey of London."

The meeting was adjourned to give time for obtaining the concurrence of other members of the profession.

On Wednesday evening last another meeting was held, when the society was formally organised.

AN ACCOUNT OF THE MANOR HOUSE AND CHAPEL AT LANWADE, IN CAMBRIDGESHIRE.*

Lanwade, called also Landwade, Lanwood,† Lanwich,‡ and Cotton Lanwade,§ is situated in the county of Cambridge, in the hundred of Stapelho, bounded by the parishes of Exuing, Snailwell, Fordham, and Burwell. It is 4 miles west from Newmarket; it contains about 120 acres, and a population of twenty-five souls. It is situated on the border of the fen tract which here runs up as it were a narrow inlet in the continent of terra firma. The name is significant of the position, probably having the like derivation which Blomefield assigns to Lanwade in his Norfolk (iii., 383), "Wade a ford."

The interest of the place, as far as visible things supply interest, is collected into two objects, the remnant of the manor house, and the church. The hall in this, as in many instances of ancient manorial residence, is in close neighbourhood to the parish church, thus reminding the spectator of the alliance between Church and State, and suggesting also what was the origin of the building, and what the source of the church revenue, viz., a reciprocal maintenance of the two great powers, ecclesiastical and feudal. The remains of the mansion consist entirely of red brick of the early part of the sixteenth century. It displays a front divided above into two gables,

* A portion of a paper read at a meeting of the Freemasons of the Church, by Mr. J. W. Archer.

† Cambridge visitation, *Caius College, MSS. vide Cotton.*

‡ *Archbishop Laud's Troubles,* 594. § Sir P. Phillips's Cambridge Visitation, fol., 1840.

and pierced with large plain square mullioned windows. The roof bears a stack of chimneys, the base of which is panelled, and the panels quatrefoliated. The chimney shafts are worked in different patterns, *i. e.* composed of bricks so moulded as to form these patterns. Their appearance altogether, in form and proportion, has much elegance, and is an excellent example of a style of ornamental brickwork which prevailed in Essex especially, but also in Cambridge and Suffolk.*

The interior has been dismantled, and exhibits very imperfectly the original distribution of its space.

The site of the mansion is encompassed by a broad moat from 6 to 8 feet in depth, the sides of which were formerly lined with wall. On the south side the building rises out of the water, and here the walls have great thickness.

On the north-west and north-east the position was defended in old days by fen ground, which, at a time when drainage was unpractised, served better the office of safeguard than water. And beyond, in those directions, this impassable region spread immeasurably, such retreats being, in ancient times, the dens and hiding-places of the fugitive and the persecuted, or, in turn, of the repulsed oppressor, in this flat and open portion of the country. But since these times, security having been diffused over the country, and these secluded retreats and natural fastnesses, falling into disuse because not required, also fell into ruin. The operations which civilising peace introduced, for the production of its concomitant plenty, by bringing into use the means of nature, dried up the strength of those ancient refuges, and now the water which formerly environed them is curbed within the narrow bounds of a brook, and the old swamp exhibits the bright face of bountiful pasture-land, adorned, park-like, with aspiring poplars and ash. The spot, indeed, though much neglected, possesses very large capabilities. Whether we consider the nature of the soil, or the lay of the surface, or, which is more important, the historical associations attached to the place, it deserves to be looked upon as one of those spots which a traveller would make a point of visiting with the object of gratifying antiquarian feeling, or kindling antiquarian interest, and one which might be expected to engage warmly, its owner's affections, the more especially if family and local history unite their interest.

Cole, in his MSS. states that "he can give but a very meagre and sorry account of the ecclesiastical history of the place, as it lies on the east side of the boundary (an earthwork called the Devil's Ditch) which separated the kingdom of the East Angles from that of the Mercians; consequently the bishop of that part of our island which constituted the East-Anglian monarchy, whether seated at Dunwich, Elmham, or finally, at Norwich, had always that parte of Cambridgeshire on the east side of the boundary as parte of his diocese," so that he had not an opportunity of searching the registers of the see of Norwich, which should give the succession of chaplains, patrons, &c., relating to the church.

What he can, however, he gives in his collections, and the substance is as follows:—

"In the time of Edward I., the prior of Fordham held the chapel of Lanwiche, as it was then called, belonging to the church of Bernewell, as an impropriation by the gift of Robert de Sturggis, junior, with fifty acres of land held by the honour of Richmond,† in pure alms. I am almost tempted to think (says he) that this De Sturggis is a mistake in my book for Richard de Hastings, who is known to have been lord of the manor of that reign, and who probably was the benefactor to Fordham Priory of this chapel.

The church, which is dedicated to St. Nicholas, stands in the diocese of Norwich,‡ archdeaconry of Sudbury, and deanery of Fordham.

It is only a chapel to the vicarage of Burwell, and belongs, as Exuing does, to the chapter of Canterbury.

It is, as it were, a chapel to the mansion—a donative. The bishop has no jurisdiction, and of course no christening or marriages are there performed.

The church is built in the exact form of a cross, consisting of a square tower at the west end, in which hang three bells, and on which is placed a small leaded spire, terminated by a leaden cross.

It has a nave of 42 feet by 19 feet 6 inches, two cross aisles or chapels of equal dimensions, 20 feet by 12, an unusual breadth, and a chancel of 21 feet, of which 3 feet at the east end are slightly elevated. The chancel is of the same height and breadth as the nave.

It has also a south porch. At the ends of the two chapels and chancel are three stone crosses of good workmanship and perfect, an unusual circumstance, as such decoration has usually been despoiled during the prevalence of fanaticism. The whole of this building was erected by Walter Cotton, Esq., who died in 1445, after having glazed the church in a very beautiful and expensive manner, as is evident from what remains thereof to this day.

The altar stands on an eminence of one step, but without any rails to surround it, the good effect of which arrangement, though very rare, is likewise well shewn in King's College Chapel.

Over the Creed and Lord's Prayer are the Cotton arms, painted on the hall, viz., sable, a cheveron between three griffins' heads, erased, argent, with the Ulster arms on the cheveron.

In almost all the windows of the chapel, and particularly in the east window of the chancel, are the figures of angels, having each a cross on his head.

There is no chancel arch, but only a pretty high screen to divide the chancel from the nave and cross aisles.

This screen is of good Early Perpendicular character, but its beauty is as yet obscured by paint.

The roof of the nave is timber, panelled, divided by arched principals, six in number, each of which has a head for a corbel. There are a king's head and a monk's head, both well executed, on the south side of the chancel, but the whole is covered with whitewash. The floor of the church is occupied by open seats, with common poppy heads—these are also disfigured by paint.

There is likewise a south door and porch, not used, and two windows on either side of the nave, east of these doors. The belfry arch is similar to that in St. Peter's, Cambridge. The shafts, in height, are about 3 to 1 in proportion to the arch, and the span is small.

* It is not surprising that this place should not be more known, when so interesting an example of the old manor house as Sawston Hall, only 7 miles distant, has been little noticed. At Haslingfield and Histon there are likewise good specimens.

† Early history.

‡ In 1840, transferred to the see of Ely.

METROPOLITAN COMMISSION OF SEWERS.

A special court of the Metropolitan Commissioners of Sewers was held at the Sewers' office, Greek-street, Soho-square, on Thursday in last week, for the purpose of receiving a jury and their presentment, as to the persons and property liable to be rated to sewer-rates in the eastern division of the Westminster Sewers. The Right Hon. Lord Morpeth, M.P., in the chair.

The jury having been sworn, Lord Morpeth delivered a very voluminous charge, of which the following are the most important points:—

Having alluded to the statute of Henry VIII., by which they were called together, he remarked that—"It could not then have been contemplated that it would ever have fallen to the men of the county to have to assess in one single district between 50,000 and 60,000 individuals, or the owners of more than 50,000 tenements, occupied by a population of nearly half a million, having a rental of upwards of 3,000,000*l.* sterling. This multitude of properties renders it impracticable for you within any reasonable time, to make direct inspection and adjustment of that part of the Westminster Commission this day brought before you, called the eastern division of the Westminster Sewers, within which there are nearly 15,000 separate tenements, with a rental of about 800,000*l.*, so that it will be necessary to have recourse to intermediate agency to guide you in your decision."

His lordship then adverted to the staff of officers that had been appointed. Upon the state of the sewers generally, he said—"The sewers of the district were, and, unfortunately, yet are, and, with our best efforts, are likely long to continue to be what our officers describe them to be, "stagnant cesspools." We have had sewers in the same district running different ways, sewers made at a great public expense, which accumulated pestilential deposits (90,000 tons, or 62,000 cubic yards of which have been flushed away). Much of this has arisen from the want of a proper survey. The remedy for this is to obtain a proper survey, which will not only govern the main drainage, but house drainage, a better construction of the streets, a better distribution of water, an identification of properties, a better valuation, a more equal collection of rates, an universal efficiency, and a reduced expense of works—all of which are gained by consolidation."

The charge then pointed out the saving in works now executed, contrasting the cost with what it would have been formerly. On the subject of consolidation of the different commissions into one central system, his lordship thus remarked:—

"Our own position must be shewn by contrast with representation which has been made, that increased expenses will be the consequence of consolidation, or what is deemed centralisation of our local institutions, at the time of real pressure. It is of importance that the truth should be known, and that the public should be informed that what has been effected has been the cause of real improvement, as one of economy, and a reduction of expenditure. A complete system of drain sewerage may be made for all Westminster at a charge not exceeding 5s. per house, or little more than a penny per week, for works more complete than any now existing."

With regard to tavern expenses, the charge contained the following remarks:—

"Among the items of saving were the allowances for dinners. The statute makes no provision for dinners, and we have discountenanced the practice. We should not hold it to be good policy to hold forth the pleasures of the table as a prominent inducement to the service. In strict law, however, we felt it an ungracious duty to disallow the payment of the dinner bills of our predecessors, to the amount of 184*l.* for the last two months they were in office. We take no dinners ourselves, and therefore we can offer no public hospitality to you." In conclusion, his lordship said—

"We cite, as an example of consolidation, that of the Metropolitan Road Commissioners, by which the roads have been improved and the debts reduced; while the business of 100 miles of road is transacted satisfactorily, with economy of time on the part of the members of the Board. It may be expected that the business of the sewers of the whole of the metropolis may be despatched better and more expeditiously than it could be accomplished by separate commissions."

The jury having made their presentment, the foreman (Mr. Mason, of Piccadilly) said it was the wish of his brother jurors that the charge of the noble chairman should be printed and circulated for the information of the public.

A general court was held on Thursday morning last.

The following report was presented on the subject of the Ordnance survey, and adopted:—

"The Committee of General Purposes having considered the resolution of the Court of the 23rd of March last, that this committee be requested to engage properly qualified persons to perform the work recommended in the report then received and adopted by the Court.

"Having considered the offer communicated on the 23rd March, made by Colour-Sergeant Smith to Mr. Roe, the surveyor to the Court, stating that he, Sergeant Smith, had served his time, and was willing to his discharge, and desired employment under the Commission, and that he was willing to serve on the execution of the work in question.

"Resolved, That Colour-Sergeant Smith be engaged as one of the properly qualified persons to perform the service authorised by the Court, at a rate of 200*l.* per annum during the time he is engaged on such work.

"Resolved, That it be submitted to the Right Hon. Lord Viscount Morpeth, to request the Master-General of the Ordnance to permit the discharge of Colour-Sergeant Smith in the usual manner, at as early a period as may be deemed convenient."

A supplementary report recommended the appointment of a staff of officers to be under the direction of Colour-Sergeant Smith.

Lord Morpeth said he had had a communication with the Master-General of the Ordnance, and he was authorised to state that Colour-Sergeant Smith will be discharged on a certain day.

A letter was read from Sir John Hall, the superintendent of the St. Katherine's Dock Company, in answer to an application made from this court for all papers and documents belonging to the late Tower Hamlets' Commission, in the possession of that Company. The letter stated that a book had been sent accordingly; but that it was the desire of the company, as they had purchased the whole of the property in this division, that the control of the sewers might remain in their hands, as it was of great importance to them that they should be attended to, and as they had made no call on the inhabitants of the precinct for any sewer rates.—It was considered, and a resolution passed to the effect, that this court could not commit to any private company the management of the sewers, but that an arrangement would be made with the company as to the amount incurred on that account.

The following resolutions of the General Purpose Committee were adopted:—

"That no person be retained in the service of the commission as a salaried officer who is in private practice, or whose whole time is not available to the public service.

That the poundage to be allowed for the collection of the rates be in no case more than 6d. in the pound."

In reference to an application of the Metropolitan Sewage Manure Company, for the permission of this court to carry on their works, a desultory conversation ensued.—Mr. Chadwick condemned the scheme, as being a wasteful expenditure of money, and that the sewage of the district chiefly consisted of the uplands water, the proportion being at least as 5 to 1 of any solid matter. Their surveyors had gone over the whole of the district, and saw serious objections to the adoption of this plan; at the same time they were quite ready to promote any expenditure, when they could see their way clearly, as to the disposal of the refuse of the sewers to the purposes of the land.

Lord Morpeth—Is it clear that we have powers for intervention by the Act of Parliament?—Mr. Chadwick said the commission had unlimited power for effecting works for the benefit of the public.—Some declaratory resolutions having been disposed of, the following was adopted:—"That the works hitherto projected by the company are reported to be so excessively expensive and wasteful of the shareholders' money (as, for instance, the tunnel proposed by the company, and estimated to cost 25,000*l.*, the object of which, if eligible, might be effected for about 7,000*l.*), that the commissioners must withhold their sanction to such works, even if there were no other condition in relation to them to be taken into account on behalf of the public."

A letter was read from a Mr. Holland, of Manchester, stating that, as this commission was about to adopt his plan for the irrigation of sewers and cesspools, he freely placed it at the disposal of the commissioners, although, by letters patent, the use of it was secured to himself for his own benefit. A vote of thanks was passed, and ordered to be conveyed to Mr. Holland, for his communication.

It was reported that 250 men, employed by this commission, attended voluntarily on Monday last, and were sworn in as special constables, under the direction of Mr. Stable.—Mr. Byng moved the thanks of the court to Mr. Stable for his conduct on that occasion. Nothing could be more gratifying than to see the peer, the merchant, and the mechanic sweating in common, on the same book, to do their duty to their country.

Mr. Stallwood attended the court, and renewed the charges he formerly made against the late Holborn and Finsbury Commissioners of Sewers, of wasteful use of the rate-payers' money, and hoped the Attorney-General would be instructed to prosecute them on behalf of the public.—Lord Morpeth said many of the evils complained of did not exist in the present commission.—Other Commissioners considered that, as Mr. Stallwood had allowed matters to go on so long, he was without remedy, and that his attention should now be directed to what might take place in future.

The court then adjourned.

Correspondence.

COST OF READING GAOL.—COMPETITIONS.

SIR,—As your correspondent "A. B." only appears to call attention to Mr. Frewen's postscript on the subject of Reading Gaol, on account of its "explaining some of the secrets of such competitions," it may be satisfactory to him to know that neither the estimate which he names nor the limitation of the architect's commission to that estimate, in any way accompanied the competition, but that both originated a considerable time after its decision. The original estimate, which was made by a very experienced surveyor, was submitted in detail to the Inspectors of Prisons, the only parties possessed of practical means of judging of it, and was considered by them to be *too high*, which is sufficient proof that it was not given in at a low sum for purposes of competition. The estimates were lowered, and the very unwise limitation of the commission was, without due consideration, acceded to on their suggestion.

This building was erected under great disadvantages as to cost, through being nearly the first of an entirely new class of works, and being built by schedule, there was little or no means of checking the cost till the final winding up of the bills; I believe, however, that though a little higher than the average, from this and other causes, its cost still bears a very fair proportion (after a due allowance for local circumstances) to that of subsequently erected prisons, and even to that of the Pentonville Prison.

It is needless to trouble you with particulars relating to the cost, and it is hardly necessary to mention that the statement of the actual cost contains much beyond what is comprised in an architect's estimate.—Yours, &c., C. D.

Miscellanea.

GAS STATISTICS.—It was stated by Dr. A. W. Hofman, in a recent lecture at the Royal College of Chemistry, Hanover-square, on the composition of coal gas and its combustion, that in England nearly 6,000,000 tons of coal are annually consumed in the manufacture of gas, and from 12,000,000*l.* to 15,000,000*l.* employed in its production. In London alone 500,000 tons of coal are annually used, producing 4,500,000,000 cubic feet of gas, and 500,000 chaldrons of coke; of the latter 120,000 chaldrons are consumed in manufacturing the gas, and the remainder is sent into the market for fuel. The number of houses burning gas in London is more than half a million, and the length of the mains is upwards of 1,500 miles.

BURIALS IN ST. CLEMENT DANES.—The committee appointed "to ascertain the best means of discontinuing the practice of burials within the boundary of this parish," have made a report containing some fearful statistics which must command attention. Of one ground they say:—"The superficies of Portugal-street burial-ground is 14,968 feet, or rather more than one-third of an acre. It is stated by Mr. Walker, that the largest number of interments which considerations of decency and public health would allot to burial-grounds, is 136 adults per acre annually. Comparing the actual interments in Portugal-street with this statement, it would appear that all such considerations have been violated, inasmuch as within each of the last twenty-five years a considerably greater number have been buried in this ground (little more than the third of an acre) than calculations made with reference to the safety of the public health allows for an entire acre."—"5,518 coffins (the number deposited in Portugal-street during 25 years), allowing 9 superficial feet to each, gives 1 acre 5,510 feet of ground (or 49,662 feet) filled up entirely in 25 years, without allowing any space between the coffins, while the entire area of this burial ground (Green-ground, Portugal-street), is little more than one-third of an acre, or 14,968 feet. Thus shewing that there has been, by means to us unknown, bulk which should occupy 1 acre 5,510 feet, thrust into 14,968 feet, allowing that coffins may be packed side by side without any earth intervening." One of the conclusions they come to is, that "all burying places should be removed beyond the boundaries of towns and cities."

SHEFFIELD SCHOOL OF DESIGN.—Connected with this institution, a class for drawing flowers from nature, and composing them with a view to their employment in manufactures, is at present in course of formation. Upon the advantage that must result from this arrangement it is needless for us to comment. With the view of enabling Mr. Mitchell, the master of the institution, to proceed with greater effect, the council of the School of Design made application to the Committee of Management of the Botanical Gardens to admit to their gardens a number of the more advanced pupils; and the request was promptly acceded to.

QUEEN'S-ROAD, KENSINGTON.—Complaints are made to us of the unfinished condition in which the entrance to the Queen's-road from the High-street, Kensington, is left, and certainly not without cause. The Kensington authorities should stir in it. At the Bayswater end a proper entrance was constructed long ago.

POROUS BRICKS.—Sir: In answer to your correspondent from Southampton, upon "Porous Bricks," he may safely use linseed or boiled oil, externally. Let the brickwork become perfectly dry, in summer, and give it one or two coats of either (boiled oil is the best). No wet will ever get through it again. I have used it for brickwork and stonework in town and country, or I would not recommend it.—J. E. HORNE, Surveyor's Office, Christ's Hospital. Another correspondent advises a facing of mathematical or ornamental tiles.

THE GENOA CRUCIFIX, exhibiting in Regent-street, is a fine specimen of carving in ivory. It is said to be the work of a poor monk, uninstructed, and working thus for the first time. Depositions to this effect are in the room, but will probably not carry conviction to all minds.

PROJECTED WORKS, &c.—Advertisements have been issued for tenders, by 25th inst. for taking down and rebuilding a congregational chapel at Southampton, and erecting schools and vestries there; by 24th, for the erection of infant schools at Hoxton; by 1st proximo, for the erection of a church and parsonage-house at Prestwood, Bucks; by 22nd inst., for the erection of school-rooms, with double residences, at Ickleford, near Hitchin; by 25th, for building a union-house at Aylsham; by 1st proximo, for the erection of a governor's and officers' house, 150 cells, and other additions and alterations at the Bedford County Prison (extension of time); by 22nd inst., for certain alterations at the Public Office and Prison, Moor-street, Birmingham; by 2nd proximo, for the entire works in improving Sutton Harbour; by 20th, for the erection of station houses and waiting rooms, with appurtenances, at Starbeck and Baldersby, on the Leeds and Thirsk Railway, and also for the building of coal depôts at various stations on that line; by 24th, for a supply of about 68 separate cast-iron enamelled baths, at St. Martin's-in-the-Fields; by 25th, for painters' and smiths' work in the repair of Worcester cattle-market; by 18th, for a supply of 500 tons of granite chippings for the Hackney Union; by 3rd proximo, for a supply of materials for the metropolis roads; and by 1st proximo, for a supply of oils, turpentine, tallow, tarpaulins, &c., for the Great Western Railway.

GLASGOW GOVERNMENT SCHOOL OF DESIGN.—At the annual general meeting of the subscribers to the Glasgow school, held on the 4th inst., a report was read shewing that the progress had been satisfactory, notwithstanding commercial depression. 481 had been admitted to the male classes, and 135 to the female classes. The committee said,—"Among other improvements, some additional classes are contemplated for the promotion of *design* in various branches of ornamental art as applied to manufactures, and particularly the leading manufactures of each locality; and a course of lectures on the same subject is to be delivered every session." They also said, that "they have had occasion to ascertain from different manufacturers that young men who have passed through the School of Design here are more useful to them, and exhibit a greater facility and taste in producing new designs, than those who have not had that advantage. There can be no doubt that when the school has been longer established, and its benefits been more widely extended, its influence will be still more strongly felt, and that it will have the effect of finally refuting, what has been sometimes asserted, that however excellent the materials supplied to the Scotch manufacturer, and however durable and substantial the manufactured article may be, it is frequently inferior, in point of taste, to the productions of other countries." Receipts during the year ending 31st March, 1848, were 1,465*l.* 4s. 2d.; expenditure, 1,440*l.* 19s. 5d.

BRISTOL AND WEST OF ENGLAND ARCHITECTURAL SOCIETY.—The annual general meeting was held at the Bristol Literary Institution on the 6th ult., the Archdeacon of Bristol in the chair. The Rev. Eccles Carter read the report; this was ordered to be printed, and to be accompanied by an account of the Church of St. Michael, Ottery, lately restored under the society's auspices, which is to be illustrated with drawings of a very curious ancient Frontal belonging to this parish. A resolution was also passed, providing that the report should always contain some notice of matters of local or general interest, illustrated, when necessary, by engravings, and that it should be sold to honorary members, and distributed gratis to members on payment of their annual subscription. The committee having been elected, Mr. Winston made some observations on the stained glass in Bristol Cathedral, and spoke with commendation of the glass in the east window there recently restored.

ARCHITECTURAL STUDENTS AT ROYAL ACADEMY.—The following gentlemen were admitted students on 1st instant:—Messrs. Arthur Thomas Allom, Robert Charles Dudley, William Boutcher, Octavius Hansard, William Roe, George Rowe Clark, George Price Boyce, and Francis Butler.

INSTITUTION OF CIVIL ENGINEERS.—On the 4th inst., the second part of Mr. Jackson's paper "On the Engineering of the Rhine and the Moselle," was read. It consisted to a considerable extent of a translation of an account of the Spurs, Groines, and other works on the Moselle, for restricting the dimensions of the bed of that river, and increasing the depth of the water, so as to enable the navigation to be carried on which would otherwise be averted in the low-water seasons. It was shown that to effect this, numerous arms of the river had been dammed across and allowed to silt up, the course had been straightened, elbows had been cut off, and the convex shores, after being silted up by deposit between the groins, were defended by arming of fascines, &c. Division banks had been established for the inflowing rivulets, so as to carry the gravel to greater distance down the stream. Rocks also were removed by powder, and general improvements to such an extent were executed, that the river was comparatively under good control. The account of the Rhine was then resumed; and after detailing the various plans that had been proposed for ameliorating its course, giving numerous tables of Blanken's and Bolstra's experiments as to the tides, the inclination of the beds of the various rivers, the duration of the ebb and flow and average height of the river at the time of new and full moon, the height of various dykes above the extraordinary flood line, &c.,—the paper finished with some general views.

PRODUCTION OF THE BEAUTIFUL.—At a meeting of the Royal Scottish Society of Arts, on the 13th ult., a paper by Mr. Thos. Purdie was read, "On the Production of the Beautiful"—an attempt to prove that the theory advocated in the papers read by Mr. D. R. Hay before the society, founded on the development of the harmonic ratios, is fallacious. Mr. Purdie stated the nature of the theory under consideration, and endeavoured to shew the fallacies contained in it, and in others of a similar nature which attributed beauty to proportion. He followed this with some remarks on the fallacy of all theories which assume proportion as their basis; and concluded the reading of his paper by characterising all attempts to establish a theory on such grounds as this, in the words of Lord Jeffrey, as "dogmatising from a few examples, instead of defining any general comprehensive principle, in which all beauty may be supposed essentially to consist,"—an attempt, he continued, as reasonable, and of precisely the same nature, as that of a man who, setting out with the premises that every oak tree is a vegetable, attempts therefrom to prove that every vegetable must be an oak tree.

HEATING CHURCHES.—According to the Glasgow papers, the church at Dornoch has narrowly escaped being the scene of a serious accident. The church was warmed by pipes from a heating apparatus in an outhouse adjoining, and the fire being lighted on Saturday, the boiler burst with a tremendous explosion, and nearly suffocated the person who attended to it.

VERANDAHS IN CEYLON.—Nearly all the houses in Colombo, Ceylon, had verandahs before them, and the Government has been clearing them all away, on the ground that they obstructed the streets. A petition was presented in the House of Lords the other night, complaining of this interference, but Earl Grey said that wherever parties had been able to prove that the verandah was on their own ground, compensation had been paid.

ADVOCACY OF SANITARY REFORM BY THE CLERGY.—A meeting of the incumbents of metropolitan parishes for this purpose was held at 79, Pall Mall, on Wednesday week, the Bishop of London in the chair. Deputations from the Sanitary Commission, consisting of Mr. Chadwick and Dr. Southwood Smith, and from the Health of Towns Association, consisting of Lord Ashley, Dr. Guy, and Mr. J. W. Tottie, were received, and a resolution was unanimously passed, expressive of the necessity and duty of sanitary legislation, even as an aid to the clergy in the removal of a serious obstacle to the efficacy of their ministry amongst the more densely-populated districts of the metropolis. Petitions are to be presented by the clergy to the Legislature to that effect.

ELECTRO-MAGNETIC POWER, MOTIVE OR LOCOMOTIVE.—It has been suggested that motive power, and particularly locomotive, might be acquired by means of wheels, with a numerous series of electro-magnets radiating from the centre, and working by successive attraction along an under and an upper line of rail, each of the four quadrants of the wheel being positively electrified as it came to face the under rail, and thus successively attracted by, or rather attracting, the metal, and producing both rotary and progressive (or revolutional?) motion. The mere idea of employing a series of magnets in the production of rotary motion is not a new one.

VALUE OF LAND IN GLOUCESTER.—The Midland Railway Company required a piece of land adjoining their goods station, belonging to Bartholomew's Hospital; and not being able to agree as to price, an inquiry took place in Gloucester last week, before a sheriff's jury, to assess the value of the same. The land consisted of about an acre and a quarter, and had been occupied for many years as a rope-walk, at 30*l.* per annum, but was becoming available for building. The sum asked by the trustees was 1,500*l.*; the Railway Company offered 800*l.* After hearing surveyors, &c., the jury gave 1,100*l.*

TENDERS

For the new University Hall, Gordon-square, Mr. Donaldson, Architect.

Lawrence and Son	£11,100
Lock and Nesham	10,889
Kelk	10,338
Wilkinson	10,284
Cubitt and Co.	9,950
Curtis	9,744
Grimsdell	9,493
Rigby	9,409
Jay	9,164

For rebuilding a house and office at Aldermaston, Berks, under the direction of Mr. Hardwick, Jun.

Piper	£22,340
Cubitt and Co.	21,300
Grimsdell	21,179
Haward and Nixon	20,196

For the erection of twenty-one houses at Westbourne Grove West, Paddington, April 12, 1848, at the office of Mr. Richards, Old Jewry, City:—

Norris	£17,370
Glenn	15,442
Perry	15,420
Higgs and Son	14,677
Higgs	13,674
Pollard and Co.	13,124

For works to be done at Elham Union, in the erecting schools, &c., Mr. J. Messenger, Architect, Folkestone:—

Kelson	£1,249	0
Cozens	1,325	0
Horton	1,285	0
Lucas	1,115	18
Fry	1,145	0
Holden	971	12

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, APRIL 17.—Institute of Architects, 8 P.M.

TUESDAY, 18.—Institution of Civil Engineers, 8 P.M.

TO CORRESPONDENTS.

"*G. T. G.*" would find it difficult to substantiate his claim at law.

"*J. P.*"—Similar recommendation has already appeared in THE BUILDER. Greater part of his article was printed, the remainder destroyed.

"*C. C.*" shall hear from us.

"*E. E.*"—A revision of prices is promised. We will look to it.

"*Survey of Milton.*"—The surveyors whose tender for the assessment was accepted, wish us to state that "their tender was exclusive of some items which the others included."

"*Subscriber,*" who wishes to know how to repolish some marquetry work, had better put it into practical hands.

"*Eder.*"—We shall be happy to see the tracing.

"*R. R.*" leaves our correspondent's statement uncontradicted.

"*A. B.*"—To give the information asked for would take more time than we can afford.

"*Ardent Student.*"—A knowledge of "Euclid's Elements," if not "*indispensable,*" is one of the best things he can set himself to acquire.

"*One in Authority.*"—Whether our correspondent likes our remarks or not, is perfectly indifferent to us. Our duty is to the public.

"*H. H.*"—We regret an enforced postponement: it shall appear next week.

"*A. Z.*" will not find it difficult to get half a dozen builders to tender without having the quantities furnished. Apply to some whose names appear in the present number.

Received.—"J. A.," "R. C.," "J. D.," "J. W. W.," "C. W. O.," "J. J. M.," (declined with thanks), "Rev. J. F.," "W. C., Liverpool," (sent), "Observer," "J. B. R.," "P. F.," "J. S. H." (we decline interference), "W. B.," "J. S., Derby" (we do not know), "C. N."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 4 inch to 11 inch thick.
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ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

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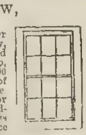
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The Builder.

No. CCLXXII.

SATURDAY, APRIL 22, 1848.

IN December, 1846, we gave some particulars of the life of Sir John Soane, and put into a connected form a review, by Mr. Tite, of part of a course of lectures delivered by Soane in 1817.* As we then remarked, information concerning the architect of the Bank, and the founder of an extraordinary museum, which will one day be made more available to the public than it is now, will be sought for hereafter. "His architectural works are being rapidly effaced; there is no worthy engraved record of his designs; his opinions, so far as we know, are only to be found in his locked-up MS. lectures, and although so recently dead, he is positively a man unknown to the rising generation of architects."

At the Institute of Architects on Monday evening last, this review was continued, elucidated by a large number of the drawings originally used in illustration of the lectures; and we will endeavour to give it, as before, a connected shape in our pages, first mentioning the previous proceedings of the meeting, that our record of the institute may be complete.

Mr. Charles Fowler was in the chair, and Mr. Fergusson was elected honorary member, and Mr. J. J. Cole, fellow.—Mr. G. Godwin said he had received a letter from their friend, Mr. Britton, which he thought, with the exception of a personal reference in it (for which he asked their excuse), they would be glad to hear. Quite recently, Mr. Britton's recovery from an illness, which had prostrated him for many weeks, had been pronounced impossible by his doctors, and Mrs. Britton had fortified herself to discharge the duties of his survivor. Strange to say, however, while the former had regained his health, Mrs. Britton, since the date of the letter he was about to read, had died: so inscrutable were the ways of Providence. He felt sure that the meeting would pardon him for an expression of sympathy, on an occasion which affected one to whom every member of the profession, and every lover of our ancient edifices, were deeply indebted. The letter was as follows:—

"Having complete confidence in your friendship, I have named you executor of my small property after my decease, and am now troubling you with a little commission, whilst I remain alive to see and enjoy the company of friends.

The Royal Institute of British Architects made me an honorary member of their society soon after its formation; and I can assure you and them, that it not only gave me much pleasure at the time, but it has been a source of cheering gratification ever since. I can only regret that my want of leisure and health have conspired, to preclude me from rendering any essential service to the Institute in return.

It is my wish now to offer for its acceptance a few articles, which may be useful or amusing to some of the members. These are—

A model of Salisbury Cathedral, by White of Bristol.

A model of Redcliffe Church, by the same.

A model of the Canynge Monument, by the same.

The original copies of the Lectures on Architecture, delivered by Thomas Sandby, at the Royal Academy:

* See Vol. VI., p. 577, and p. 590.

And MS. collections for a Biographical Dictionary of English Architects, by J. Chambers.

The last is calculated to form a foundation for a good and interesting "Dictionary of English Architects," which might be well executed by members of the Institute. A committee should be named to digest a plan, and appoint members and strangers to write memoirs. A work thus executed might be made to pay its expenses by public sale."

Mr. George Mair, with an expression of respect, moved a vote of thanks to Mr. Britton, which was seconded by Mr. Lee.—Mr. Tite said although it must be unnecessary, in a meeting of architects, to speak one word in favour of Mr. Britton's claim to their consideration, he could not refrain from an expression of his own. One of the works so kindly presented by him on that occasion—"Sandby's Lectures"—was cognate to the business of the evening; and he hoped that hereafter some member would lay an abstract of Sandby's opinions before a meeting of the institute.—The Chairman also spoke very warmly of the services rendered to the art by Mr. Britton.

Mr. Tite then returned to his review of Soane's lectures in 1817. His previous notes referred to the first three; and he had proposed, on the present occasion, completing the course, but found there would not be time to deal with more than the fourth and part of the fifth, treating chiefly of the classic, and the introduction of Gothic architecture. Having previously considered the application of the Orders, and the use of caryatides, the lecturer had treated of insulated columns, of which Homer mentions one of the earliest, saying that Ulysses raised a column to Elphinor. According to Pope:—

"The rising tomb, the lofty column bore,
And high above it rose the tapering oar."

A description not very understandable. A rostrated column was erected by the Romans in honour of Duilius, who gained the first victory over the Carthaginians. Columns were sometimes presented by individuals: this was the case for the temple at Jackly, where each column has a tablet upon it recording the name of the donor. The ancients took pride in the erection of porticoes of immense size: some occur at Palmyra, with four, five, and six rows of columns. Pompey's Portico was a work of great grandeur. Augustus erected a portico to his sister Octavia, of which there are considerable remains. Mere screens of columns, like that by Holland, formerly before Carlton House, Soane objected to. The epigram on this screen, by Bonomi, was alluded to,—thus anglicised by Prince Hoare (as Mr. Scoles afterwards mentioned)—

"Dear little columns, all in a row,
What *do* you do there?
Indeed we don't know."

Speaking of the use of pilasters, it was remarked that, in Greek works, antæ were chiefly confined to decoration, and were never used without columns. According to Vitruvius, they should be of the same diameter as the columns, but, in reality, they are met with of all diameters. The mouldings, forming cap of the antæ, were sometimes continued along the walls from antæ to antæ. At Palmyra, antæ occur at the ends, and then at equal intervals, and this appeared to be the first example of what has been so often imitated, but, according to Soane, was a great misapplication of them. In the circular temples of Rome and Tivoli there were no pilasters on the cella corresponding with the surrounding range of columns, for an obvious reason; but Bramante, in a building of this kind, had crowded pilasters behind the columns, with a bad effect:—

"'Tis use alone that sanctifies expense,
And splendour borrows all her rays from sense."

Columns in ranges, says Soane, ought never to be broken by pilasters; they destroy the unity of composition, so much to be desired. Entablatures over pilasters ought not to be so heavy as where over columns. Insulated pilasters occur in the remains of antiquity,—as, for instance, in the sepulchral monument of Mylassa, and in the little temple on the Clitumnus. Advocates for the practice say it avoids the appearance of hanging in the air otherwise given to the entablature. Houses in Queen-street, Lindsay House, Lincoln's-inn-fields, and Shaftesbury House, Aldersgate-street, were pointed to as instances of the successful use of pilasters.

Concerning pedestals, he said, Vitruvius spoke of the stereobate, probably a plain block, and also of the stylobate, a continued pedestal, as at Tivoli and the *Maison Carrée*, at Nismes. He thought pedestals under detached columns inadmissible, though the Greeks and Romans used them in many instances, as in the Stoa, at Athens.

Of pediments Soane remarked, this important feature, originating from necessity, by its beautiful and impressive form becomes peculiarly interesting when classically and correctly introduced. The pediment, till the time of Julius Cæsar, who was allowed as a mark of respect to have one to his private house, had been confined to temples. The ordinary reason, given by Soane, for the greater elevation of Roman pediments than those used by the Greeks, Mr. Tite said he had never thought satisfactory. Pediments of the low pitch were found in parts of Greece where much rain fell.

Soane reprobated the use of pediments internally, considering that they represented the end of a roof, and thought if principles founded on reason and truth were to guide us, that more than one pediment should not be introduced in the same front: with the latter Mr. Tite did not agree, as the roofing of a large building might be so arranged as absolutely to require more.

The use of pediments inside the Pantheon was excusable, on the ground that it was an hyæpthral temple, and the openings needed *roofs* over them! It was remarked that the tympanum projects before the frieze in ancient examples, to shew the sculptures prominently. In the Louvre, Lord Spencer's house (Green-park), and Devonshire House, he considered the pediments badly introduced.

A balustrade he thought useful and beautiful, but it was never used with propriety except to flat roofs. Balustrades stopping against pediments were very objectionable. Balustrades in bridges seemed to want massiveness: the ancient bridges had solid parapets.

In speaking of the size of ancient structures, Sir John Soane said,—

"The Palace of Dioclesian at Spalatro occupied a space of between nine and ten acres, and contained apartments for the emperor, his officers, and attendants, also halls, and open spaces for exercise of different kinds; two temples of considerable dimensions added to the magnificence of this mighty edifice, of which enough remains to determine with tolerable accuracy the forms and dimensions of the principal apartments, and at the same time makes a most excellent commentary on part of Vitruvius.

The plans of this building, as well as those of the baths, are full of the most beautiful forms, ingeniously combined: the intricacy, elegance, variety, and taste in the disposition

of the several parts, can never be sufficiently appreciated: too much study cannot be given to these stupendous ruins.

The artist will be amply compensated for all his time bestowed on them, but it is *the plan only* that I am speaking of, for these buildings were chiefly constructed in the decline of art, when the ancient purity of decoration was scarcely felt; and although the munificence and example of Dioclesian revived the love and taste for architecture, and by forming artists capable of imitating with success the style and manner of a purer age, he thereby rendered it superior, under his immediate successors, to what it had been in his own time,—yet the decline of the art, and its struggles to preserve existence, are but too often visible in their works. The degradation of architecture now became most rapid, and in proportion as the other arts declined, they drew architecture along with them; and although many of the public buildings erected by the emperors, after the immediate successors of Dioclesian, were large and expensive, yet in general they had little more to recommend them."

The lecturer had then left this part of his subject, and proceeded to treat of obelisks and pyramids: the following, said Mr. Tite, are his own words:—

Obelisks and Pyramids.—Among the essential decorations of architecture, obelisks and pyramids have strong claims to the attention of the artist. Obelisks, which owe their origin to the Egyptians, were frequently of enormous dimensions; sometimes triangular, sometimes conical, but in general square at their bases, and gradually diminishing.

Obelisks, entering into the religious opinions of the Egyptians, were probably first used in the worship of the sun, to whom they were consecrated. According to Diodorus Siculus, Sesostris caused two immense obelisks to be raised in the city of Heliopolis, to decorate the entrance to the Temple of the Sun: they were similarly applied in the fronts of the great temples and palaces of the Egyptians. They were likewise used as historical monuments; but it does not appear that they were ever used by the Egyptians, as has been imagined, to embellish their sepulchral monuments, to which purpose, however, they were applied by the Romans afterwards.

Two obelisks of red granite, formerly in Heliopolis, were conveyed to Rome, and set up before the entrance into the Mausoleum of Augustus in the Campus Martius, one of which is now to be seen in the front of the church of Sta. Maria Maggiore, and the other at Monte Cavallo. In modern art, obelisks are frequently placed indiscriminately as decorations to various descriptions of buildings and other purposes. This would not be done if the text of Vitruvius was attended to, who tells us that the architect should be learned in history, well informed of the primitive destination and origin of things, and on all occasions able to trace every invention to its first principles and original cause.

We have already seen the column at different times twisted, rusticated, and tortured in different ways; nor has the obelisk, beautiful when seen in its simple form and placed in its proper situation, been treated with more attention; for at different periods and in different countries obelisks have had their cinctures and rusticated bandages, and have often been placed on various substructions.

Pliny speaks of an obelisk elevated on balls,—at Constantinople there is such an example, but we have no instance in antiquity of an obelisk placed on an upright pedestal, nor any reason to suppose that manner existed, except from a representation on a medal of unknown date, and by presuming that the pedestal near the fallen obelisk in the Campus Martius at Rome, was prepared and used in Egypt with the obelisk itself; but this last circumstance is by no means ascertained. The moderns have, however, taken uncommon latitude, and placed obelisks not only on pedestals of various descriptions in form and relative dimensions, but likewise on the summits of pyramids, and sometimes on the backs of animals; but notwithstanding the sanction of these examples, an obelisk injudiciously raised on an upright pedestal is contrary to the great principles of the architecture of the Egyptians, who placed their obelisks on the ground, or raised upon one or more steps or square plinths: this is consistent with the rest of their architecture, which is constantly declining from the upright; their apertures of every kind were diminished in like manner, and the walls of their buildings were likewise sloping, in order to give the greatest possible idea of duration.

The fountain in the Piazza Navona is the work of a bold and daring mind:—it is impossible not to be astonished and in some measure pleased with this mighty flight of genius. The placing an immense obelisk on an artificial rock, perforated with four large openings, was worthy of an artist—it produces that sort of mixed emotion in the mind, of pleasure and pain, not unlike the magical effect produced by viewing the spire of St. Dunstan's in the East, the justly celebrated piece of mechanism of Sir Christopher Wren.

Mr. Tite agreed with Soane in thinking a pedestal for an obelisk erroneous; the Egyptians placed them on two or three steps, and this was the right arrangement. The adoption of a pedestal for the Luxor obelisk in Paris was to be regretted. The mis-use made by moderns of pyramids was alluded to,—the gateway in Cobham Park by Wyatt, which is surmounted by a pyramid, and the entrance gate at Holkham by Kent, were instanced.

The fourth lecture traced the progress of architecture from the time of Constantine to that of the perfect development of pointed architecture. Soane was not fond of Gothic, and failed when he endeavoured to design in this style; the following portion of the lecture, however, shews that he could appreciate its beauties:—

"The word 'Gothic,' when applied to architecture, is used to distinguish the style that succeeded, and was, in fact, little more than a clumsy imitation of the different structures erected by the Romans in those countries which they had conquered; hence, after the entire subversion of the Roman empire, this style or manner of building became general throughout Europe. Thus, we find the early Saxon buildings were little more than rude copies of Roman works: and when the power of the Saxons gave way to the proud and expensive Normans, no material progress or improvement having been made in architecture, they retained in their buildings the Saxon manner in most of its essentials. The circular arch, round-headed windows and doors; massive pillars, with a kind of regular base and capital, the shafts sometimes plain, sometimes enclustered with small semi-columns, and at other times adorned with spiral grooves winding round, and net or lozenge work overspreading them; these, with the thick walls, small apertures, and other features of the early Saxon manner, were generally used until the twelfth century.

The great characteristic differences between the Saxon and Norman architecture may be traced in the quantity of ornaments, and in the increased magnitude of the buildings, particularly the churches: the latter were often so large, that their founders seldom did more than lay the foundation of the entire edifice and finish the east end, leaving the rest of the structure to be completed by their successors.

Hence arose those discordant mixtures of different styles and ages, in most of the Norman buildings.

The prodigious clumsiness of composition and gloominess of effect, so strongly marked in the Saxon and Norman edifice, cannot be attributed to a deficiency of mathematical or mechanical knowledge in the builders of those ages; there must have been other motives—probably very remote ones.

When Christianity first appeared, its votaries were compelled to perform their devotions secretly, in dark, subterraneous places—in the most retired and gloomy recesses. From these circumstances it may be concluded, when free permission was allowed to the public exercise of the sacred functions of Christianity, that even then, the primitive Christians, led by religious veneration, and respect for early habits, endeavoured to preserve, in their buildings above ground, much of the heaviness, gloom, and intricacy of the subterraneous sepulchres and concealed places wherein they at first had sheltered themselves, and exercised the rites and ceremonies of their religion.

It has been already observed, that the temples erected by the Hindûs and Egyptians to their divinities, and the dwellings for their families, were imitations of their former caverns and sombre retreats in the rocks and mountains. When the Greeks constructed buildings with stone and marble, they adhered as nearly as possible to a faithful imitation of their early works in timber. Now, if we suppose that our ancestors felt in the same manner, and admit that the style in which many of the early Christian churches were built originated in such feelings, too much praise cannot be given to the artists of those days for this kind of imitation: everything they aimed at was completely obtained; and if, in the blind bigotry of the dark ages, fear and terror were to be excited, and gloom and melancholy were mistaken for zeal and devotion, it did not lessen the merit of the builders of these sacred edifices, so admirably calculated to impress the beholder with awe and respect.

Subsequently, a style of building, totally different from that of the Saxons and Normans, became general, not only in this country, but throughout Europe. The windows, heretofore narrow and low, were then made wide and high, divided into various parts, and different ramifications; the solids were then as small as formerly they had been excessive; the round arch became pointed; the arch springing from an impost, or from the capital of a low pillar, entirely disappeared, and the large truncated shaft itself was now formed by a cluster of small columns, or divided into various parts by mouldings placed vertically on the pavement, and from thence continued uninterruptedly into the vaulted roof of the nave.

By these combinations a new and singular system of building was introduced, differing in its essentials from any other then known to exist, and producing, as it were, an entire revolution in architecture.

Some have attributed this invention to an imitation of an early custom of most nations of worshipping the Deity in sacred groves, and that, when constructed buildings were substituted for that purpose, pious men, of deep reflection and superior science, warmed by the contemplation and awful effects produced by the varied play of light and the deep tones of the shadows in groves of trees, were tempted to imitate those scenes of nature in buildings of stone. If such were their object, it must be admitted that they were as successful in this system as in the former.

To whatever causes the origin of this novel and imposing system is attributable, all agree that long avenues of trees of different growths, disposed in parallel lines and intersected by others at right angles, the branches meeting, and as it were crossing each other, always remind us of the nave, side aisles, transept, and other parts of a Gothic cathedral.

After all that has been written on this subject, it is very doubtful whether this new system of building originated with *us*, or was introduced into this country from the continent, where the minds of men seem to have been more directed to the improvement of architecture and scientific construction; and where a society was actually formed for these purposes, long before this new system of building was known in England.

This band of associated brothers kept to themselves all the laws and regulations of their proceedings; the members, divided into bodies or classes, travelled throughout Europe, building churches, monasteries, and other edifices. To keep their science to themselves, they dwelt in huts near the buildings on which they were engaged, and for the same reason they conversed with each other chiefly by signs, understood only by themselves: hence mankind, not having free access to the real source from whence this society derived their knowledge, know so little with certainty of the origin of this peculiar style of building.

This new manner of building was characterised in subsequent works by a lightness of

construction bordering on temerity, and in a blaze of crowded ornaments, the details of which resting on what is absolutely arbitrary, occasioned all the irregular whimsicality of form and capricious disposition so prevalent in the decorations of some of our later sacred buildings.

Although in structures raised after the Saxon and Norman manner, as well as in those erected with the pointed arch, we do not trace the elegant fancy of classical forms, nor the purity and chaste simplicity of Grecian invention, yet all must admit that our great cathedrals possess that combination of length and height, intricacy and solemnity, which are the great sources of true sublimity; nor will it be denied that the venerable grandeur of the exterior of the early works of the Saxons and Normans, are particularly calculated to increase the gloom and melancholy that entered so powerfully into the devotion or bigotry of monkish times, whilst the lighter and more elegant examples which followed, command no small portion of our consideration and admiration.

On entering Westminster Abbey, Salisbury Cathedral, and such edifices, can any person be deceived, or for an instant doubt, as to their destination? or fail to be impressed with their magnitude and solemn appearance?

The amazing extent, astonishing height, and interesting effects (produced by the continuity of the vaulted roofings and other parts of these buildings) create in every mind awe and respect to those whose piety, genius, and talent raised such characteristic structures—structures wherein the eye, unable to take in at one view all the different parts, wanders with inexpressible delight along the lofty nave, the extensive side aisles, the deep and unequal recesses of the transept, the choir, the sanctuary, the lady chapel, and when satiated with this rich banquet (and recovered from the delirium produced by such a blaze of effects), if the spectator places himself as on a pivot, in the centre of the space where the nave intercepts the transept, he then perceives all the astonishing variety, harmony, and grandeur of the different masses, the intricacy and movement of the whole assemblage, the play and contrast of light and shadow, together with the studied exclusion of all glaring lights. From these circumstances combined, he feels the full power of the awful and pleasing gloom which occasionally pervades every part of the sacred edifice, thrilling through his whole frame, and producing sentiments of the most elevated description, such as make him

> "Love the high embowed roof,
> With antick pillars, massy proof,
> And storied windows, richly dight,
> Casting a dim religious light."

If to this blaze of characteristic and fascinating scenery, we imagine the pavements in their original state covered with grave-plates of brass, richly ornamented with various devices, images of bishops, and other ecclesiastics—the whole is complete;—the warmest admirer of Grecian and Roman architecture, with its tessellated pavements and rich mosaics, will have pleasure in acknowledging the merits of such structures.

Gothic architecture, however happily adapted to religious purposes, is little calculated for the common habits of life: its thick walls, small windows, admitting light as it were by stealth, are more suited for Montezuma's house of affliction than for a modern habitation. The features and general character of this mode of building are not expressive of cheerfulness or comfort,—the fine dressed lawn with its enlivening rivulet—

> "The bank whereon the wild thyme blows,
> Where oxlip and the nodding violet grows,"

requires a different style of architecture; and, although in a grand, romantic, mountainous country, enriched with torrents, lakes, and rivers, castellated mansions—

> "with their ancient towers,
> And roofs embattled high"—

may bring back the recollection of ancient times, and make the spectator feel the pleasure of concordant emotions produced by the combination of such objects, yet even here, unless genius, taste, and feeling assist in designing edifices suitable to such situations, unless the architects have an intimate acquaintance with the several modifications and changes in the styles of different ages, their works will never interest the real admirers of that true legitimate Gothic architecture, which the young architect should study with the most serious attention, particularly for its grandeur of effect.

It has been said that those powerful and imposing effects, so visible in the exterior and interior of many of our Gothic cathedrals, *cannot* be obtained *by any other mode* of building. Those who instance St. Paul's Cathedral in proof of this assertion should recollect that a large portion of the solemnity and character, so justly admired in Gothic works, is produced by the studied exclusion of all glaring lights: in the Saxon and Norman buildings, by the smallness of the apertures, by the depth of light and shade; and, in buildings subsequently erected, by the admission of painted glass in the windows. Apply these principles to the interior of St. Paul's,—let the decorations as designed by Sir Christopher Wren be completed—let the windows be adorned with scriptural subjects, represented in deep and glowing colours, as in many of our Gothic cathedrals, and the walls decorated with the works of the painter and sculptor,—this done, I think we shall no more be told that those powerful and imposing effects so visible in the exterior and interior of many of our Gothic cathedrals *cannot* be obtained by any other manner of building;—but even this would not be a fair appeal to the powers of ancient classical architecture, for St. Paul's, with all its merits, has too many of the defects of the Italian churches to be compared with the sublime conceptions of Grecian architecture; and on this occasion it might be asked what examples we have in this country, of sufficient magnitude and correctness of composition, to give any adequate idea of those great and solemn effects produced by the successful exertion of Greek and Roman talent.

Can porches or porticoes of 2, 4, or 6 columns, of a few feet in height, or even the noble porticoes of the churches of St. Martin-in-the-Fields or St. George, Hanover-square, give even a faint idea of the grandeur of the Temple of Minerva, in the Acropolis of Athens,—of the portico of the Pantheon,—the Temple of Antoninus and Faustina, or the Maison Carrée at Nismes? Where are the buildings in this country capable of giving any adequate idea of the simple grandeur and solemn effect of the temples at Pæstum, or the awful and terrific sublimity of the temples at Segesta, Selinunti, and Agrigentum."

Mr. Tite said he was most anxious to do justice to Sir John Soane's opinions on Gothic architecture: it would, of course, be remembered that our knowledge of it was much greater now than it was when the Professor lived. In conclusion, the reader referred to the large number of poetical quotations with which Sir John Soane's lectures were strewed, and suggested that if students, when reading for amusement, would jot down any passages relating to their art, they would find such quotations not merely illustrative and interesting, but suggestive of novel combinations and picturesque effects.

CORNISH CHURCHES.

The churches of the county of Cornwall have been hitherto but little visited by the ecclesiologist, owing no doubt to the remoteness of the county, and to its being so seldom traversed; for, from its local peculiarity, it is as it were a *cul de sac*. Some jocular people have said that Cornwall is a place to which *missionaries* should be sent, and have, moreover, styled it "West Barbary," intending by these notions to express the idea of its being an unknown and distant region.

The above remarks will in some measure explain why its ecclesiastical architecture has been so little touched upon, to which may be added the difficulties in the way of perambulation, even when Cornwall is attained: for long and steep hills are not encouraging to a pedestrian, and the man who can compass 7 or 8 miles a day will find that he has had quite enough of walking for that day at least. The objects of his search will frequently lie away from the beaten track, and in keeping the high road he may stretch his eyes in vain to discern a church, for they are, with few exceptions, situated in the valleys. Unlike the counties of Northampton and Lincoln, one cannot say, that riding upon the top of a stage-coach, through Cornwall, a dozen of churches, far and near, may be counted at the same time. With a knowledge of these facts, it is not probable that any one would take an express journey thither for the sake alone of an antiquarian ramble; the writer has, however, had many opportunities of making leisure visits during several years past, and as the matters he has noted may excite an interest in the churches of Cornwall,—so different in appearance, materials, and construction to those of the more home counties, which are so well known to students of ecclesiology,—he ventures to impart them. There are nearly 200 churches in this county; and though the prevailing style is that of the perpendicular period, it must not be supposed that there are no examples of an earlier date: on the contrary, here and there, in some secluded parish church, vestiges of early antiquity are to be met with, sometimes appearing in the semi-circular arch and mouldings of the Norman period, and again, in another spot, revealing an entire fabric of the decorated, or of the early English age, and some historians assert that much Saxon work is to be found. Still these are exceptions to the general mass, and need not be dwelt upon, our object being to offer a few remarks upon those most prevailing.

Some of them are situated upon rising ground; such as are near the sea, stand as beacons on a hill, to guide the mariner in his passage up or down channel, and for this purpose their towers have been kept in repair by the Trinity House. One such instance exists in that of Lanlivery—a structure of lofty and handsome proportions. Those very near the coast, Talland and Feock for example, have their towers detached, in the manner of Italian campanile, when their connection with the body of the church would have prevented them being visible seaward. In these cases they leave the main building, and take up a more favourable position for their purpose, a benevolent one in two respects, namely, first, to guide the steps of the wayfaring man to the temple of God, and the other to warn the seafaring man from a dangerous rocky shore. In the case of Talland, the body of the church is placed in a dell formed by the cliff dropping rather abruptly on the landward side; out of this declivity the tower rises, having its lower part cut out of the solid rock, and rising from the hill in its upper stages as soon as the vertical tendency of the tower can leave the slope of the hill, so that to enter the belfry the hill must be partially ascended, when there is a door giving access thereto, and from thence a staircase becomes necessary to the summit, upon which, in former times, beacon lights were probably burned before the more complete system of lighthouses along the coast originated. These towers are almost always destitute of any architectural display, buttresses even being dispensed with; but to compensate for their absence the walls batter from the ground upwards, giving to the fabric a substantial and sturdy character. Where it is possible, a covered way has been constructed between the church and tower, as may be seen at Talland; but when the tower is farther up the hill, as at Feock, no connection whatever exists, and a stranger might suppose either that the tower was a thing of itself, or that the church was erected first and the tower afterwards; but this is not the fact, the age, character, and materials prove them to have been built at one and the same time.

The description given of these towers, as regards their architecture, must not be supposed to apply to all inland, or even to those which, though inland, act as landmarks to the seaman, for Lanlivery, as before stated, is a handsome structure, united to the church at the west end, divided into stages by moulded string courses, having windows of two and three lights for the belfry, and bell-chamber floors, with mullions and tracery, its corners strengthened by buttresses running up through a battlemented parapet, and terminating in crocketted pinnacles. Gurgoyles are also introduced; and, considering the coarse enduring

material of which the whole structure is composed, the decorative portions are most effectively sculptured. The last-mentioned example of a tower is by no means the ordinary one; Probus and St. Austle are both more highly ornamented with carving, and assume a different design, though of the same general outline, which for the most part reigns in the towers throughout the county. That of Probus reminds one of Magdalen College, Oxford, for harmony of proportions.

A spire is an uncommon feature in Cornish churches; indeed, from one end of the county to the other, the writer has not seen more than four, namely, at Sheviock, Menheniott, Lostwithiel, and Truro, but none of these are of any account except Lostwithiel, which is built of granite, and possesses much claim to attention for its design, a specimen of the Decorated period. This church is altogether worthy of remark as being one, amongst a few, earlier in date than the generality, which, as was before stated, is of the Perpendicular style.

One of the most remarkable objects, perhaps, in architectural construction, is a *granite church*—granite from the foundation up to the topmost pinnacle of the tower, including, in many cases, even the mullions and tracery of the windows. Is it possible? has often been asked, with something akin to incredulity, by those who never saw them; and it is indeed surprising to see such a material, coarse in texture, as it generally is in those parts, and of almost impracticable hardness, employed upon large structures, and in many instances with even delicacy of workmanship in the details. The country people call it "moor-stone." It commonly presents itself above ground on the sides and summits of hills, or upon the open moors so frequent in Cornwall; there is one valley, near Luxulyon, which abounds with it, exposed to view, and piled in mighty cubes one upon the other in succession, from which locality much has been taken of late years for works in the vicinity,—the grandest being a viaduct and aqueduct united, crossing the valley, and constructed by an enterprising gentleman connected with the mines in the neighbourhood: it is a monument of his skill and perseverance, and might stand beside those somewhat similar structures of ancient Rome without losing by the comparison.

The mode of procuring the moor-stone for building purposes is to blast these enormous blocks, and to square it upon the spot. The quality of the material varies with the locality: the coarsest specimens may most often be observed in the walling of churches; where moulded work occurs, a less rough-textured kind has been employed, though not always. The best sort is found in the neighbourhood of Penryn, of which many public edifices in Cornwall have recently been erected. At Place House, near Fowey, the seat of Mr. Treffry, that gentlemen has for several years past been engaged upon additions to the ancient mansion, a work of the time of Henry VIII., and upon which he has lavished time and expense in working and polishing various specimens of the natural production of the soil, and moulding it into forms suitable to the style of the building; and there may be seen granite and porphyry of every variety, the latter being used in the interior: it is of a yellowish tone, mottled with red, and has an exceedingly rich effect when polished—a process requiring much labour. It must not, however, be imagined that the ancient church-builders employed materials of such a nature; they appear to have been content with granite as they found it near the spot, and the general run of churches are constructed with that of the coarsest texture, such as may be seen, indeed, in London, on the roadway of Waterloo-bridge, forming the top coping of the balustrades and the pedestals for the lamps, and which it is believed is a production of the far west.

It is difficult to conceive how the ancient workmen contrived to shape this crystalline texture of rock into mullions and tracery; the modern masons, with all their improved system, say that great care is required to work with exactness any form requiring a sharp arris. Quartz, one of the components of granite, called by the stonecutter "horse-tooth," if touched too heavily with the tool flies off, and carries with it other portions sufficient to mar the labour of hours.

It is not very generally found, in examining a Cornish church narrowly, that tracery is formed of moor-stone; in some churches, near the centre of the county and towards the west, a stone found near St. Anstle, and known as Pentuan stone, has been employed. This is of a finer texture, though it is said to be a granitic formation, and very hard: many of the fonts, of which there are many of a curious and grotesque character about Cornwall, are got out of Pentuan stone: it is less grey than granite, and inclines to the tone of the oolite formation.

The tools made use of by Cornish masons of the present day for granite-work consist of chisels, from ½ an inch to 1½ inch in width; double-pointed picks, weighing from 6 lbs. to 18 lbs.; hammers, from 4 lbs. to 7 lbs.; and axes: the most modern and best axe is denominated the "tooth axe;" and by the aid of these various tools the work may be brought to an excellent finish, and the sharpest arrises produced, provided always that the quality of the material is of an even and comparatively smooth texture; but yet, with all this, granite requires three times as much labour as any freestone.

As an example of ancient workmanship, the tower of Probus Church is very remarkable. It was built, says Carew, who wrote in 1602, "within compasse of our remembrance," probably in the reign of Queen Elizabeth. It is 108 feet high, divided into stages, each stage being ornamented with a string course of quatrefoils; the faces of the tower are niched with great taste and delicacy, and the pinnacles crocketted with much excellence. There is a singular tradition connected with this tower, which holds much among the lower classes of the neighbourhood, to the effect that their beautiful tower was transplanted by the "old gentleman" from the parish church of Truro, (to which they say it originally belonged,) in a fit of spleen with the people of that town! It may be noticed, that the body of Truro church is much enriched with carving of a somewhat similar character to that of Probus tower, whilst the tower of the former church is very bald and inappropriate, and the body of Probus Church is very unworthy of its tower. Truro Church, however, is built of a stone called "Elvin," which has decomposed greatly, and Probus tower of granite, as fresh in outline as on the day of its erection. There is no doubt that this tower was rebuilt about the period before mentioned, whilst the body of the church remained in its pristine state.

Other examples are to be found of equally elaborate workmanship: one such is the church at Launceston, rudely and profusely sculptured, it is true, but serving to testify the perseverance of the early builders. For the most part, however, ornamental work partakes of the simplest forms, such as mere plain chamfers in the mullions, and little approach to what is termed undercutting in the mouldings of string courses and capitals.

On approaching the south-western portion of the county, namely, that in the immediate neighbourhood of the Lizard, a still more remarkable appearance is presented by the churches which are built of the serpentine rock abounding there, and if the edifices of the eastern part wear a dull grey aspect, how strange is the sight of a totally *black* church. The predominant colour of serpentine is dark green, bottle-green, but it is interspersed with small red and white veins, and the exteriors of churches being always moist from the mists, so prevalent in Cornwall, assume a coal-black tone, except, of course, in the jointings of the masonry, where the mortar being very wide and white, contrasts with the stone, and these churches, on a close inspection, have a striped zebra-looking effect. Serpentine is very brittle, and difficult to work without fracturing, and has hitherto been deemed almost useless for any important purpose; ornamental trifles as curiosities are turned and polished by rude lapidaries, established in the vicinity, and sold to visitors. On account of its unmanageableness under the tool, the pinnacles, or any portions of the churches which required ornament or moulded forms, are extremely rude and shapeless, degenerating into mere knobs.

Lostwithiel Church (already mentioned as one of the few possessing a spire) has little granite in its construction except the spire, the quoins, and the moulded parts. The rest is built as the people now build fences, with a clayey slate, which is easily split, and is dug out of the hill sides in many parts. This material is used in random sizes, and much mortar is needed; but it presents a substantial face, and seems indestructible, if one may judge by this church and the ancient castle of Restormel, close at hand, which latter had the honour of an inspection by her Majesty and her court on the occasion of her recent visit to Cornwall. The spire of this church being singular, a description may not be out of place. From the termination of the tower rises an octagonal lantern, each side of which is carried up into a gable, and has a pointed opening divided by a centre mullion, which is crossed by transoms forming two squares, filled in with quatrefoil and circular tracery; and above the pointed openings the plain faces of the gables have trefoil perforations; from the bases of the gables springs the spire, also octangular, having small gabled spire lights on four of its faces, and the whole is terminated with a ball and cross of granite, like the rest of the structure. It is also worthy of remark, that the planes of the spire swell from its springing upwards, to a very visible extent; and the result of this peculiarity is by no means unfavourable. There seems to be no reason why spires, particularly plain broaches, should not follow this rule. They often appear too sharp and weak: in the more decorated examples this is not so apparent, especially where tiers of spire-lights are employed, or where the angles are merely crocketted, as these features destroy the straight lines. In every other structure partaking of aspiring lines, such as columns, &c., the entasis has been adopted with a view of rendering them less obnoxious to the feeling of want of strength and substance which would otherwise ensue.

The spire where it leaves the lantern is enormously substantial, of granite at least 18 inches thick, and apparently so continuing; and in addition there is a pointed arch of rough masonry springing from two of its interior sides, meeting a similar arch, and forming, as it were, ribs for groining, but the spaces are not filled in, so that the interior of the spire can be seen beyond them. These arches occur at a height corresponding with the top of the lantern, but what their utility is in such otherwise massive construction is difficult to say. There can be no tie produced even had any been required.

Slate, of which there are many quarries, the most celebrated being the Delabole quarry, situated in the northern part of the county, is the universal covering of church roofs. In colour it is a dull blue, which, united with the grey hue of the granite, produces an *ensemble* anything but picturesque. When the roofs require pointing, it is generally done with white mortar, and that not in the neatest manner,—thus adding to the unsightliness.

Some of the most spacious churches are those of Liskeard, St. Neot's, Bodmin, St. Mabyn, Lostwithiel, Lanlivery, Fowey, St. Austle, Probus, Truro, and Helstone. The common interior arrangement consists of a nave, aisles, south porch, and tower. The chancels are not generally indicated by a chancel arch, or any boundary dividing them from the nave, but rood-screens of carved wood were universal in early times, as may be proved by the remains existing in almost every church, hidden under the modern seats, or cased over to form pews. They were in every case richly painted and gilt, but few perfect examples remain; there are good specimens still to be seen at St. Winnow, on the Fowey river, and at Talland. The ceilings of porches are sometimes formed by flat groined arches of granite, and at others are mere timber work open to the rafters. The aisles are divided from the nave by clustered columns of granite, with caps and bases rudely sculptured, without mouldings to the caps, but usually of the simplest fashion, spreading from a neck moulding to catch the springing of the low four-centered arch with plain splays; and a few feet above the crown thereof, the ceiling commences, which is very often of the kind known as a cradle roof springing from a wooden cornice, upon which is carved in repetition some invocation to the patron saint, or the name of the artist, together with the date of the goodly work; the carvings on the bosses at the intersections of the longi-

tudinal and transverse ribs are generally excellent. These roofs are ceiled in the compartments formed by the ribs so as to allow a good projection for the woodwork before the face of the whited plaster. Where this description of ceiling is found in preservation it produces a very agreeable effect. Judging by the fragments of carved woodwork which exist, the craftsmen must have been very expert. There are some admirable specimens of bench ends still standing in their ancient positions at Talland, bearing witness to invention and skill, though dating late in the perpendicular period, and underneath the modern seats in Lanlivery church may be found fragments of former benches and stall ends, upon which are shields bearing emblems of our Saviour's cross and passion.

Of painted glass there is little to be seen; the wide three and four light windows pour in floods of untempered light which shed upon the usually whited walls, produces a cold and cheerless effect. The glory of the whole county in this respect seems to have been preserved in one treasure house alone,—the church of St. Neot, near Liskeard, supposed to be of the date of the latter end of the fifteenth century,—from which, if only one window were given to as many churches as it could afford to bestow, each would be rich indeed. There are sixteen large three and four light windows in all, presenting a most effulgent display of ancient art: not a particle of plain glass is visible throughout the series, which consist of subjects from the events in the life of Saint Neot and of our Saviour, with earlier incidents from the Old Testament. Each window has been the gift of some one or more pious parishioners, as is evident by the inscriptions they bear. One is to the following effect:—"Erected at the cost of the young women of St. Neot's parish, A.D. 1529." Another:—"This glass window erected at the cost of the wives of the west side of this parish of St. Neot, A.D. 1530." The styles, however, vary from early English to late Perpendicular. Those who take delight in this species of decoration, will here find abundance to interest them, and be repaid for a journey thither. This secluded sanctuary hidden among the hills, escaped the puritanical warfare of Cromwell's fanatics, when they went the round of destruction against these "superstitious things." The Rev. R. G. Grylls, the late patron, caused the whole to be repaired some twenty years since, under the direction of Mr. Hedgland, of London. The church altogether is well cared for, which it must be regretted cannot be said of all the Cornish churches. The people, celebrated at all times for loyalty, boast much of a copy of a letter from King Charles I., dated from his camp, at Sudeley Castle, the 10th September, 1643, which is painted upon a large tablet, and hung up in many churches, acknowledging "their zeal for the defence of his person, and the just right of the crown, &c."

While upon the subject of painted glass, it may be mentioned as a gratifying instance of its employment to perpetuate the memory of the departed, that a window has lately been put up in Lostwithiel Church, in Williment's best style, representing Faith, Hope, and Charity, each figure occupying one of the lights, and other windows in the same church, though not of such good character as that described, have been placed there by the present vicar, the Rev. John Bower. If this sort of decorative memorial were more generally adopted, how many churches would be improved!

In monuments and brasses the county is remarkably deficient; of the latter, but few have come under the writer's observation. Lostwithiel possesses one to Sir Tristam Curteys, a small full-length effigy of an armed knight, apparently of the time of Edward III., without any inscription. Fowey Church has also two or three, not of remarkable character, and there is one of about Elizabeth's time in Ruan Minor Church, in good preservation, representing James Erissy, and Margaret his wife, kneeling *vis-a-vis*. The usual memorials are incised slabs of slate, and stone occasionally, but most frequently the former, from its greater abundance. These slabs are exceedingly well cut, and have worn perhaps as well as brass would have done. Some are of early date; one of stone, in Lanlivery Church, to the memory of Walter Kendall, who died in 1547, has a Latin inscription, and cross engraved, which is as plain and legible as when first executed, though three centuries have elapsed; the size of the stone is 6 feet by 2 feet 6 inches. Many elaborate Elizabethan altar-tombs, with effigies in high relief, are composed of slate; one may be seen at the east end of Talland Church, in memory of one John Bevyll. The common tombstones are also of slate of great thickness.

It is to be regretted that the churches, for the most part, wear a desolate and neglected aspect, though there are happy exceptions, where means have been taken to prevent the damp, which arises from an accumulation of earth against the walls on the outside, from penetrating through the wide mortar joints, rendering the walls on the inside green and slimy. The exhalations borne from the sea from one side to the other of the narrow peninsula make the atmosphere almost always humid, and from want of proper ventilation, the churches in some districts are generally in a profuse perspiration, rendering them unwholesome and cheerless. Of late years some zealous people have done much in the way of restoring their churches to their pristine beauty, by causing the whitewash of ages to be picked from the moorstone columns and arches—a labour, I am informed, which required some perseverance, so thickly had it been laid on by their predecessors. On the outside, neither the hand of man, nor the relentless fingers of time have been permitted to make much impression upon these "eternal walls," and, notwithstanding what has been said deprecatory of neglect, there is much that is worthy of admiration about a Cornish church standing in its massive grandeur, built of the oldest geological formation (as far as we know), whose rugged texture and almost adamantine nature render its employment for the purposes of man a laborious work. Unlike the freestones in every respect, the saw cannot touch its crystalline composition, so that, what that implement effects so easily for them can be effected in the case of granite only by patient and careful picking with a hammer. It may be well said of those that raised these structures, that "they dreamed not of a perishable home, who thus could build," and that they thought only of Him whose glory they were seeking to show forth, and had before their minds that House, "not made with hands," and which they hoped, by their zeal and piety, to inherit—that House, "whose builder and maker is God." H. H.

THE OPERATIVES ABROAD.

They are, indeed, very much *abroad;* and our earnest hope is, that they may speedily find the right road. In Prussia the labour question gives great uneasiness: 4,000 unemployed men are maintained daily. A new Minister of Industry and Public Works has been appointed, whose duty will be to attend to the organization of labour.——According to the *Morning Herald*, a body of the workmen employed at Cologne Cathedral marched in procession through the streets to the house of the architect, and demanded that the workmen who were not inhabitants of Cologne should be dismissed. The architect pointed out to them that the money employed in the erection of the cathedral was contributed from all parts of Germany, and that it would be unfair to the donors not to give employment to all who came. The men were satisfied with this explanation.——In Mayence they dictate who shall, and shall not, be employed. All the windows in a house occupied by an architect, named Lothori, who employs several hundreds of operatives, were broken, because he would not employ a certain set of men.——Throughout Germany the dismissal of operatives by manufacturers, whose trade is stopped by the insecurity which prevails, is going on to an enormous extent.——In Paris, the question is more involved than ever. We read in the *Presse*—"It is believed that the ateliers of the national workmen will amount to 75,000 individuals before the end of the month of April; and, at the rate of 1f. 50c. per day, they will cause an expense of 112,500f. per day, or 3,375,000f. per month. It appears that M. Louis Blanc and M. Emilie Thomas have themselves allowed that it will be impossible for the State to continue such expenses, unless the works undertaken be really useful and profitable. Vast workshops, for all kinds of trades, are to be immediately organised."——The *Birmingham Journal* of last week, speaking of the abolition of middlemen, says—"In Paris and its vicinity, there is a great amount of domestic manufactures—artificial flowers, millinery, *marquetterie*, &c., &c. Each person pursues one of these trades in his or her apartment; having no shop or warehouse, the produce cannot be brought into direct contact with the consumer; it would be the work of one day to dispose of the productions of the preceding. Suppose fifty persons so engaged in production, it would be a loss of fifty days' work every time that a sale was effected. The *entrepreneur* who knew the domiciles of all these workmen, went round and purchased the articles as produced, and conveyed them to the customers. The highest calculation we have ever seen, gives the daily profits of an *enterpreneur* as equal to five days' wages of a workman. But take it at ten: the *enterpreneur* takes the value of ten days' wages from the fifty producers, but he gives them the opportunity of earning forty days' wages in return; and yet there are men who tell us that the existence of *entrepreneurs* was a grievous injury to workmen."——The *Charivari*, commenting on M. Louis Blanc's statement, that "the moment when all French workmen should receive an equal retribution for their labours, he would himself accept the maximum proposed—five francs per day—and would not ask for a centime more," says, "Nor I neither, although I am no communist; nay, more, if we be all limited to sixteenpence per day, I will accept my sixteenpence without a murmur, and I shall pledge myself not to spend the whole of it. If it be necessary I shall even eat brown bread and black radishes, in order that I save my fivepence per day, until I shall have amassed a couple of pounds, which will enable me to take a place in whatever diligence may exist at that date, and fly to another country, in which, in earning my sixteenpence a day, I shall enjoy liberty." And, in saying this, the *Charivari* points out what is an inevitable consequence.

COMPETITION DESIGNS FOR ENLARGING THE WORKHOUSE OF ST. PANCRAS PARISH.

The instructions required a new infirmary for the reception of 120 males, forming part of a building which was further to accommodate 600 adult males, with dining-hall for about 800, and cooking apparatus for the whole establishment, &c.

Fourteen sets of drawings were sent in, distinguished by various mottoes or marks, and these were all referred to the surveyor to prepare a tabular abstract of several important particulars in regard to quantities, conveniences, expenditure, &c.; the result of which is rather curious, viz:—

	Sq. feet.	Sq. feet.
The area to be covered by buildings ranges from....	43,012 to	106,493
The cubical contents of buildings	558,403 ,,	1,606,882
The estimate of total cost ..	£8,500 ,,	£13,678
Giving the rate per foot cube	2d. 3-8ths ,,	4d.
	Ft. In.	Ft. In.
Space for each bed in the infirmary	34 0 ,,	51 0
Ditto in main building.....	16 4 ,,	46 11
Area of the dining-hall.....	2,790 0 ,,	7,000 0
Space for each person in ditto	3 6 ,,	8 9

According to our informant, the plans underwent a long and careful examination by a large committee of vestrymen, who at length determined unanimously in favour of the design of Messrs. Allom and Crosse, whose estimate was 9,500*l.*

A premium of 80*l.* was offered in the event of the successful architect not being employed to carry the building into effect, a point which is not yet determined.

Observations on the Economy of the Public Health. By George Lloyd, M.D. Renshaw, Strand. 1848. (Pamphlet.)—This is a clear and comprehensive summary of the various sanitarial topics which now engage the public mind.

TOWER OF TITCHMARSH CHURCH, NORTHAMPTONSHIRE.



TITCHMARSH CHURCH, NORTHAMPTONSHIRE.

With reference to a notice of some of the Northamptonshire churches, which appeared in our pages, a correspondent pointed attention to the church in the parish of Titchmarsh, as possessing a tower of considerable beauty. In consequence of this, Professor Donaldson was kind enough to forward to us a large drawing of the latter, made by himself for the purposes of his lectures at the University, and from this the annexed engraving has been made.

The tower stands at the west end of the church, and is a good specimen of perpendicular work, belonging to the fifteenth century. There is, apparently, a staircase within the tower, on the south side, and the principal window is unceremoniously pushed on one side to give room for it. The string courses and the termination of the tower are exceedingly elegant.

The church is dedicated to the Holy Trinity and consists of nave with north and south aisles, chancel with chapel on the north side, and a north transept. The dimensions may be stated as,—nave, including aisles, 52 feet wide and 50 feet long (east to west); chancel 44 feet long and 19 feet wide. It is memorable as the resting-place of immortal John Dryden, the poet, to whom there is a monument in the chapel. The parish is very small.

OPEN TIMBER ROOFS.

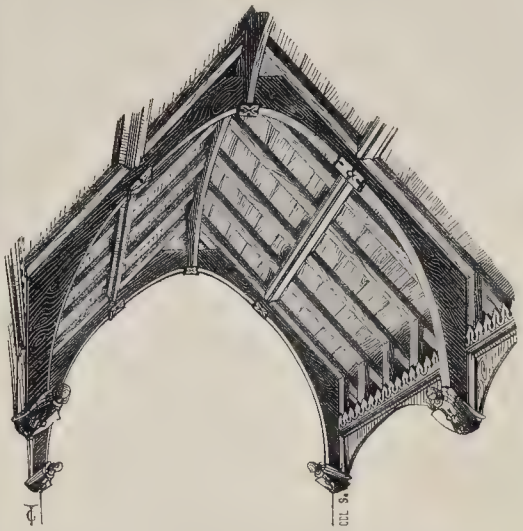


Fig. 1.—NAVE ROOF, BROOKE CHURCH, NORFOLK.



Fig. 2.—AISLE ROOF, EAST WINCH CHURCH, NORFOLK.

OPEN TIMBER ROOFS.

Annexed we give two examples of ancient timber roofs, cheap, simple, and applicable. Fig. 1 is from the nave of Brooke Church (St. Peter's), seven miles south-east from Norwich: it belongs, as our readers will see, to the Perpendicular period.

Fig. 2 shews part of the aisle roof in the nave of All Saints Church, East Winch, five miles south-east from Lynn, Norfolk.

THE NEW SOCIETY OF PAINTERS IN WATER COLOURS.

The members of this society, well aware of the loss they have sustained by the desertion of four of their principal co-adjutors, have exerted themselves, and with so happy a result, that the absence of these artists is hardly perceptible. Indeed, regarded as a whole, the exhibition equals, if not surpasses, any preceding one. This is saying a great deal, when the perfection that was attained by Messrs. Duncan, Topham, and Dodgson, in their several departments, is taken into consideration.

There is a charm about water-colour drawings that is better appreciated by the mass than those performances that are aided by its more generous rival—oil. One proof of this is found in the fact, that upwards of 600*l.* worth of drawings were sold here on the day of the private view.

The first pictures, from their merit, are those contributed by Messrs. Wehnert and Haghe. Never was there anything finer than parts of the first gentleman's "Murillo discovering his mulatto slave, Sebastian Gomez, at work" (127). The earnestness with which he seems to pursue his labour of love is admirable; the colour and effect (lamplight) of the whole is beautiful, and for truth of texture (take for instance the chalk drawings scattered on the floor, and in fact any part of the picture), this certainly is the *chef d'œuvre* of the artist.

Another, "A Light Burthen" (332), is a pleasing performance. The female figure is beautifully drawn; the male figure is not so satisfactory, as it wants drawing and strength about the arms and legs.

320. "Michaelangelo attending on his Sick Servant, Urbino," is one of Mr. Haghe's most powerfully-conceived and executed pictures, combining the force of oil with the delicacy of water: a certain solemn neutrality of colour that this artist is fond of, assists materially in giving grandeur to such subjects. The mingled pain and affection with which the servant regards his master is exquisitely rendered. It is in truth a most covetable picture.

A wonderful work for chiaro-scuro is (73) "Capuchin Monks at Matins." The management of the light on the heads of the monks (whose diversity of character is astonishing), and the tone that pervades the whole, are worthy of Rembrandt in his best days.

236. "Chaffoir in the Town-hall, Mons." An exquisite interior, by the same, calls for and repays careful attention.

Mr. Warren contributes one of his usual desert scenes, "The Return of Pilgrims from Mecca" (99), abounding in beautiful incident and nicely executed passages; the only fault is some want of connection and point whereon to concentrate interest. "The Seven Ages of Woman" (393), by the same artist, is even preferable to it. In elaborate execution and purity of colour, it reminds one forcibly of illuminations of an old MS.; some of the compartments are particularly sweet,—*infancy, presentation,* for instance,—while others are powerful, approaching the grand, such as *the matron* and *old age.* The bordering is somewhat too ostentatious, as it interferes materially with the picture, and causes delicacy to appear weakness.

Mr. Corbould exhibits several specimens of doubly-refined nature. This gentleman's notions of female beauty are almost too elegant; his rustics smell of fashionable scents, wear crinoline, wash in rose-water, and have never seen the sun. Nevertheless, few can draw with so much precision and knowledge of graceful lines, even if carried towards pedantry. The chasteness and simplicity exemplified in (11) "The Lily of the Valley" and its pendant (342) "The Water-lily," will sufficiently excuse any minor failings. The female figure in his picture of "Julian Peveril taking leave of his Hostess" is exquisitely drawn." Two nice little companion pictures by this artist will repay examination, "Just Wait" (211) and "Over Weight" (183).

Miss S. Setchel, whose "Momentous Question" excited no little *furore* two or three years back, has produced a picture that amply sustains her well-earned reputation, illustrating "And ye shall Walk in Silk Attire," beautifully rendered, the colours powerful and pure: a little more finish about the girl's head would improve it. It certainly is one of the most powerful contributions to the exhibition, and excites a wish that the fair painter's name were, not better known, but appended to many other performances.

Mr. Vacher, who has evidently spent much time, and not fruitlessly, in the sunny south, condenses a number of elaborate sketches, and produces a large drawing of "Venice," under the effect of morning, noon, and evening. Great praise is due to the industry and perseverance obvious in this performance, admirable for its truth. More force and less confusion in the centre compartment would much enhance the effect of the picture. Several smaller drawings, by the same clever artist, are highly commendable for truth and definition of detail.

Two nice drawings by Mr. H. P. Riviere, "Arch of Drusus" (79), and "A View of St. Peter's, Rome" (101), clearly denote, that devoting himself to this style would bring him into favourable reputation sooner than his "Two Marys at the Sepulchre" (253), however great the improvement may be upon any of his preceding embodiments of Scriptural subjects.

(110), from "The Rape of the Lock," a very nice drawing, by Mr. Charles Weigall, nice in colour. Refinement about the female figures, especially about the head and hands of the principal, would improve this, nevertheless great improvement on anything yet exhibited by this gentleman.

Miss Egerton's ambitious attempt deserves commendation, (329) "Vivia perpetua," (276) "Madonna Laura" is a nice impersonation of Petrarch's divinity.

Mr. Davidson is undoubtedly a great acquisition; some of his contributions are quite beautiful; the freshness of his foliage is particularly refreshing. "A Country Village" (120), "Earlswood Common" (132), and several sketches from nature, are very fine.

Mr. Absolon has not come out quite so forcibly as usual; his large picture (305), from Tristram Shandy, is weak, compared to former performances, but, nevertheless, possesses great merit.

Another addition and acquisition is Mr. Carrick, some of his productions promising even better things than they shew; a certain slatiness pervades the whole of his pictures, which is disagreeable to the eye: (156) "The Reiver's

Rest," (85) "The Wounded Cateran," have several fine points about them.

"Leah" (187), and "Rachael" (206), are two nice drawings by Messrs. F. Corbaux.

"A Prayer for the Absent" (240), W. Lee, is an obvious improvement upon last year's contributions; timidity is the cause of a disagreeable softness in this drawing; a certain desire to finish highly deters this artist from doing better things.

To criticise every picture that deserved praise, would be to begin from the beginning and go to the end, as there are no decidedly bad pictures amongst the collection. We must content ourselves with saying that the additions are acquisitions to the society, and that Maplestone, Callow, Howse, the incomparable Mrs. Mary Margetts, F. Rochard, Collingwood, Lindsay, Fahey, Penley, Telbin, Mole (whose productions remind one of Collins), Miss Steers, Campion, McKewan, D'Egville, &c., maintain their reputation by what they here exhibit.

FREEMASONS OF THE CHURCH.

LANDAFF CROSS.

April 11.—Sir Walter James, Bart, V.P., in the chair.

Mr. R. Williams read the following communication from Dr. Conybeare on the Landaff Cross. The older parts of the Landaff Cross, viz., its lower limb, and the work forming the base into which it is inscribed, are from the sandstone grits of the neighbouring coal-field, and may have been quarried from the mountain called the Gorth, within four miles. The materials with which it was restored about fourteen years ago by the Rev. James Evans, viz., the upper arms of the cross and the steps at its base, are from the same rocks. These grits being intermingled with dark coaly particles, give a dusky and somewhat greenish hue to the mass. The *greenstone*, so called by geologists, is a peculiar and very different rock, consisting of horneblende (a dark mineral) and felspar, but the intermixture of dark and pale grains causes the colour in both instances. I do not think it probable that the mediæval monks would have availed themselves of a Druidical stone for the base of their cross; they would rather have repudiated it as magical and abominable.

Druidical monuments in this part of Wales are uniformly composed of the stone of the immediate neighbourhood; *e. g.*, at Dyffign Golych (the Vale of Worship), in the parish of St. Nicholas, six miles from Cardiff, on the Swansea-road, are two fine cromlechs, composed of the magnesian conglomerate limestone, which forms the prevailing substratum close around. The great circles of trilithons, at Stonehenge, are likewise composed of masses of conglomerated sand, from the sand above the chalk, which are scattered in many places over the surface of the Salisbury Downs around, and called "Grey Weathers" by the peasants of the neighbourhood.

Mr. E. B. Price then read a paper "On some Roman Antiquities found in Bath," a portion of which we give in full elsewhere.

Upon the suggestion of the chairman it was resolved, "That Mr. Price be requested to put himself into communication with Mr. James Wilson, a corresponding member of the society, resident in the city of Bath, and request him to inform the next meeting whether there be any possibility of rescuing the collection of Roman and other antiquities in the museum of that city from the state of apparent neglect into which they have fallen."

Mr. Stothard directed the attention of the meeting to excavations commenced in September last near St. Alban's, which had brought to light the foundations of a Roman theatre, which he considered, as far as they had been laid open, one of the most interesting discoveries of the present day. Mr. Stothard exhibited large drawings and sections of it, and explained them to the meeting, and referred to the various measurements which he had taken.

The Polytechnic Institution was re-opened for *private* view (to many hundreds of persons) on Wednesday evening, and all the resources of the very admirable new theatre, recently described by us, were brought into operation.

THE BATH MUSEUM OF ANTIQUITIES.

With respect to Roman antiquities, perhaps few cities in England could have produced a finer collection than Bath, if its citizens cared about such matters; but, judging from a recent visit to the place, Bath antiquaries appear to be but very few and difficult to find out. The museum attached to the Literary Institution, albeit rich in its library and its collection of natural history and geology, betrays much apathy in respect to its antiquarian department. One small room is devoted to the remains of an immense temple, discovered nearly a century ago. In another room, on the mantelpiece, are some specimens of Roman pottery, lamps, and articles in bronze, while the hall, or rather the passage, entered from the street, is occupied with some of the many interesting sepulchral monuments which were discovered many years ago in digging in the city. Several other equally interesting Roman sculptures and tablets would have been unseen by me, had I not hazarded the conjecture that there *must* be something beyond what I had seen. It ultimately turned out that some things were kept below, but were very dirty and difficult to get at—a statement I found to be perfectly true. I may remark, that the exhibition of the museum is the department of the porter, and if he happens to be out upon the business of the institution during the time the museum is open—say from ten to four—the visitor may experience much disappointment and waste of time.

After some few difficulties had been surmounted, I was led down into what, I presume, was intended by the architect for a back kitchen. Here everything betrayed a state of the most admired disorder. There were several Roman sepulchral stones let into the wall (one of them particularly curious, and I am doubtful if published), fragments of sculpture, plaster casts, heaps of books, manuscripts, canvas screens, bills of parcels, encaustic tiles, fragments of Roman amphoræ, mortaria, tesselated pavement, Saman ware, and I know not what else, nearly filled the room, forming the most chaotic, indescribable confusion, and rendering it an enterprise of some daring, as well to create a footpath as to attempt anything like a *seriatim* examination. The most interesting object to me was the sculpture alluded to, and of which I could only obtain a glimpse, it being almost concealed by sundry heavy screens and framework, the removal of which seemed a work of impossibility without the contingency of a broken head.

Being single-handed (for my guide, after depositing me in the subterraneous museum, had left me alone in my glory), I employed myself in turning out and examining two boxes of Roman pottery, which I understood had probably not been disturbed for fifteen years. Verily, the state I found them in favoured the assertion. So with a large collection of the most curious encaustic church tiles I ever saw, and which I drew *seriatim* from a dark and dirty corner, almost concealed by a ponderous cast of the gigantic head and shoulders of a Jupiter or Hercules, which leaned against the wall as if in utter hopelessness at the surrounding chaos. These curious tiles are probably from the Abbey church, but I believe nobody knows, and I am quite sure nobody cares. In justice to the Literary Institution, I must state, that the large and valuable collection of books, together with the papers and some articles of domestic furniture, which lie commingled together all over the room, belong not to that body, but to some gentleman who has had leave and license to deposit them there—for what period I know not—but, from the state they are in, it is only a fair inference to suppose they are deemed, like everything else in the room, mere lumber. My exertions to find a Bath antiquary were at length crowned with success. I found, in the person of Mr. Harris, one who was in possession of numerous relics, collected by himself and his father, all illustrative of the Roman occupancy of Bath, such as coins, fibulæ, armlets, lachrymatories, Roman pottery, &c., &c., all of which were freely and courteously exhibited to me.

E. B. Price.

Competition.—Plans and estimates have been advertised for an hospital for small-pox and vaccination: premiums, 150*l*, 100*l*., and 50*l*.

THE FREE EXHIBITION OF MODERN ART.

The members of this association have made a good beginning, in spite of many difficulties incident to new organizations, as the public will be able to see on Monday. The private view occurred too late in the week for us to do more than glance round the room without a catalogue, and mention hastily some few of the pictures, reserving our remarks on the undertaking for some future opportunity.

Amongst the contributions, Mr. Corbould's last Westminster-hall picture holds a prominent situation. The more we see of this, the greater is our surprise that he was not amongst the successful competitors: the power shewn over the material is wonderful, for one so unused to it.

Mr. Ford Maddox Brown, of cartoon celebrity, has employed his time and talents with a happy result, and has produced a picture of "Wicliff reading the Bible," which exhibits much thought with considerable academical perfection: great taste is apparent in the costume, and some of the episodes are charming; for instance—the mother, with the sleeping child in her lap. The style is singular, but agreeable; the picture, as a whole, of extraordinary excellence.

Mr. Nieman has progressed decidedly since last before the public: were it not for a disagreeable preponderance of positive green, his landscapes might be pronounced capital.

Mr. R. S. Lauder contributes four or five pictures, as good, if not better than any we remember by him. "Sir Walter Scott visiting Shakspeare's Tomb" is excellent in colour; the landscape, seen through the window, is well painted. A kneeling female figure, with a child in her arms, is likewise charming in colour and feeling. Some heads, the size of life, have qualities not often surpassed in a modern exhibition.

"A Scene from the Tempest," by the brother Lauder, exceeds the generality of his performances.

Mr. and Mrs. MacIan contribute some old friends, but not the less admirable from acquaintance. We wish for time to say more.

Mr. Dicksee's "Sophia Weston" is a delicate bit of genre painting, agreeable in style and texture. A clever head of Touchstone calls for notice also.—Mr. Oliver contributes some charming continental transcripts, fresh and crisp.—The home scenery of the Messrs. Williams and Percy are always welcome. Some beautiful bits by the latter do not fall short of the highest walk. The animal painting of Mr. A. Corbould shows power of execution; and a small portrait of a gentleman is a sufficient guarantee that his talents are not confined to that particular branch. Mr. Pasmore shows favourably also in some productions of the former class.

Mr. Hulme, well known by some of the first and finest specimens of stump lithography and drawings on wood, exhibits a large landscape, remarkably broad and forcible in colour; two smaller productions also set forth his knowledge of light and shade to great advantage.—Mr. Wingfield contributes a number of his Hampton Court and garden subjects, more or less meritorious. Mr. Buss, Mrs. Robertson, Middleton, Aglio, sen., Scott, Blakely, Christie, Elliot, with many others, exhibit.

A picture by Mr. Dukes, from the "Gentle Shepherd," is the best picture he has yet painted, nicely subdued, yet full of colour and effect. The pearly tints about the flesh, and a chasteness of tone, generally, deserve praise.

The contributions of Mr. Rayner, who is well known from his water-colour drawings, exhibit power and freedom of execution.

Amongst the water-colours is Mr. E. Corbould's "Ancient Britons Watching the Departure of the Last Roman Legion," and some studies of "Savoyard Boys," well executed by Miss Rayner.

A large cartoon, with some smaller ones, by Mr. J. Z. Bell, deserves examination.

The Art-Union of London.—The annual meeting of the subscribers, to receive the report and distribute the amount subscribed, will be held in Drury-lane Theatre, on Tuesday next, when the Duke of Cambridge will take the chair. We shall give the report in full, and a list of *all the prize-holders*.

WORKS IN CHESTER CATHEDRAL.

A CORRESPONDENT, writing from Chester on the works which have been going on for some time past in the cathedral, says the choir has been restored and rearranged; the ceiling, which had never been finished, has been groined; the old sittings have been replaced with substantial oak fittings, with solid bench ends; the unsightly galleries which disfigured the choir have all been swept away; the floors have been relaid, partly with black and white marble, and partly with slate and Hopton-wood stone. The floor round the altar has also been laid with slate and Hopton stone, in the form of a Maltese cross. There has also been added an altar rail of oak; and a new stone screen (the gift of the Rev. W. P. Hamilton) has been placed between the altar and St. Mary's Chapel. The old communion table of oak still remains; although not in keeping with the other work, it is still a good example of the period of James; the paneling of the old pulpit has also been converted into framing to seat-fronts in St. Mary's Chapel. The bishop's throne, which was so mutilated that it was difficult to decide what it had been originally, has been restored at the expense of the Rev. Canon Slade.

The pulpit, the gift of Sir Edward S. Walker, of Chester, was designed by Mr. R. C. Hussey. It is in the decorated style, and stands, entirely detached, upon the north side of the choir. It stands about 22 feet high from the floor, and is octagonal in shape; the shaft which supports it is paneled, with tracery, and has buttresses at the angles, terminating with crocketed canopies. The body of the pulpit is also paneled; over the panels are canopies with crockets, behind which the spandrels are filled with diaper flowers, so managed as to give a variety of light and shade. A carved stone canopy, bracketing forward, surmounts the pulpit, and has a very good effect, with its rich arch mouldings and buttresses, terminating with crocketed pinnacles. The spire which terminates it is pierced and wrought into tracery, with crockets on the angles, and a finial so cut as to obtain very strong light and shade. The entrance is from the back; the ceiling is groined, the ribs and bosses gilt, contrasting with the Painswick stone of which it is built.

The masonry was executed by Mr. Haswell, of Chester; the carving by Mr. Henry Frith, of Birmingham. The restorations will proceed as funds become available.

NOTES IN THE PROVINCES.

THE foundation stone of the district church of St. Mark, Wolverhampton, was laid on Tuesday week. It is to be built in the Early English style, with a tower and spire, and 1,200 sittings, one-half and more free. The architect is Mr. Orford, and the cost will be 4,600*l.*, besides 900*l.* for fence walls, architect's commission, lighting and warming, repair fund, &c.——The foundation stone of Christ Church, Yardly, Worcestershire, was laid on Friday week: Mr. Perkins, the architect. It is to be built of stone, in the Early English style, with nave and transept, and sittings for nearly 400.——A site for a Corn Exchange, in Angel-street, Worcester, has been purchased, and plans and estimates are in course of preparation, but a second scheme is in the field, and the *Worcester Journal* reminds the promoters of both schemes gently, of the risk of the one object falling to the ground between the "two stools."——The Portledge Reservoir, at Chew Magna, for the Bristol Water-works, is about to be begun, tenders for its formation having been called for. In a case of arbitration regarding the value of some portion of the property necessary, for which the proprietors demanded 4,000*l.*, the directors offered 850*l.*, and the arbiter gave 1,027*l.* 15*s.*—The Roman Catholic Chapel, in Meridian-place, Clifton,—an immense pile of building, whose unfinished and ruinous-looking state has for more than twelve years rendered it an eye-sore—is now likely to be completed after a fashion. The roofing-in is finished, and the workmen are glazing, &c. The state of the funds will not allow of the intended portico being added to the edifice at present, but the columns erected for it are not to be removed. The chief ornament of the building will be a stained window. On the site adjoining, a convent and school-house are to be erected,—the former as a residence for the Sisters of Penance, and the latter as an asylum for Roman Catholic orphans.——In St. John's Chapel, Bridgewater, the issue of some smoke lately, led to the timely discovery that the flue of the heating apparatus, recently erected, was on fire,—a timber wall-plate, inadvertently left unprotected, having been ignited.——A new parochial cemetery, of about 27 acres, is about to be laid out at Liverpool; and a chapel, &c., erected, from the designs of Mr. J. A. Picton.

GAS BURNERS.

To the Commissioners of Sewers for the City of London.

GENTLEMEN,—Allow me to express my thanks to the chairman and the other gentlemen who formed the deputation from your body, who favoured me with their company here on Saturday evening, to witness the experiments on my patents, for the sanitary and economic combustion of gas.

The gas used was that supplied to this district by the Chartered Gas Company, from their Westminster station, purified on these premises by my patent process, by means of which the sulphur and ammonia compounds are retained in the purifier, the consequences of which are, great advantage to the health of the consumer, the preservation of his property, and economy in the cost of the illumination.

The order in which the experiments were made on Saturday evening was as follows:—

The two experimental meters were first tested by causing all the gas for one burner to pass through both meters, and the registration of each meter thereby proved to be the same.

The photometers used were, Dr. Ritchie's and Dr. Lyon Playfair's, the latter varied by me from the original, but which alteration Dr. Lyon Playfair has authorised me to say he considers an improvement, rendering the instrument more accurately susceptible.

By desire of your deputation, the whole of the experiments were performed with *one quantity of gas per hour*, viz. four feet and two-tenths through each burner.

The distance from one burner to the other was 18 feet 10 inches. The first experiment then proceeded, and the photometers having been adjusted, the distances were measured off and found to be—

From the batswing to the photometer.....7 ft. 7 in.	From the photometer to Leslie's burner..11 ft. 3 in.
Squared in inches.. 8,281	Squared in inches.. 18,225

The second experiment was made by changing the burners, and then proving that the same quantity of gas, viz. 4 feet two-tenths per hour was being consumed by each burner, as in the first experiment: the photometer having been again adjusted, the distances were measured off, and found to be—

From the batswing to the photometer ....8 ft. 10 in.	From the photometer to Leslie's burner.... 10 ft.
Squared in inches.. 11,236	Squared in inches .. 14,400

These facts demonstrate the following excess of light in my favour:—

First experiment	8281) 18225 (2·20	
Second ditto	11236) 14400 (1·28	
		2) 3·48
		1·74

So that the mean of the two experiments gave my burner an advantage of 74 per cent. increase of light from the same quantity of gas *consumed under precisely the same circumstances* by the batswing.

The observations made by your surveyor, Mr. Hayward, and also by Deputy Hayward, during the experiments, were very important, and founded on them, I shall institute a series of experiments which I think will be productive of still further public advantage.

The sanitary advantages of my patents are, in my mind, of more importance than the pecuniary, but the latter is an important element. At the General Post-office for the quarter ending the 5th instant, the decrease over the corresponding quarter of last year (although my plans are not nearly in full operation yet), was 442·190 cubic feet, and additional offices lighted this year that were not in existence last year.

At the Thames Tunnel, where 97 of my burners are in use, the decrease of gas on the corresponding quarter of last year, that is, from the 25th of December to the 25th March, was 207,395 cubic feet. And the reports will inform you, that that magnificent work never was so well lighted as it is now, and the sanitary consequences of the improved combustion have rendered the atmosphere much more clear and healthy than in any period of its history. * * *

I have the honour to be, gentlemen, yours, &c.,
April 17th. JOHN LESLIE.

P.S. After I had written the preceding letter last evening, I found that the arrangements I had directed to be made were completed, and I commenced the series of experiments I have alluded to. My arrangements were as follows:—I had caused two large sheets of thick pasteboard to be bent into a semicircular form, blackened all over with lamp-black and glue; with these each burner was isolated from any influence, except the same blackened material. The two meters were then examined, to the most accurate registration. A batswing burner was then put on each meter, and each made to consume the same quantity of gas. The photometers were then adjusted, and the distances were measured off, and found to be 9 feet 5 inches, exactly the centre between the two lights. I believe this to be the most accurate standard that has yet been obtained. One batswing burner was then taken off, and replaced by my burner; the same quantity of gas was supplied to it, and careful attention paid, to be certain that each burner was consuming the same quantity of gas, the blackened material remaining as in the first experiment.

The photometers were adjusted, and the distances measured off, and found to be as follows:—

From the batswing to the photometer.... 8 ft. 1 in.	From Leslie's burner to the photometer.... 10 ft. 9 in.
Squared in inches..9409	Squared in inches .. 16641

9409 | 16641 (1·76

So that you will observe a very close approximation to the mean of the two experiments which you witnessed on Saturday evening was obtained. This method giving my burner 76 per cent. increase of light from the same quantity of purified gas, and Saturday night's experiments 74 per cent.

Correspondence.

PAYMENT OF ARCHITECTS.

SIR,—I should be glad if yourself, or some of your numerous readers, would favour me with a reply to the following query:—

In the case of a building *not* erected by contract, but where, in addition to his customary duties, the architect will have to measure and value the works on their completion, is he entitled to any, and what, compensation, in addition to the ordinary charge of 5 per cent.?—I am, Sir, &c., INQUIRER.

Cheltenham, April 17, 1848.

Miscellanea.

IRON TRADE.—A further reduction of 1*l.* per ton, on greatly reduced nominal prices given out at previous quarterly meetings, was proposed at the recent reunion of the great masters; but from a *considerate* regard to 'the smaller makers,' on whom, it was alleged, that 'this would have a ruinous effect,' the proposal was in the meantime dropped. The demand for iron at any price, or of any sort, was still very flat, but the tone of the masters was not quite so desponding as heretofore. As for the tone of the prices now again nominally fixed, the key of that being usually rather too high pitched for us, as we have more than once had occasion to shew, it is not for THE BUILDER to reverberate a mere sound which signifies nothing but the desire of the greater masters for the higher prices. As for 'the smaller,' past experience teaches that the *quasi*-consideration of their greater brethren is thrown away upon them, seeing that a bitter complaint against them, by the advocates of high prices and of great masters, has in fact been, that they never can be induced to abide by the quarterly dictum, and are ever underselling the great nobs themselves, who now therefore, under pretence of reluctance to adopt ruinous measures, in reality threaten to fight them with their own competitive weapons if they do not give in their quarterly adhesion.

PAPER-COLOURING AND DESIGNING BY NITRATE OF SILVER and other salts has been suggested in the French Academy by M. Larocque, who intimates that he has discovered that nearly all salts are volatilized with aqueous vapour, or with any vapour arising from saline solutions, and that, in this way, he has coloured papers in designs reserved in white, especially with nitrate of silver thus volatilized: some of these M. Larocque submitted to the Academy.

NEW METROPOLITAN CHURCHES.—St. Matthew's, in the City-road, built from the design of Mr. Scott, and already described in our pages,* was consecrated on the 11th.—St. Jude's Church, Whitechapel, architect, Mr. Francis, which has been finished for a long time past, was consecrated last week.

* Vol. V. p. 36.

Projected Works, &c.—Advertisements have been issued for tenders, by 31st May, for the erection of baths and washhouses at Hull; by 28th inst., for the erection of a sea wall at East Bourne, Kent; for the erection and finishing of a third-rate house at Dalston; by 29th, for the formation of a reservoir and other works at Chew Magna; by 25th, for taking down and rebuilding a chapel and schools, &c., at Southampton; by 24th, for the erection of new boundary walls to a new burying-ground at Cambridge; by 25th, for the erection of a brick tank and a gasholder at Hastings; by 29th, for paving footpaths and gutters and laying down kerbing at Birmingham (materials exclusive or inclusive); by 29th, for building a sewer of 180 yards and making six gully shoots at Birmingham; and by 25th May, for the erection of a new Union Workhouse at Bridgnorth, for 200 inmates.

Electro-bronzing Metals.—For some time the means of depositing a layer of brass or bronze on metals by means of the galvanic battery has been known in France, but the process was expensive. A solution for the purpose has been lately proposed to the Paris Academy of Science, which would have the effect of cheapening the operation. It consists of a solution in water of 500 parts of carbonate of potash, 20 of chloride of copper, 40 of sulphate of zinc, and 250 of nitrate of ammonia. To produce bronze, a salt of tin is substituted for the sulphate of zinc. By means of these solutions, it is said they can readily cover with a coating of bronze cast or wrought iron, steel, lead, zinc, tin, and alloys of these metals with one another, or with bismuth and antimony, after a previous cleaning, according to the nature of the metal. The operation is conducted with a cold solution. The metal to be coated is placed in connection with the negative pole of a Bunsen battery; a plate of brass or of bronze being employed at the positive pole. When the objects have been covered with a coating of the metal desired, and have received their proper colour, they will be found, it is stated, to rival the finest bronzes.

Modern Bricklayers: Building Brick Columns. — Some observations on modern bricklayers which appeared a short time since in our pages, with remarks on the use of cement, &c., brought us a number of indignant disclaimers from working men. Our correspondents may each and all be gratifying exceptions to a general rule, but the fact of a decay of skill amongst bricklayers is incontrovertible, and the causes are evident. We had many letters too on building brick columns, but could not render them available, and suggestions out of number for those at the Euston-square station. One recommended the use of an iron core in each column, which did not seem to us very advantageous; if we are rightly informed, however, this course is now being pursued there.

Rate of Houses, under Buildings' Act.—I wish, through the medium of your journal, to call the attention of the proper authorities to an inconsistency in the present Buildings' Act, which also existed in the former one. I allude to the taking of the whole of an external wall into the superficial measurement, when ascertaining rate of house, instead of a part of the thickness only. To make my objection understood, I will take the case of a person building two full-sized fourth-rate houses at the end of a row: he is, in nine cases out of ten, obliged by the Buildings' Act to make his external or flank wall 4 inches thicker than his party-wall for one story extra in height, thereby putting himself to additional expense, and yet the house being 9 inches smaller inside is worth, in reality, more than the extra outlay less than the house adjoining. Now I would suggest to those who are about framing a new Act, or an alteration of the present one, the propriety of allowing the external, or end house, to be as large interiorly as the one adjoining. I have mentioned this to one of the most experienced district surveyors of the day, who quite agreed with my views, and I hope, by your finding a corner for this in your journal, that it will enable the public to have the benefit of the alteration without any detriment to the stability of such houses, of which there are a great many.

Charles Newnham.

Amendment of the Patent Laws.—It is only those who have had practical experience of the whole working of the patent laws of this country, from the taking out of the patent to a trial in the Court of Exchequer or Chancery, who can form a correct opinion of the miserable state of these laws. Day after day our Attorney and Solicitor Generals grant patents which ought never to be granted, and they pocket their fees. During the last three years, if we are rightly informed, patents were granted for England, Scotland, and Ireland—

884 ..	in 1845,	at a cost of £	120,000
768	1846	.....	93,000
753	1847	.....	91,000
2405			304,000

2,400 patents in three years! 2,000 loads of rubbish deposited in the Court of Chancery! Mr. Newall, of Gateshead-upon-Tyne has published a proposal which seeks not merely to amend these laws, but to encourage arts, sciences, and manufactures, by making use of the fees derived from patents (after paying expenses) as rewards. The main feature of Mr. Newall's remedy for some of the evils of the present system is the appointment of a standing commission, to whom petitions and specifications will be submitted for examination *before* the patent is granted. This he thinks would probably reduce the number of patents granted to one-half, for he believes that more than one-half of those now granted are totally *impracticable* and useless; whilst a much smaller proportion ever benefits the patentees.

Artists' Benevolent Institution.—Our readers will have learnt from an advertisement, that a second amateur dramatic performance, by artists, will be given on Thursday evening, the 27th inst., at the St. James's Theatre, for the benefit of the Artists' General Benevolent Institution; we sincerely hope it will realize the wishes of those who projected it. The general committee includes the names of Mr. Cockerell, R.A., Mr. Landseer, R.A., Sir W. Ross, R.A., Mr. Wyon, R.A., Mr. Uwins, R.A., Mr. Barry, R.A., Mr. Hardwick, R.A., Mr. Wyse, Sir W. Newton, Mr. S. C. Hall, Mr. Macready, Mr. Planché, Mr. Lewis Pocock, and many others. Amongst those who will take part in the dramatic arrangements are Mr. Geo. Cruikshank, Mr. Hamerton, Mr. Holl, Mr. McIan, Mr. Redgrave, Mr. Tenniel, Mr. Topham, Mr. J. Wilson, jun., &c. &c.

Fall of a New House.—Last week the front and return of a corner house intended for a shop, in Bond-street, Chelsea, fell in and seriously injured two of the workmen. There was a bressummer in both fronts carried on story-posts, leaving a space at the angle for the entrance,—a customary but dangerous arrangement. The story-posts were on stone plinths, not a continued cill, and the wall below is supposed to have bulged and yielded.

School of Design, Somerset House.—Mr. R. W. Billings lectured here on Friday evening, in last week, on Gothic tracery, a subject of which he is completely master.

Gloucester Cathedral.—The editor of the *Gloucester Chronicle* makes the following judicious remarks as to this building:—"The choir is one of the finest examples of the Perpendicular style in its palmy days; and boasts of an east window which is unrivalled in England in point of size. Extraordinary breadth has been given to this magnificent window by a skilful architectural contrivance. Unfortunately, however, the effect of the east end of the choir is sadly marred by the modern screen which was placed there during an era of bad taste. How truly exquisite would be the perspective of the lady chapel if this screen were removed; how great the additional dignity of the glorious east window of the choir! We respectfully urge the Chapter to consider the matter. How often do aspirations for the restoration of the whole cathedral cross the mind of beholders! The vastness of the cost apparently renders the attainment of such an object insuperable, yet some now living may see it done. A fine building is an educator of the people—it tends to refine their thoughts—to excite reverential feeling. The man who can enter the sacred and time-hallowed walls of a great church—aye, of the humblest church in our land—without feeling for the moment less worldly than haply he is, must be dead indeed to thoughts of a future."

Railway Jottings.—A correspondent of the *Birmingham Journal* describes the raising of the Conway tube 14 feet by means of the hydraulic press. The rate of raising, he says, was 12 feet an hour (weight 1,300 tons). The quantity of water required for a lift of 6 feet, or one stroke of the press, was 70 gallons. The clamping of the chains and attendance to the engines, &c., occupied ten men. Another newspaper paragraph states, that having been fixed in its place, the first train passed through it on Tuesday with a party of Directors.——The cofferdam and the wharfs for the docks at Grimsby, connected with the Manchester, Sheffield, and Lincolnshire line, are nearly completed.

Pulpits in America.—The octagonal, or the six-sided pulpit, the most convenient and handsome form, where (as in most English churches) an elevated pulpit is needed, has long disappeared in the United States, except from a few of the older churches; and the rage for something new has brought up a countless variety of preaching boxes, all differing from each other in size and decorations, but maintaining a wondrous resemblance in their uniform ugliness, and the luxurious accommodation afforded to the preacher. An English friend of mine entering St. Andrew's Church, Philadelphia, for the first time, in which one of these architectural anomalies rears its cumbrous and tasteless form in the chancel, supposed it to be a high altar, richly and gorgeously decorated (which illusion the candlestick, or lamps for gas burners resembling candlesticks at the top, render complete), till the sermon, when—as he was speculating what place the preacher would occupy, no pulpit (like one) being in view—his appearance at the summit of the supposed altar produced the strangest effect imaginable. Several pulpits in which I preached in the same city form a complete saloon, where the easy couch, the mellowed light, and partial seclusion, invite to soft repose. In others, the hanging drapery and festooned canopy impart to them the appearance of a royal throne. In this particular our American brethren might, with great advantage, copy the more becoming English example.—*Waylin's Reminiscences.*

Cistern for Cleansing Drains.—A correspondent says—Why not have a syphon in the small cistern proposed by your last week's correspondent, for making the waste water available for cleansing drains, so that whenever the water reached the level of the bend in the syphon it would discharge into the drain upon the principle of the toy called Tantalus's cup?

Smoke Nuisance.—A bill similar to the one which all but passed two years ago, has been brought before the House of Lords by Lord Redesdale, and read a first time.

Smoky Chimneys! Smoky Chimneys! —Letter after letter reaches us on this universally interesting subject (the emancipation of the blacks was not more important than our own emancipation *from* blacks), but they contain little that is sound, and less that is new. Some of the letters are all puff, a new pot being the subject, and others so cloudy that there is no seeing through them. The subject still wants the *right man.*

At the Institute of Fine-Arts, a meeting of artists was held on Wednesday evening, when it was resolved to petition Parliament not to allow any mistaken or ill-judged ideas of economy in mere time or money, to interfere with the full development of the ideas of Mr. Barry, in the perfect completion of so great and national a work as the Houses of Parliament, especially as the perfect accomplishment of such a design is calculated to influence materially the arts of our country; while the petitioners are assured that a nation, so wealthy and so wisely liberal as Great Britain, will never find fault with an expenditure which is for the lasting glory of the country, as well as for the encouragement of the Fine Arts, on our attainments in which depends the perfection of our manufactures.

Query in Geometry.—Sir: Will one of your correspondents give me a rule by which the following figure may be constructed? On the ends of a given line to construct two lines that will intersect a line so as to make it equal with them in length, the line being parallel to the given line, and also at a given distance from it.

C. B. R.

TENDERS

For erecting a Vicarage-house at Wandsworth, Bucks, delivered to Mr. Hoard, Conduit-street, Bond-street.

Jay	£1,394
Lawrence	1,348
Higgs and Son	1,333
Ashby	1,225
Andrews (Tring)	1,197

For finishing of five houses in Highbury-crescent West, Islington: Mr. Wagstaff, architect.

J. Glenn	£639	0	0
Haynes and Son	510	0	0
Allen	488	0	0
Howlett	469	0	0
Ward	372	14	11

For a house at the corner of the Old Jewry, for the Bank of England, under Mr. C. R. Cockerell, architect.

Baker	£5,236
Lee and Son	4,961
Cubitt and Co.	4,895
Grimsdell	4,773

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

FRIDAY, APRIL 28.—Archæological Association, 8½ P.M.; Architectural Association.

SATURDAY, 29.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"*The Haymarket Theatre*" was built by Mr. John Reid, under the late Mr. Nash.

"*H. A. D.*" will not find it difficult to obtain the assistance of an architect to the required extent.

"*W. H.*"—THE BUILDER is published early on *Friday* morning.

"*Landaff Cathedral*," next week.

"*J. H. W.*" ditto.

"*G. T. R.*"—The competition for the Institute medals is not confined to members.

"*J. J.*"—Our statement is correctly given from the "Returns to Parliament."

"*Sufferer in a similar manner.*"—We cannot interfere: the guardians specially reserved the right they have exercised.

Received.—"W. H.," "An Artisan," "T. W. P.," "Amateur," "F. S. W." (we had not time), "G. D." (we shall be glad to hear more), "An Artist," "W. W." (Gloucester), "X. X." (we used to do so, but found reason to discontinue it); "E. H.," "C. F." (thanks), "C. C.," "C. B.," "A. P. M.," "R. B.," "R. C.," "W. A."

"*Books, Prices, and Addresses.*"—We have not time to point out books or addresses.

ADVERTISEMENTS.

EASTER HOLIDAYS.

THE ROYAL POLYTECHNIC INSTITUTION, KEPT CLOSED, is now RE-OPENED, with GREAT ADDITIONS. The NEW THEATRE, with its Gallery, is capable of containing ONE THOUSAND FIVE HUNDRED VISITORS. SPECIMENS of ART-MANUFACTURES are greatly increased in number and interest. Variety and great improvements have been effected in the OPTICAL DEPARTMENT. POPULAR LECTURES by Dr. Ryan and Dr. Bachhoffner on CHEMISTRY and EXPERIMENTAL PHILOSOPHY. Description of the SUBMERGED WORKS by Mr. Crispe. EXPERIMENTS with the DIVER and DIVING BELL. The MUSIC will be conducted by Dr. Wallis. Open daily from Ten to Five; and in the Evenings, including Saturday, from Seven till Half-past Ten.—Admission, 1s.; Schools, Half-price.

ORGAN for CHURCH or CHAPEL.—TO BE SOLD, a POWERFUL ORGAN, consisting of Great, Choir, and Swell Octave of Pedals, Composition Pedal, &c. It has a great variety of Stops on each Organ, and has cost more than 400l.; price, 150 Guineas: it is at a gentleman's mansion in Surrey.—Further particulars and cards to view may be had between the hours of 9 and 5, of Mr. WATSON, Architect, 39, Manchester-street, Manchester-square, London.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WHITERS to the Trade only, 70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road. **** An Apprentice wanted.

J. MEACOCK, GAS FITTER, LANTERN MAKER, and METER MANUFACTURER, No. 7, Snow-hill, London, late of No. 71, Snow-hill, begs respectfully to inform Carpenters and Builders, and the Public in general, that in consequence of his increasing business, he has been induced to take the above extensive premises, and having purchased Machinery at considerable cost for the manufacture of Metal Sash Bars and Iron Stall Board Plates, is enabled to offer them a considerable reduction of the present prices.—Estimates given to any amount for the above, in Town and Country.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.

M. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be intrusted with will be promptly attended to. Answers admirably for multiplying Tracings.—Lithographic Printing Office, 13, Cleveside, London.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery.

Poultry	0s. 10d. per lb.	Best Grey Goose	2s. 0d. per lb.
Grey Goose	1s. 2d. "	White Goose	2s. 6d. "
Foreign Grey do.	1s. 6d. "	Best Dantzic do.	3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196 opposite the Chapel, Tottenham-court-road.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the acti n of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. Sole Consignee for Atkinson's Cement.—Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Tanks, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

REMOVED FROM 5, MAIDEN-LANE, TO 22, STEEL-YARD, UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet—does not dissolour by Damp—wants no Paint—never cracks or blisters—adheres to any substance without previous preparation—is not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become dissoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, procureable by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations.—Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel-yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It readily acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface, which may be made equal to that of the finest marble, NEVER THROWS OUT ANY SALT, and will receive paint in four days, without pealing, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. The New and Improved Plaster of Paris and Cement Manufactories, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Cannuig-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint for body, as it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE, it can be used as well on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s and 15s each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, flues, sheds, railing, and all kinds of out-door work, as I form a perfectly waterproof, will preserve their surfaces from atmospheric influence and decay—requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

MESSRS. HOPKINS and Co. solicit the attention of Architects, Builders, Upholsterers, and the Public generally, to their REGISTERED SELF-REGULATING BLINDS, which, dispensing entirely with the centre line, regularly suit all French casements and high windows. OUTSIDE SUN BLINDS ON IMPROVED BALANCE ACTION.

H. and Co are the sole manufacturers of BARRON'S PATENT METAL GROOVE ACTION, contrived for the easy and noiseless carriage of curtains on Brass or Wood Poles. This action has been much used, and with invariable success for octagon, bow, and other shaped sun boxes. Models constantly on show.

HOPKINS and Co., late James Barron, Window Blind Manufacturers, Cabinet and General Brass Founders, 40, Castle-street, East, Oxford-street, London; and at Birmingham.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at the Manufactory. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, when, possessing all the advantages of the endless screw, worm and wheel, cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the rat-het wheel, and is at once simple and pleasantly effective; and as SAFE and MORE DURABLE than any plan yet adopted for that purpose; thus rendering his Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, London.

PREPARED FLOORING BOARDS.

AS REDUCED PRICES.

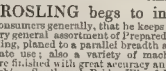
ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1½ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico late C. Moore and Son's, and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms, SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Walnut, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Mill Yard, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 26, New Broad-street, City.



TIMBER AND DEAL SAWING AND PLANING MILLS, Rhyders-row, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In shooting, or groving and tonguing a board (although curved), the machine follows the edge, counting on a certain line on the face of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to clean out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

JENNINGS'S SHOP-SHUTTER FASTENER STOPS as well as SECURES the Shutters: they can be had BY THE TRADE at 10 Mallsdale Iron, for 2s. 6d. per Shutter.

JENNINGS'S PATENT COCKS, JOINTS, VALVES, CLOSETS, &c. &c., may be seen or had at the Manufactory, 23, Great Charlotte-street, Blackfriar's-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and I of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Sole Lincensees for the manufacture of MARVIN'S PATENT DIAGONAL GRATINGS, for Areas, Balcony Floors, &c.

The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by practical skill and experience has been adopted, and the prices greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS.

B. and C. have also made great (registered) improvements in Revolving Wood Shutters, which are fitted up with proper metallic hinges that cannot rust (without which no shutter can be safe or durable), that are worked by the patent raising gear as for Iron Shutters, or counterbalanced in a new or peculiar way, and are wound up or down with the greatest ease, without the use of objectionable loose lines. A new experience with sash cords, &c., as to quality and price, is respectfully solicited.

A modification of the above, working vertically, is especially adapted for Bay and Oriel Windows.

The prices of the Patent Metallic Sash Bars, &c. have been revised, and where practical, reduced; Iron Fronts, &c. are completely fitted and fixed in a superior style, either plain or ornamental, and with strong drawn moulded stallboard plates handsomely engraved, also completely glazed with best plate glass.

The Patent Diagonal Wrought Iron Grating will be found a great desideratum for areas at shop fronts, in shop and warehouse floors, and for hackney floors, as it does not obstruct the light, yet admits of ladies walking over or standing on the same.

IMPROVED BENCH AND FLOORING CRAMPS FOR BUILDERS,

which are greatly superior to anything hitherto introduced.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country.

Patterns, and every particular may be obtained, on application at the Office of the Patentees, 96, Lombard-street, London; and at the Works, Deptford, Kent.

SMITH and ENGLISH,
ENGINEERS, BUILDERS' MACHINISTS, IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,
PRINCES-STREET, LEICESTER-SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cant-levers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Pintes, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON WORK and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GALVIERS' FOUNDRY.
168, DRURY-LANE, and CHARLES-STREET.

IRON WORK FOR BAKERS' OVENS.
F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace, Oven, and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices.—CASH IRON UPSETS.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 24 per inch. Registers, 6d., 7d., 8d. per inch.
Cottage Ranges, with Oven and Back Boiler, 3 ft., 33s.; 3 ft. 3 49s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.
Self-acting Range, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 13s. 6d.	4 ft., £4.
Best Patent Cut Clasp.		
5d. 6d.	8d. 10d.	1s. 1od per 1,000
3d. 4d.	6d. 8d.	10d. 2s.d.

Best Sheet Floor Brads 14s. per cwt.
Best Town Grate 48s. Do Scotch, 52s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 8d.	7s. 6d.	8s.	12s per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.
Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.
R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 136, Blackfriars-road, and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 15s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS AND CARPENTERS.
BURT and POTTS, York-street, West-minster, Wholesale and Retail Ironmongers, Smiths, and Stove Grate Manufacturers. Delivered free within five miles.
Cast Iron Rain-water Pipe:—

2 in.	2½ in.	3 in.	3½ in.	4 in.
1s. 1d.	1s. 3d.	1s. 5d.	2s.	2s. 2d per yard.

Sheet Floor Brads, 14s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.
A variety of Best Black Ground and Bright Register Stoves.
Elliptic Stoves, with inside back, 3½d. per in.
Self-acting Ranges with Circular Ovens, and Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£3.	£3. 8s.	£3 15.

Iron and Steel of every description.

R. FULKES, Wholesale Ironmonger, Stove and Range Manufacturer, 91, Park-street, Camden Town, London.
Best Cut Clasp Nails, 16s per cwt
Best Cast Lath Na.ls, 18s. 6d. per cwt
Improved 6-inch Mortice Locks, with large Brass Furniture, fitted with Improved Patent Spindles, 7s. per dozen
6-inch Rim Locks, with large brass furniture, and brass striker-staples, 6s. per doz
Elliptic Stoves, 3d. per inch.
Register Stoves, 6½d. per inch
Best Self-acting Ranges, fitted complete, with Oven and Boiler, Reveling Shelves

3 ft.	3 ft. 6 in.	4 ft.
2l. 15s. 0d.	3l. 0s. 0d.	3l. 5s. 0d each

Orders from the country, containing a remittance or Post-office order (made payable at the Camden Town Post-office), forwarded same day

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TO BUILDERS AND CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

	Best Patent Cut Clasp.			
4d.	6d.	10d.	20d.	per 1,000.
6d.	8d.	1s. 4d.	1s. 10d.	"
	Cast Butts.			
2 in.	2½ in	3½ in.	3½ in.	
11d.	1s 2d	1s 4d	2s	per doz

Also Best Patent Sash Line.

3	4	5	6	per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.	

Every other article equally reasonable.
Catalogues of Prices can be had on pre-paid application, inclosing postage stamps.—Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.
JOHN and EDWIN YOUNG, Proprietors.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 35, Cross-street, Walworth.
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 4d. per in. and upwards.
Bright ditto, with Black and Bright Bars, at 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3½ in.	4 ft.
3l 8s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO BUILDERS, ARCHITECTS, &c.
NAILS, and every description of Builders' IRONMONGERY, supplied at the lowest Birmingham Prices, by FREDERICK BLYTH, Patent Cut-Nail Manufacturer and General Factor, Edmond-street, Birmingham.
*** Lists of Prices forwarded upon application.

STOVES, FENDERS, AND FIRE-IRONS, SELLING OFF. F. EDWARDS, 20, Poland street, Oxford-street, respectfully informs his numerous scientific patrons, and the public, that he has taken possession of extensive premises, No. 42, Poland-street, which will be ready for him, by the month of June, when he intends opening with an entire new and extensive assortment of stoves, fenders, and fire irons, Kitchen ranges, &c. The present stock is now selling at a great reduction, every article is marked in plain figures, from which a statement can be made, a fine opportunity now offers to gentlemen, architects, and builders

WARMING by means of the circulation of WARM AIR.—BURRIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any reasonable size in a most economical manner. BURRIDGE and HEALY, 146, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to HOT-WATER APPARATUS upon Perfect Principles, for churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every other purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are unanimous in expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action on the premises. BENJAMIN FOWLER, 93, Dorset-street, Fleet-street

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ inch to 12 in in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

COPPER, &c. FITTERS, BUILDERS, &c.
COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale and retail at the Office of the Patentees, No. 13, Fenchurch-street, W. F. ALLEN, Agent, or retail of G. and J. DEANE, 46, King William street, and E. PARKS, 140, Fleet-street; also of all respectable Ironmongers.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DERRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 115, Argyll-street, Glasgow, having proved by eight years' experience the DRY METER to be our sailed, begs to call the attention of Gas Consumers how it is, during numerous Gas, such is never affected by Heat, Damp, or Frost. They may be obtained on Hire, of all the Gas Companies in each supply. Meters to their first users. Testimonials of great value may be obtained at either Establishment.

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By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH MORTICE AND RIM FRONTS.
THIS CHEAP and USEFUL ARTICLE of inland trade is unequalled in appearance and insecurity of the common rim lock, and is confidently offered to Builders, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agents, Mr. JOHN FARMER, Ironmonger, 23, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also to Gardens and the open generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October, and 13th November, 1847, and 22nd January, last year, containing prices, both per number and also per square, per yard, per foot, and per inch, and other particulars. Also to be had of Messrs. Peake and Co., 12, Denmark-street, Soho-square, and at the Patent Tile Depôt, Essex Wharf.—Price 6d. 6s. per thousand, or from 16s. to 22s. per square, according to size and pattern.

WORCESTER ENCAUSTIC TILE WORKS. The Proprietors, who are patentees from Business are enabled to offer their PAVING TILES of a very Rich and Rare Ornamental Pattern, of the best description and 12 24 per square foot, "Seconds," at 30s. NB These Tiles being manufactured in the ancient style, and the ancient materials are most suitable for the restoration of ancient churches and Buildings than any others of modern make, and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required—Specimens may be seen in London, at Messrs. GRIEVE and GRELLIER'S Marble Wharf, Belvedere road, Waterloo-bridge; and in the country, at the Works, Palace row, Worcester

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 1054, Piccadilly, from 9 a.m., to five p.m. Mr. Robert Scrymgeour, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, and is authorized to receive the communications of Brick Makers and North-Western Railway, and two miles of the Fishing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 1054, Piccadilly, March 1, 1848. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 136, Buchanan-street, Glasgow; Mr. Robert Charles, Millhill, Leeds; Messrs. Penny and Finch's Pendridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.
PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £10 to £150,000, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.
N.B. To expedite the proposition, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.
E. T. ARCHER, 451, Oxford-street, so-licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the Show-Room at Pentrest

THE FRENCH REVOLUTION and FRENCH PAPER-HANGINGS.
Messrs. MARKS and Co. beg to inform the Trade that the greatest facilities exist at present in all the Paper-hanging Fabrics; that their new Spring Stock, embracing every novelty, is at the warehouse, at the lowest Paris prices with the duty. Also a number of expressly-made copies of designs, printed here, free of duty, at prices varying from 8d. to 3s. per piece of twelve yards long.
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PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers may select from a Stock of 20,000 Pieces, of the newest designs Perfect, and Durable Papers, at 3d. per yard; Satins, 4½ per yard. Flocks, 4d. per yard Patterns for approval sent into town or country; and Goods forwarded free of expense. A large discount allowed for Shipping. Also Borders, Panel decorations, flowers or oaks remarkably cheap. Terms, cash. Established twenty years.
W. CROSBY, 29, Lowther Arcade, Charing Cross

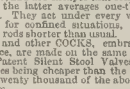
PAPER HANGINGS.—To BUILDERS and others.—About 25 to 30,000 pieces of OLD STOCK comprising a variety of most excellent Patterns, TO BE SOLD in small Lots to suit the purchasers, at a Bargain. On sale at the Paper Staining Manufactory of Messrs. A. and R. WILCOXON, No. 1, Stone's End, Borough

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Panels, Chimney Shafts, and other Ornaments, &c. Casts of Arms finished in a superior manner all at half the usual price. 25, Providence-row, Finsbury-square from Albion Wharf, Blackfriars bridge

FLEXIBLE INDIA RUBBER PIPES AND TUBING.
For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Breweries, and Agriculture purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no soldering or cementing at the joints, are particularly well adapted for locomotive engines, railway carriages, fire engines, pumps, gas, breweries, garden, and all purposes where a perfect flexible pipe is required. Made in lengths of 24 feet, or upwards, and of any breadth to order. Vulcanized India-rubber garden hose from 1 with brass taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.
N.B. Vulcanized India rubber washers of all sizes for joints of hot water and steam pipes and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAP
For Sewers and Drains of all kinds.
Registered January 5th, 1848.
A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.
The above is a most important improvement on all contrivances of the kind, and is the only one that can be applied to all such purposes, specimens of which may be seen, and also working models at the office of Messrs. BUNNETT and COPE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and General Maker of Salt GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2 ft. Lengths.			
4-inch.	6-inch	9-inch.	12-inch bore
6d.	8d.	1s. 1½d.	1s. 10d. per foot.

Bends and Junctions equally low.
N.B. Drain pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

THE REGISTERED VALVE, HYDRAU-LIC RAMS, FOUNTAIN BASINS, in Iron; Water-wheels, Steam-engines, &c.; Pumps for deep Wells, &c.; Liquid manure Pumps; Pumps for Ships; Garden Engines; Douche Baths and every other description, erected and heated on scientific principles; Fluid supplied to Hot Water Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Public Fountains to play Several hours during Dessert; Analysis of Water from 7s. 6d.; by PROFESSOR HOLE, Hydraulic Engineer and Fountain Maker, 24, Strand, London.—Wells sunk and boring executed in town and country

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Rag-fair, Clerkenwell, where Drawings and Price lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common cocks. The waterway, which is the great consideration, in these is equal to that of the pipe. They act under every variety of pressure, and when required for confined situations, the balls can be made smaller and the rods shorter than usual.
BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.
Underhay's Patent Silent Stock Cocks are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years
We beg to submit one of the many testimonials in our possession:—

London Works, near Birmingham,
Dear Sir,—We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action. We are, yours obediently,
Mr. F. G. Underhay. FOX, HENDERSON, and Co.

Messrs. W. CUBITT and Co., of Gray's-inn-lane, and Messrs. T. CUBITT and Co., Thames-bank (also many other eminent firms) who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

The Builder.

No. CCLXXIII.

SATURDAY, APRIL 29, 1848.

THE scenery which has been painted for Mr. Planché's elegant and right-witty Easter piece, at the Royal Lyceum Theatre—"Theseus and Ariadne"—is perfectly beautiful, and fills the mind of the spectator with the pleasantest and most poetical notions. The execution of it proves Mr. W. Beverly to be a true artist, and places him in the front rank of his profession. He has caught the spirit of the able author, and developed it worthily. The opening scene of the ocean,—only the ocean, and quite calm,—has an atmosphere which gives it a great charm; but that which succeeds, as the vessel bearing the chivalrous Theseus approaches the port and city of Heraclium, in the Island of Crete, is a triumph: the temples and palaces on the heights, long arcaded perspectives and magnificent columned porticoes, with the vessel and the quay, form a wonderfully fine picture, and make us wish that our architects would take some lessons from our scene-painters, and now and then give the precedent-rein to their imagination and see where it would lead them, and what, unshackled, it would do for them.

And yet we are about to cavil,—though our cavil shall be no dispraise in the case. "Pisistratus," says Mr. Caxton (a bookworm in a clever sketch in the current number of *Blackwood*, who wakes up one morning and finds his son so named), "Pisistratus christened! Pisistratus, who lived six hundred years before Christ was born. Good heavens, madam! You have made me the father of an anachronism."

And so our artist's desire for splendour (not to attribute to him either want of thought or want of knowledge) has made him the father of an anachronism. The structures are Italian, not Grecian—still less the Grecian of the time of Theseus, and that expedition to Crete which, as Bulwer says in his "Athens," *is* "indissolubly entwined with immortal features of love and poetry." This occurred, as all our schoolboy readers know, in the *heroic* times—the time before dates were—pretty nearly as many hundred years before the Great Birth as we live after it, when structures were massive and simple; and, at all events, there were no triumphal arches and continued arcades.

This is a very common mistake, and, in the present instance, a venial one. In a burlesque, wherein Mr. Charles Mathews, as that ancient architect Dædalus, gives reasons for wearing, with a semi-Greek dress, a pair of white-satin bear-riches (shall we call them, for ears polite), —to talk of an anachronism is to talk nonsense, the artist may say; still, the arch and other marks of a different age might as well have been avoided, instead of being everywhere superabundantly used. The famous labyrinth, for example, is represented as formed by a continued series of arches stretching round and about in mazy lines; and another scene represents a regularly arched dungeon of the most approved construction.

We make these remarks simply as suggestive to stage artists, and not to detract in any degree from the praise due to Mr. Beverly in the present case. What some of our scene painters do in respect of mixing dates at times is illustrated to the life in a capital "humorous confusion" which Planché puts into the mouth of Mr. Mathews in the piece in question, wherein the latter sings, in the short, sharp, quick, clear way, peculiarly his own:—

"I dreamt I was walking with Homer, and talking
The very best Greek I was able—was able;
When Guy, Earl of Warwick, with Johnson and Garrick,
Would dance a Scotch reel on the table—the table.
Then Hannibal rising declared 'twas surprising
That gentlemen made such a riot—a riot,
And sent in a bustle to beg Lord John Russell
Would hasten, and make 'em all quiet—all quiet."

The application of the lines is too evident to need setting forth.

The ancients never had such scene painting as we have, but their artists were called to account when they went wrong: take the following passage from Vitruvius, as translated by Mr. Gwilt, in proof of this. Our author is speaking of various inconsistencies in decoration, and says,—

"And yet the public, so far from discouraging these falsehoods, are delighted with them, not for a moment considering whether such things could exist. Hence the minds of the multitude, misled by improper judges, do not discern that which is founded on reason and the rules of propriety. No picture should be tolerated but those established on the basis of truth; and although admirably painted, they should be immediately discarded, if they transgress the rules of propriety and perspicuity as respects the subject. At Tralles, a town of Lydia, when Apaturius, of Alabanda, had painted an elegant scene for the little theatre, which they called εκκλησιαστηριον, in which, instead of columns, they introduced statues and centaurs to support the epistylium, the circular end of the dome, and angles of the pediment, and ornamented the cornice with lions' heads, all which are appropriate as ornaments of the roofing and eaves of edifices,—he painted above them, in the episcenium, a repetition of the domes, porticoes, half pediments, and other part of roofs and their ornaments. Upon the exhibition of this scene, which on account of its richness gave great satisfaction, every one was ready to applaud, when Licinius, the mathematician, advanced, and thus addressed them:—'The Alabandines are sufficiently informed in civil matters, but are without judgment on subjects of less moment; for the statues in their gymnasium are all in the attitude of pleading causes, whilst those in the forum are holding the discus, or in the attitude of running, or playing with balls, so that the impropriety of the attitudes of the figures in such places disgraces the city. Let us, therefore, be careful, by our treatment of the scene of Apaturius, not to deserve the appellation of Alabandines or Abderites, for who among you would place columns or pediments on the tiles which cover the roofs of your homes? These things stand on the floors, not on the tiles. If, then, approbation is conferred on representations in painting which cannot exist in fact, we of this city shall be like those who for a similar error are accounted illiterate.' Apaturius dared not reply, but took down and altered the scene, so as to make it consistent with truth, and then it was approved. O, that the Gods would restore Licinius to life, that he might correct the folly and fashionable inconsistency in our stucco work."

We began with praise, and will end with it. "The Vines before the Temple of Bacchus" is a picture of the highest merit: its sunny richness is glorious. The arrangements generally of this scene, the procession of bacchanals, and the "mad riot," take the spectator back to the days of Virgil and Ovid, and the deep myths which they so finely set forth.

THE GENERAL MEETING OF THE ART-UNION OF LONDON.

If the Lords of the Privy Council for Trade had been present at Drury Lane Theatre on Tuesday last, when the general meeting of the members of the Art-Union of London was held, the unanimous condemnation of their interference, and the opinions expressed by men of all classes, lawyers as well as art-lovers, of its illegality as well as its inexpediency and evil tendency, could scarcely have failed to produce some effect, and lead them, at all events, to avoid doing further mischief: of this, however, on another occasion.

The house was crowded in every part, and a platform, erected in the "circle" formed for the French horse-riders now exhibiting there, was occupied by the council, scrutineers, &c.

His Royal Highness the Duke of Cambridge took the chair at twelve o'clock, and said—Ladies and Gentlemen, I shall not detain you long, inasmuch as I am sure you will naturally be anxious to hear the report of the council of this excellent institution read. One thing, however, I am sorry to say, and that is, that our subscriptions for the current year have very much fallen off—to the extent, I fear, of 5,000*l*. The reasons of this circumstance will appear in the report, and that you may understand them, I will at once call upon Mr. Godwin to read it.

Mr. Godwin, F.R.S., honorary secretary, then read the following

REPORT.

The council of the Art-Union of London have been accustomed, from the foundation of the society, to announce at each anniversary so large an increase on the amount of the preceding year's subscription, that they come before you on the present occasion with less elation than the amount which they have to report would amply justify, but for such previous great success.

The total sum subscribed which they have to report at this, the twelfth annual meeting, is 12,857*l*. 5*s*., being 5,000*l*. less than the amount last year.

This great diminution must be attributed to various concurring causes. A season of commercial embarrassment, and the exciting events of the period (events which will make it memorable in the annals of the world), would suffice to account for part of the falling off. The council, however, are compelled to attribute it mainly to circumstances of more immediate connection with the society.

In their last report, they stated to the subscribers that on the 1st of December, 1846, "The Art-Union of London was incorporated by royal charter,—long, it is hoped, to exercise a beneficial educational influence; to open the enjoyments of art to thousands, to whom they have been hitherto denied; to spread abroad a knowledge and love of art; to offer encouragement to artists beyond that afforded by private purchasers, as well by forming a more appreciating public as by the provision of funds, and so to assist materially the progress and elevation of the fine arts in the United Kingdom." They hoped that the difficulties which had been most unnecessarily thrown in their way, and had caused them much labour and anxiety, were removed, and that they would be able quietly thenceforth to carry out the great purposes of an institution which had spread itself, for good, throughout the empire and its colonies, and the value and importance of which had been admitted on all sides, even by those who in the first instance, through misapprehension or want of information, were opposed to it.

The council were, therefore, much surprised on receiving, in October last, a communication from the Lords of the Committee of Privy Council for Trade, claiming a right of interference which extended to changing the constitution of the association, under clauses in the charter introduced by your council themselves, with the view simply of preventing the perversion of the association from its legitimate purposes by individuals for their private gain.

In this communication the Board of Trade proposed these alterations:—

1st. That the whole number of works of art from which the prizes were to be taken should be selected by a committee, instead of permitting the prizeholders to select, as here-

tofore, from the various public exhibitions of the year.

2ndly. The abandonment altogether of an annual distribution of engravings from modern pictures, and in lieu thereof the occasional distribution of engravings of a superior character as prizes amongst the subscribers;

And 3rdly. The retention of 10 per cent. out of the receipts, "for the purchase of works not for distribution, but for public exhibition."

In a long correspondence which followed, and has been published, your council first strenuously denied the right of the Board of Trade to alter the constitution of the society; and secondly, pointed out the impracticability of the changes proposed, and the injurious results which would be caused if they could be carried out.

A deputation from the council afterwards attended the Right Honourable H. Labouchere, president of the Board of Trade, to explain further their views, when the board withdrew, *pro tempore*, the requirements in respect of the engravings and the retention of 10 per cent. of the subscribers' money; but called for the selection of, at all events, the higher prizes by the council, and requested that the council would consider whether they could themselves suggest some arrangement to that effect. At the next meeting of the council, a letter was ordered to be sent to the board, containing the following resolution, passed unanimously:—

"That the council having considered the communication which took place at the recent interview with the president of the Board of Trade, respectfully beg leave to state it as their opinon, that so material a change in the constitution of the society, as to take away the selection of the pictures from any of the prizeholders, would be most injurious to the Art-Union; and they trust that the Board of Trade will leave unaltered a principle which has been the basis of the success of this society."

The reply to this from the Board of Trade contained intimation that their lordships had "made the following bye-laws in addition to those which had been transmitted to them by the council of the Art-Union of London:—

"1. In the annual distribution of prizes for years 1849, 1850, and 1851 respectively, a certain proportion of the prizes distributed shall consist of pictures, drawings, sculpture, or other works of art, previously selected by a committee, appointed in such manner as a general meeting of the members of the society shall decide, or, in default of such appointment, by the council for the time being or a committee thereof; and in the distribution for the year 1852, and in all subsequent distributions, the whole of the prizes distributed shall consist of works previously selected in manner aforesaid.

2. The proportion of prizes to be previously selected in the years 1849, 1850, and 1851, and the mode of distributing the prizes so selected in those or any subsequent years, shall be decided by a general meeting of the members of the society, to be holden at least three months before the annual distribution of the year 1849, subject to the approval of the Board of Trade, or of any other Committee of the Privy Council to which the consideration of Art-Unions may at the time be referred."

On the 11th of the present month, when the effect of this interference on the funds of the society was discovered, the honorary secretary addressed the following letter to the President of the Board:—

"Sir,—At a meeting of the Council of the Art-Union of London held this day, the Marquis of Northampton, Vice-President, in the chair, I was requested to state to you that the amount of subscriptions for the present year will fall short of that of either of the last two or three years by *several thousands of pounds*. This enormous diminution of their resources, which will be most disastrous to artists, they mainly ascribe, unhesitatingly, to the recent interference on the part of the Lords of the Committee of Privy Council for Trade, which led to misapprehension, and to a feeling of doubt and insecurity in the minds of former subscribers, and so has prevented them from continuing their support to the association. The Council, in the exercise of their duty, have contracted very extensive liabilities. This necessarily increases the anxiety with which they contemplate a further diminution of the amount of subscriptions next year as almost certain to result from the proceedings of the committee; and therefore, waving for the time the question of their lordships' right to alter the constitution of the society (which they consider it their duty still strenuously to deny), they respectfully solicit the committee to suspend the requirement of any change in the mode of selecting the prizes for one year. They venture to ask the favour of an early reply, as they consider it of the utmost importance that the determination of the committee should be announced at the next annual meeting of the subscribers, which is fixed to take place on the 25th inst."

On the 14th the following reply was received:—

"Office of Committee of Privy Council for Trade,
Whitehall, 14th April, 1848.

Sir,—I am directed by the Lords of the Committee of the Privy Council for Trade to acknowledge the receipt of your letter dated 11th of April, 1848.

My lords regret to hear that the amount of the subscriptions to the Art-Union of London has decreased considerably in the present year; but they apprehend that this diminution is to be attributed mainly to the circumstance of the depression of trade, which has so unfortunately prevailed of late, rather than to any other cause.

I am further directed to state, that my lords cannot abandon their intention of desiring to see the principle, which they believe to be a sound one, introduced into the selection of prizes, after the expiration of the present year, into the Art-Union of London, as well as into other similar institutions in various parts of the country. But that, provided the principle is recognised and a beginning made towards carrying it into effect, my lords will most readily consider any suggestions of the council with regard to any further modifications, in addition to those which they have already avowed their willingness to adopt, to which it may be thought advisable that it should be subjected in this instance.

I am directed, in conclusion, to assure the council that while my lords feel that they cannot abandon the functions with which the Legislature has thought fit to invest them for the regulation of Art-Unions, yet that they continue to be most anxious to act in a spirit of co-operation and harmony with the council of the Art-Union of London as far as they can do so consistently with their public duty.—I am, Sir, your obedient servant,

John Lefevre.

To George Godwin, Esq., &c."

Here the matter rests at present. Your council feel bound to continue to refuse assent to the assumed right of the Board to alter the constitution of the Society. The Act of Parliament 9th and 10th of Victoria expressly refers to Art-Unions conducted on two recognised different principles, and makes both legal. According to the Act, a duly incorporated art-union, which distributes by lot to the members certain sums of money, is legal, as well as one which distributes the works of art themselves, provided *only* that the money be expended in the purchase of works of art, and the society be carried on in good faith for the encouragement of the fine arts. Whereas, the effect of what are called the *bye-laws* ordered by the Board is, in contravention of this, to declare that only *one* description of Art-Union shall be legal, a power which the council are forced to deny. They are the further impelled to this by the intimation of *constant* interference on the part of their lordships, conveyed in their last communication,—an interference which could not fail to have the effect of annoying and discouraging those by whom the society is conducted, and would tend unquestionably to its ultimate extinction—a result which cannot be contemplated by them without anxiety and pain, and should not be heedlessly risked by a government professing a desire to extend a knowledge and love of art amongst the people, and advance the fine arts of the country.

It is evident that the Board of Trade has erroneously regarded the important distinction of the selection of prizes in these societies by those who gain them, and by others for them, as a mere matter of detail, while it is, in fact, a fundamental principle of their constitution. To give each prizeholder the right of choice uncontrolled, save by his own taste and judgment, and such advice as he may voluntarily seek, is one of the chief means upon which the council rely for the formation of an art-appreciating public. "In the first address issued by the society, February, 1837 (as they have pointed out to their lordships), it is remarked that, 'The mode of encouraging art by purchasing works to be distributed among the subscribers, is neither novel in principle nor untried in practice,' 'But the promoters of the Art-Union propose to combine with this principle that of leaving the selection of works to the subscribers themselves,' and this was prominently set forth in the first and all subsequent lists of regulations; it was, in fact, the characteristic and foundation law of the association. The right of *selecting for himself a work of art from one of the public exhibitions of the day*, was the chief prize offered, from the commencement, to the subscribers." To protect a society offering this right as an inducement for subscription, the Act of Parliament was passed; and to incorporate a society offering this special right, a Charter was granted by her Majesty. Bye-laws, over which, by the terms of the Charter, the Committee of Privy Council have control, simply go to the mode of *distributing* this right and other details; the offer of the right itself is made legal by the Act of the Legislature.

The comparative merits of the two systems have been so often dwelt on by the council in their reports, and the superior advantages of that advisedly adopted as the basis of the Art-Union of London have been made so manifest by time, that further remark would seem to be unnecessary. It is proved to be the means of inducing the largest numbers of persons to join the association, and thus become interested in the arts,—that it tends to the largest expenditure on works of art—brings artists and their best patrons, the public, more immediately together—is best calculated to lead to the education of the people in art—to prevent the influence of personal feeling or bias in favour of particular styles of art, to the injury of others,—and is, in most respects, the best calculated to advance the great objects of the association. The council have had occasion, for special purposes, to adopt the principle to which it is now desired to confine them. What they claim, however, is the right to avail themselves of both, in accordance with the Act of Parliament and the charter of the society.

The vital question at present, then, between the Board of Trade and the Art-Union of London is,—whether the council shall select the prizes for the prizeholders, or the prizeholders select them for themselves: and to make the opinion of the society on this point clear to those who have not that opportunity of otherwise learning it which your council have, a resolution will presently be submitted for your consideration.

The number of provincial honorary secretaries is now 426, who continue to manifest warm interest in the progress of the association, and are entitled to the thanks of the members. The council notice the increase of subscribers in America, especially in Boston, from Mr. Dennett, with great satisfaction. From New York (Mr. Ridner), Hobart Town (Mr. Kay), and from Sydney (Rev. Mr. Walsh and Mr. Ford), very satisfactory lists have also been received.

Two hundred and seventy-three works of art were selected by the prizeholders of last year, and, with the exception of two from Westminster Hall, which could not be removed, were exhibited in the Suffolk-street Gallery, by the kind permission of the Society of British Artists. The collection was open for a month—a part of the time during the evening—and was visited by an immense number of persons.

The exhibition included the finished picture by Mr. H. C. Selous, from his prize cartoon, "Queen Philippa interceding for the lives of the burgesses of Calais." In pursuance of the original intention to engrave the selected work, this picture has been put into the hands of Mr. Henry Robinson, to be executed in the mixed style. It is proposed to distribute impressions from this plate as prizes in future years.

Since the date of the last report the prints and outlines due to the subscribers of 1845, and to the subscribers of 1847, have been delivered; so that, at this time, there are no prints in arrear beyond those of the current year.

The council will not shut their eyes to the fact, that the prints last sent out have not been wholly satisfactory. It must be remembered that they are, in this respect, in the hands of the engravers. It is due to themselves to state, as regards the engravings for 1847, that the propriety of refusing to distribute the impressions from the plates when finished, was seriously discussed by the council; but it was thought that such a course would be scarcely consistent with their duty as trustees.

In respect of the engraving for 1845, the council considered that when they had obtained one of the best pictures of one of our most esteemed artists, and had placed it in

the hands of an engraver of the highest reputation in England, giving him his own terms and his own time, that they had taken all the means in their power to ensure a perfectly satisfactory result.

The engraving for the current year, "The Prisoner of Gisors," by Mr. F. Bacon, after Mr. Wehnert, is at press, and will be ready for distribution in the autumn.

Very considerable progress has been made in the preparation of the illustrated edition of "L'Allegro" and "Il Penseroso," also due to the subscribers of this year, and which promises to be a very satisfactory production. Some of the illustrations already completed may be safely pronounced equal to any similar works ever produced.

"Sabrina," engraved by Mr. Lightfoot, after Mr. Frost, A.R.A., is nearly completed. It is proposed to appropriate this plate to the subscribers for the next year, who will also receive a series of etchings or wood-engravings, not yet decided on.

Mr. W. Finden is proceeding with "The Crucifixion," after Hilton.

For some ensuing year the council have commissioned the execution of several plates on *steel*, as an experiment to test the advantage of such a course, instead of electrotyping one copper-plate,—the particular print to which each subscriber will be entitled, to be decided by lot. The number of plates required would, of course, depend on the number of subscribers enrolled. The following pictures are already in hand:—

"The Burial of Harold," by Mr. F. R. Pickersgill, A.R.A. (which received the first premium in 1847 from the Royal Commissioners of Fine Arts), to be engraved by Mr. Bacon:

"Richard Cœur de Lion pardoning Godfrey de Bourdon," by Mr. John Cross (which also received a premium from the commissioners), to be engraved in line by Mr. Shenton:

"The Irish Piper," by Mr. F. Goodall, to be engraved by Mr. Edward Goodall.

With a view to the encouragement of lithography, the council have commissioned Mr. H. Maguire to execute a drawing on stone after a picture by Mr. John Tenniel, "St. Cecilia," which has been obtained for that purpose.

The expediency of extending encouragement to mezzotinto engraving has occupied the attention of the council on several occasions, and but for the unnecessary interruption to which they have been subjected, they would have been prepared to take some steps in respect of it.

The statue by Mr. Calder Marshall, A.R.A., "The Dancing Girl reposing," to the model of which the society's premium was awarded, has been executed in marble, and is now at the Royal Academy for exhibition. A reduced copy of it has been made by Mr. Cheverton for the purpose of reproducing it in statuary porcelain. Fifty casts of it in this material will be allotted to-day.

The statuettes of "Innocence," executed in porcelain, and appropriated last year, are in course of delivery to the prizeholders.

The casts from the "First Whisper of Love" have been distributed.

The bronzes allotted at the same time, "Iris Ascending," are nearly all in the hands of their owners.

For the current year it is proposed to produce in bronze a bust of her Majesty Queen Victoria, in commemoration of the grant of the charter. The opinion of his Royal Highness Prince Albert being taken, the bust by Chantrey, deposited in Windsor Castle, was adopted as the best, and a cast having been obtained for the society, with her Majesty's gracious permission, it was reduced, and will be executed in bronze forthwith. Thirty of these busts will form part of the distribution to-day.

The council observe with gratification the impulse which has been given to this branch of art by the operations of the society, as well as the increased connection between art and manufactures now becoming everywhere apparent. The shop windows of the metropolis give striking evidence of the *endeavour* to connect them, if not in all cases of a successful result.

The desire of the council to produce a fine work in cast iron has been frustrated up to this time by delay, attributed to misfortune, on the part of the sculptor who was commissioned to make a reduced copy of the selected figure, "Thalia," in the gallery of antiquities at the British Museum. The model, which was said to be ready at the date of the last report, has but just now come into their hands, notwithstanding repeated efforts on their part to obtain it earlier. It will be forthwith transmitted to the founders, and the casts will be forwarded to the prizeholders as speedily as possible.

A similar delay has occurred in respect of the "Wren" and "Flaxman" medals, distributed in 1846 and 1847. Unable to obtain the satisfactory completion of these medals, they have been compelled to take them from the artist to whom they had been confided, and to place them in other hands. The council regret that those subscribers to whom these medals, and the statuettes in iron, are due, should be kept from the possession of them: it must be seen, however, that in this, as in other branches of art already alluded to, they are wholly at the mercy of the artists employed. In cases where the mind and hand of the man himself are needed, to calculate exactly the time of completion, without the certainty of health and earnest co-operation on the part of the artist, is impossible. The council have at heart only the interest of art. As they have already had occasion to say to the Committee of Privy Council—it is only by their love of the fine arts, and their desire to advance them in this empire, that they have been led for so many years, and under considerable difficulties, to devote their earnest exertions in carrying out the objects of the society. It is not too much to expect, then, that they should find amongst artists, personally so much interested in the extension of a love of art, the warmest sympathy and the most earnest co-operation. This co-operation the council seek anxiously, but, unfortunately, do not always find.

The Wren medal has been intrusted for completion to Mr. Benjamin Wyon, and is being proceeded with. With the view of lessening the cause of complaint on the part of the prizeholders, to whom this, or the Flaxman medal, is due, it is arranged that they shall be allowed to take the Chantrey or Reynolds' medal in lieu, should they desire to do so.

A die for a medal, commemorative of Hogarth, is in rapid course of execution by Mr. Leonard Wyon (son of Mr. Wyon of the Mint). Thirty impressions of this in silver will be allotted to-day.

It is to be regretted that so little encouragement is given in England to this very important branch of art as to induce few persons to practise it. The council have sought, by public advertisement, to ascertain the existence of capable persons exercising the art, other than those who are already known to the public, but have not succeeded in doing so.

In pursuance of a bye-law alluded to in the last report, which provides that four vacancies in the council shall be declared annually, and four new members appointed to fill them, the council have elected the Lord Compton, Theodore Martin, Esq., Captain Bowater Vernon, and Mr. Serjeant Talfourd.

The number of the council not having yet reached the limit provided by the charter, it was unnecessary for any of the existing members to retire.

The reserve fund now amounts to the sum of 2,867*l*. The council keep steadily in view the importance of obtaining a gallery and other sufficient premises for the purposes of the association, the main object of this fund.

The following is a broad statement of the receipts and disbursements; the items will be, as usual, more particularly set forth when the report is printed.

Amount of subscriptions	£12,857	5	0
Set apart for purchase of pictures, busts, statuettes, models, and lithographs	£6,090	0	0
Cost of engravings, &c., of the year	3,899	1	8
Expenses and reserve of 2½ per cent.	2,868	3	4
	£12,857	5	0

The accounts have been audited by three members of the finance committee and two gentlemen from the body of subscribers, namely, Mr. Hickson and Mr. Erle, to whom the thanks of the council are offered.

The sum of 5,335*l*., set apart, according to the foregoing statement, for the purchase of works of art by the prizeholders themselves, will be thus allotted:—

15	works of..	£10	each	£150
21	.....	15	.....	315
18	.....	20	.....	360
18	.....	25	.....	450
14	.....	30	.....	420
14	.....	40	.....	560
10	.....	50	.....	500
8	.....	60	.....	480
6	.....	70	.....	420
6	.....	80	.....	480
4	.....	100	.....	400
2	.....	150	.....	300
1	.....	200	.....	200
1	.....	300	.....	300

To these are to be added—

30 bronzes of "The Queen,"
50 statuettes of "The Dancing Girl,"
30 medals commemorative of "Hogarth," and
300 lithographs of "St. Cecilia;"—making in the whole 547 works of art.

The total sum appropriated to the purchase and production of works of art, including the cost of the engraving and illustrated book is 9,989*l*.

The bronzes will be allotted to the first thirty names drawn consecutively at the close of the general distribution; the statuettes to the next fifty names similarly drawn; and the medals to the following thirty. The lithographs will be appropriated to the names standing fiftieth and fifty-first in the list after each of the prizeholders in the general distribution, and to the name standing the fiftieth in the list after each of those entitled to a medal. Notice will be sent to the subscribers entitled to the lithographs in the course of two days. The other prizeholders will receive intimation of the result by to-night's post.

With regard to the selection of prizes, the council were given to understand that the difficulty with which information concerning pictures was obtained at the Royal Academy by prizeholders had prevented many purchases there, and had led to the return of fine works to the studio of the artist, which would otherwise have been bought. They accordingly addressed a communication to the council of the Royal Academy, pointing out this fact; that body, in consequence, resolved, that a room in the upper hall should be given up during the exhibition, and that a clerk should be specially employed to answer the inquiries of subscribers to the Art-Union.

To conclude—Art is beginning to re-assume her ancient throne, as a mighty teacher and humanizer,—the interpreter of religion, and recorder and inducer of greatness; but the progress is slow and painful.

The artist requires an appreciating audience,—an enlightened nation—for a patron,—to give him which the public taste must be cultivated and knowledge extended. A constant acquaintance with beautiful forms and harmonious colourings, and an engagement of public interest, will do much towards effecting this. The eye is quickly educated; and even more quickly vitiated. The great obstacle to the progress of the fine-arts amongst us has been the want of sympathy, on the part of the public, with art and artists.

When the multitude feel the power of art, and acknowledge its importance, they will elevate artists; and, in so doing, will further elevate art. "What a different world," says Quatremère de Quincy, "do Raffaelle and the grand masters of his time open up to us! How many ideas and images would have been unknown to us had not imitation attained its aim." And again—"What an unfailing source of pleasure for the understanding and the sentiment! In short what creations, for the existence of which we are indebted to imitation; not that which is limited to shewing us real, but that which, by the aid of what is, shews us what has no real existence!"

"A form of beauty is a joy for ever!" Let us give honour to those who produce it. They are in truth, to use a German phrase, the "world-betterers."

As a nation, we have as yet done little for art. We have built few homes, still less tem-

ples for her,—scarcely sought her powerful aid to ennoble the people. Money spent in the production of really great works for universal contemplation,—in the contruction and decoration of august public buildings which, belonging in a degree to all, increase their self-respect, improve their taste, and raise their aspirations, is but put out to use, and will return a glorious interest. Counteracting the absorbing love of gain and the pursuit of mean pleasures, the language of such works goes straight to the hearts of all, giving higher motives for exertion and purer enjoyments: arousing dormant energies and dignifying the character of man.

The great end of art is to develop and exalt the mind,—the elevation of art, but the means to this end. As we have before urged, the operation of our association is, to advance art by the improvement of public taste, and to advance civilisation by the improvement of art.

George Godwin, } Hon. Secs.
Lewis Pocock, }

Mr. John Martin, M.P., briefly moved the following resolution, first strongly deprecating the interference of the Board of Trade:—

"That the report now read be received and adopted. That this meeting, cordially agreeing with the efforts made to maintain the fundamental principles of the institution, request the council to persevere in their exertions: and, further, that the thanks of this association be presented to the council and officers for their valuable exertions."

Mr. B. Bond Cabbell, M.P., in seconding the resolution, said—Although we appear before you on the present occasion under the sanction of an Act of Parliament, and under the sanction of a Royal Charter, I have no hesitation in saying that great impediments have been thrown in our way by the Board of Trade, unauthorised by that Act of Parliament, either legally, morally, or, in the language of the day, on the ground of expediency. I can refer to the experience of a society of this nature some years ago, where the selection of the pictures purchased was made by the committee of that society. Ladies and gentlemen, that society only existed for three years. It was brought to a premature termination at the end of three years, from the ridicule which was thrown upon that committee in the selection of those pictures for the different prize-holders. Do not let me be mistaken; I do not say that ridicule was properly or judiciously thrown upon the committee—it was thrown upon them because it is perfectly impossible for any body of men to select for others what will be just in accordance with their own tastes. I will confine my remarks to the principle upon which our society had its existence. It exists upon the principle that the selection should be given to the prizeholders. That was the principle from the very beginning: that was the principle, Sir, upon which your Royal Highness condescended to give it your support, and I appeal to you, and will appeal to every one, whether we can select a better mode of creating taste than by giving an interest to the individual to select the best work he can. That is creating an interest in the individual, and in that point of view it is conducive to the arts. Now, it is very well known that the demand will create the supply; and if you can create a taste for the arts among the people generally, you will create art, and by that means give honour and distinction, and wealth and rank, and station to the artist;—and connected with our commercial pursuits, I do not think we can turn our attention to any object more worthy of support and patronage, than a society of this kind, every individual having the right to select his own picture. Now, I have mentioned that we appear before you under this Act of Parliament and the Charter. It is under the Act of Parliament that the Board of Trade have the power of making bye-laws; but with all due submission to the Board of Trade, I conceive they are exceeding their powers in making any alteration, or in proposing or suggesting any, with respect to the very principle on which the society exists. What is the meaning of bye-laws? A bye-law is a law referring to some principle or superior power already in existence. What is that? That is our Charter. We were sanctioned by the Act of Parliament as we then existed. The principle always has been that of selection on the part of the prizeholder, and any bye-law must be subservient to that principle. I shall, therefore, with all submission, impress upon this meeting that the committee are right in adhering to that; and I trust that the Board of Trade will see a reason, as far as this institution is concerned, for giving way, and not carrying out any supposed powers they may have. I contend they have no power; because, I say that a bye-law must be subservient to a pre-existing principle.

When the chairman was about to put the resolution, a gentleman named Hersee said he was sorry to obtrude himself upon a meeting where so much unanimity invariably prevailed, but he thought there was an apparent want of candour in the report on one subject, and although he had every confidence in the council himself, still he could not but fear they might be misjudged by the public at large if it were passed by unnoticed. An addition to the resolution, which he had prepared, would best convey what he meant. He then read as follows:—

"That this meeting having observed that in explaining the decrease of subscriptions, the committee do not make sufficient allusion to the prejudice created against the Art-Union by the inferior quality of last year's prints, beg to suggest that the prosperity of the Art-Union depends greatly on the character of its publications, and to convey a friendly recommendation of increased attention to this point in future."

The honorary secretary, at the request of the Duke, again read that part of the report which refers to the engravings, and Mr. Hersee, admitting that he had not heard the report read, withdrew his amendment, and the original motion was carried, loud cheers marking the opinion of the meeting in respect of the unnecessary interference of the Board of Trade.

Mr. Serjeant Thompson moved, with very kind expressions, the following resolution:—

"That the cordial thanks of this meeting are due to Mr. George Godwin and Mr. Lewis Pocock, hon. secretaries, for their uniformly zealous exertions to promote the best interests of the institution."

In doing so he defended ably the steps which the council had taken to obtain engravings, and shewed that they could not have acted other than they did. He condemned strongly the interference of the Board of Trade and the alteration proposed; and thus went on:—I can only say for myself that, notwithstanding my high opinion of many lectures that have been delivered in this country from the time of Reynolds down to the time of my unfortunate friend Haydon,—notwithstanding my appreciation of the effects of those lectures,—I know of nothing that ever has given so much knowledge to people in general in art as their having before them the question of determining for themselves, and for their own property, between several pictures which have been placed before them. There was a time certainly when I thought differently; because at that time I was ignorant of the effects of art upon the people: and that is what I contend is the great ignorance of the Board of Trade; they do not know the effect of art upon the people. It was formerly supposed to be the best thing which a nobleman or great landed proprietor could do, to make a gallery of pictures; and artists were taught to look up to men of eminence as patrons of art. But how much better is it that any man may now himself obtain a picture, which he examines and studies particularly, and which is always before him to elevate his mind and increase his pleasure! How much better to circulate among the generality of people,—to circulate indeed, as the Art-Union does everywhere, almost into every cottage,—to circulate those works which genius and taste (for a man may have genius and taste and no opulence) can properly appreciate.

Mr. Hurlstone, P.B.A., warmly seconded the resolution, and referred to the fact that the council, in properly rejecting the proposition of the Board of Trade, were nobly giving up a vast amount of patronage.

The motion having been carried, Mr. Pocock and Mr. Godwin severally returned thanks: the latter gentleman observing, he thought it was the tenth year in which he had had the pleasure of writing and reading the annual report, and that he had given, in conjunction with his friend Mr. Pocock, much time to the society with a great deal of pleasure, because he had felt that it was a powerful instrument for good. He was not certain, however, that he should again be able to do so, the claims of his profession being great. They would have no difficulty in getting a much more able secretary, but he boldly asserted, they would nowhere find one more zealous and earnest.

Mr. C. F. Dennett and Mr. John Imray were then appointed scrutineers; and Miss Davis and Miss Hemery having consented to draw the prizes, the distribution commenced. Previous to this his Royal Highness the President retired, first expressing his entire concurrence with the report of the council, and regretting that the Board of Trade would not "leave well alone." The selection would be a most odious task for the Committee: they would please no one, and the number of subscribers would necessarily decrease.

Mr. B. B. Cabbell was called to the chair; and after the distribution thanks were voted to the scrutineers and the ladies, and honourable mention made of the assistant-secretary, Mr. T. S. Watson.

The following is a correct

LIST OF THE PRIZEHOLDERS ENTITLED TO SELECT FOR THEMSELVES.

Entitled to a Work of Art of the Value of Three Hundred Pounds.

Taylor, Mrs., Bow-road.

Entitled to a work of Art of the Value of Two Hundred Pounds.

Hatfield, J. A., 20, Cumberland-street, Middlesex Hospital.

Entitled each to a Work of Art of the Value of One Hundred and Fifty Pounds.

Foreman, R., Gateshead, Durham.
Meade, C., North Walsham, Norwich.

Entitled each to a Work of Art of the Value of One Hundred Pounds.

Allen, F., Pershore.
Cottingham, Rev. H., Hathersage, near Bakewell.
Hosking, Mrs., Sidney.
Varden, S., Stock Exchange.

Entitled each to a Work of Art of the Value of Eighty Pounds.

Clark, C., Twickenham.
Davis, J., 3, New-road, Fitzroy-square.
Field, H., 15, Heath-place, Cambridge-heath, Hackney.
Jones, J. M., 8, Austin Friars.
Murphy, Wm., Inn's-quay, Dublin.
Vernon, Rev. W. H., Sutton, Surrey.

Entitled each to a Work of Art of the Value of Seventy Pounds.

Allen, R., Trinity House.
Brook, William, Chiddingstone, Tunbridge.
Burcham, R. P., 14, Albany-street, Regent's-park.
Freeman, J. W., Troy, New York.
Leigh, Rev. W., Pulham, Norwich.
Walker, J. C., Hobart Town.

Entitled each to a Work of Art of the Value of Sixty Pounds.

Bridger, C., 3, Keppel-street, Russell-square.
Browne, W. P., Cambridge.
Dennett, W. H., Worthing.
Edwards, W., Sheepsear-street, Liverpool.
Ince, J. M., King's-parade, Cambridge.
Pye, H., Louth.
Stuart, Chas., 3, Trinity-street, Cambridge.
Twentyman, R., 78, Wood-street.

Entitled each to a Work of Art of the Value of Fifty Pounds.

Hare, H. J., Bramhope-hall, Leeds.
Hawkins, E., F.R.S., F.S.A., British Museum.
Jewitt, J. W., 7, Eastcheap.
Kemble, Rev. C., 10, Montague-place, Clapham-road.
Levett, Mrs., Milford-hall, Stafford.
Maurice, J., Ruthin, Denbighshire.
Potts, Jno., Gateshead, Durham.
Powell, J., Wem.
Search, A., 14, Whitehall-place.
Swainson, W., 9, Charlotte-row, Walworth.

Entitled each to a Work of Art of the Value of Forty Pounds.

Atkinson, F., per Rev. R. B. Mayor, Rugby.
Brocklehurst, P. L., Tythington, Macclesfield.
Bunney, John, 9, Pancras-lane.
Coote, D. R., Newbliss, Ireland.
Davis, J. A., Boston, Massachusetts.
Duck, R., High-street, Manchester.
Gold, Miss, Heslington, York.
Knowles, L., Gomersal, near Leeds.
Mappleton, L., Newton Abbott.
Meggy, G., Chelmsford.

Normanville, W. J., Engineer's Office, Euston-square.
Roberts, D., 16, Northampton-place, Old Kent-road.
Roberts, C., 38, Mincing-lane.
Turton, R., War Office.

Entitled each to a Work of Art of the Value of Thirty Pounds.

Baker, Miss, per B. Little, Stratford, Essex.
Beale, Mrs., Tenterden, Kent.
Beckett, John, Dorking.
Clowes, J., Great Yarmouth.
Collins, J., 115, Regent-street.
Hogg, Wm., 32, Crutched Friars.
Huffington, W., the Strand, Derry, Ireland.
Leng, J. W., 33, Prospect-street, Hull.
Lewis, A., 63½, King William-street, City.
March, Right Hon. the Earl of, Molecombe, Chichester.
Martin, T., 24, James-street, Buckingham-gate.
Ross, H. J., Cowes, Isle of Wight.
Saligniac, G., 48, Mark-lane.
Syer, Lieutenant, Keddington, Suffolk.

Entitled each to a Work of Art of the Value of Twenty-five Pounds.

Bilborough, S., Owencastle Wood, Newry.
Blundell, W. C., 25, Cursitor-street, Chancery-lane.
Bryers, J., "King's Arms," Ormskirk.
Bugby, Wm., City Gas Works, Dorset-street.
Cammack, Thos., M.D., Spalding.
Chamberlayne, Thomas, Cranbury Park, Winchester.
Cherry, J., Post-office, Derry.
Green, P., 25, St. Anne's Terrace, North Brixton.
Grout, J., 12, Foster-lane, Cheapside.
Hayes, John, 35, Coppice-row, Clerkenwell.
Hobbs, W. J., Boxted Lodge, Colchester.
Jones, J., Park-lane, Welshpool.
Miller, J., Fountain-street, Manchester.
Perry, W. W., Noyadd Trepaur, Cardigan.
Sherwin, Mrs., 6, Thurloe-place, Hackney-road.
Thomas, John, Carmarthen.
Wilkinson, John, 32, Piccadilly.
Yarnold, C., 3, Doncaster-place, Old Kent-road.

Entitled each to a Work of Art of the Value of Twenty Pounds.

Aleton, Edwd., Great Bromley-street.
Bathurst, Hon. Mrs., 8, Grosvenor-square.
Boyd, A., 4, Marlborough-place, St. John's-wood.
Brown, W., the Orchards, Ashbourne.
Calvert, E., Walton, near Preston.
Conquest, Dr., 13, Finsbury-square.
Gardiner, Rev. H., Catherington, Hants.
Haes, J., 15, Park-road, Stockwell Common.
Jackson, J. Gas Works, Lincoln.
Lang, G., 5, St. Dunstan's-hill.
Leach, B. A., East India House.
Petit, L. H., 9, New-square, Lincoln's-inn.
Squire, W., Yarmouth, Isle of Wight.
Steers, D., Junior United Service Club.
Vanhoven, B., 30, Gower-street.
Watson, W. H., 12, Bouverie-street, Fleet-street.
Watson, G., jun., 65, Great Dover-street, Southwark.
Wood, S. J., 64, Tredegar-square.

Entitled each to a Work of Art of the Value of Fifteen Pounds.

Bedford, Miss S. S., Abbey House, Pershore.
Corbett, W., 19, Lombard-street.
Crosbie, R. E., 162, Grove-street, Liverpool.
Fletcher, J., Pride's-court, Dartford.
Gay, W., Falmouth.
Gorton, Master G. C., Lower Bridgeman-street, Bolton.
Heitland, A. A., Colkirk, Fakenham.
Henderson, John, Winlaton, Durham.
Heselrigge, Hon. Lady, 23, Upper Brook-street.
Howard, W., Chelmsford, Essex.
Oaks, J. W., 100, Bold-street, Liverpool.
Poignand, F. La Chasse, St. Helier's Jersey.
Powell, Mr. W., Lenham, Kent.
Roffway, J., 9, Huggin-lane.
Smitherman, J. Port Hill House, Herts.
Taylor, J. R., Albany, New York.
Waters, J. D., Great Yarmouth.
Whitcombe, Mrs., Marsh-gate, Richmond.
Wingfield, J., Leek, Stafford.
Withered, Miss E. Eaton, Norwich.
Wright, W., New Buckingham-street, Kent-road.

Entitled each to a Work of Art of the Value of Ten Pounds.

Boultbee, Capt., St. Peter's, Beds.
Bullen, Geo., Ipswich.
Compigne, L., Great Berkhampstead.
Goodger, — Burton-on-Trent.
Harrison, C., 33, St. John's Wood-terrace.
Kean, J., M.D., Limerick.
Naylor, Mrs. H., 12, Angel-terrace, Islington.
Nibblett, J., "White Lion," Bristol.
Phillip, Mrs., 15, Westbourne-grove, Bayswater.
Richards, E. P., Cardiff.
Smithers, W. H., 102, Upper North-street, Brighton.
Stone, Miss, Chiselhurst, Kent.
Ternie, K., 6, Delahay-street, Westminster.
Ward, F., Balham-hill.
Wayne, Mrs. S. A., Chorlton-on-Medlock.

Entitled each to a Bronze from Sir F. Chantrey's Bust of the Queen.

Botford, Dr., St. John, New Brunswick.
Brooke, J., Llanelly.
Brown, H., Broughton, Chester.
Chate, E., Malmsbury.
Crosse, S. E., High-street, Kensington.
Davies, Mrs. J., Linglands, Stourbridge.
Davies, Rev. S., Grange, Swansea.
Ellerton, G., Kippen, Pontefract.
Forshaw, Mrs., Nantwich.
Glazebrook, M. G., 23, Crutched-friars.
Jameson, M., 4, Verulam-buildings.
Kendall, W., Kineton, Warwick.
Lefevre, Mrs. S., 71, Eaton-square.
Lovegrove, J., 24, Ludgate-hill.
Lunham, Thos., Rutland-street, Cork.
Major, J. P., Redruth.
Mayjor, Jno., Tavistock.
Monday, W., Star-corner, Bermondsey.
Moore, Jno, Newtown, Montgomery.
Newcomb, Rev. C. G., Habberton, Tiverton.
Ogilby, Capt., late 6th Foot, Cox and Co.
Putnam, G. P., 12, Paternoster-row.
Quick, J., Summer-street, Southwark.
Ripley, H. W., Lightcliff, Bradford, York.
Robson, M., Castle Eden, Durham.
Smyth, R., High-street, Coventry.
Spencer, G. B., 50, Albemarle-street.
Stevens, R., 194, Fleet-street.
Stow, W., Lewisham, Kent.
Venua, F. R., 22, Duke-street, St. James's.

Entitled each to a Porcelain Statuette of "The Dancing Girl reposing," from a reduced model, after the original by Mr. W. C. Marshall, A.R.A.

Aldred, Hy., Eye.
Bamford, W., Post-office, Oldham.
Begbie, G. C., 10, Coleman-street.
Clark, H. J., 15, Wellington-street, City.
Cole, W., Claughton Firs, Birkenhead.
Cooper, R., 11, Lascelles-place, Bloomsbury.
Coulson, B., 3, South-street, Manchester-square.
Crackwell, W. W., Scarborough.
Daw, C. H., Tavistock.
Dixon, W., Bishop Wearmouth.
Fenton, Fk., Lambeth-palace.
Fern, W., Truman's Brewery.
Harrison, Christ., Southorpe-lodge, Driffield.
Hayward, E., Rochester.
Heaviside, J. S., High-street, Oxford.
Hollis, George, Syon-house, Brentford.
Holt, A. G., Bromsgrove.
Kelland, M., High Wycombe.
Kesteven, T. T., Iron Works, Wolverhampton.
Laurence, F. A., 2, Caledonian-place.
Liddell, Chas., 24, Abingdon-street.
Lowther, G. L., Penrith.
Matthew, Hy., 106, Upper Thames-street.
Nash, W., Leatherhead.
Nettleship, S., 14, Chapel-street, Grosvenor-square.
Norris, Mrs., 22, Upper Gower-street.
Norwood, Wm., Devonshire-road, Balham.
Page, Ed., 3, Marlbro'-place, St. John's Wood.
Pardey, W., Leadenhall-market.
Parton, W., Horsmonden.
Pennington, H., 4, Albert-place, Kensington.
Reid, W., North Main-street, Cork.
Sanders, T. C., Gandy's-street, Exeter.
Sayer, E. C., 9, Liverpool-terrace, Islington.
Sedgwick, F. W., 80, Watling-street.
Sharp, W., Cannon-street, Birmingham.
Shepard, H., Providence, Rhode Island.
Smeatham, —, Sydney.
St. John, Lady, Melbourne-park, Beds.
Stokes, W., Chichester.
Taylor, J., 33, London-street, Fitzroy-square.
Tent, Wm., 21, Royal Exchange.
Thompson, C. F., Newmarket-buildings, Manchester.
Tunno, E. R., Upper Brook-street.
Vining, C. M., 50, Leicester-square.
Whiteley, Geo., Mayfield, Halifax, York.
Wiggins, W., Dartford.
Wingate, Thos., 28, Upper Barnsbury-street.
Wotherspoon, Mrs., Lyndhurst-road, Peckham.
Wright, A. H., 15, Smithfield-bars.

Entitled each to a Silver Medal by Mr. Leonard Wyon, commemorative of "Hogarth."

Arrowsmith, P. R., Victoria-terrace, Bolton.
Boardman, C., Blackburn.
Botsford, Dr., St. John, New Brunswick.
Brookes, H. C., Park-street, Walsall.
Broughton, C. D., Windsor Villas, Plymouth.
Charrington, N., Leytonstone.
De Bz., J., Whittington Club.
Drummond, G., Regency-square, Brighton.
Dustan, Mrs. W., 21, Highbury-terrace, Islington.
Edgar, Mrs., 5, Rodney-terrace, Mile-end-road.
Gillott, G., 36, Strand.
Guest, T., Basing-house, Gray's Inn-road.
Halifax, W., Knightsbridge.
Hall, G. B., Fareham.
Hall, Jno., Hertford-street, Coventry.
Harvey, J., Bury St. Edmunds.
Hillier, W. R., 8, Nelson-square, Peckham.
Leslie, Sir H., Bart., Mickleham, Surrey.
Lintott, Miss, 52, Wigmore-street.
Lugar, Mrs., 44, Great Marlborough-street.
Macormick, R., Toronto.
Newstead, Miss, Dunham-on-Trent.
Nutt, W., Hobart Town.
Peterborough, Dean of, Peterborough.
Rich, G. W., 2, Ludgate-hill.
Rose, J., 3, Arlington-street.
Schoalles, A., Ashford, Kent.
Staffurth, A., Bury, Huntingdonshire.
Tout, T. E., Dorset-place, Clapham-road.
Trevelyan, Capt., Enmore-park, Somerset.

DANGER OF RETURNED SHOP-FRONTS.

WITH reference to the fall of a new corner house mentioned last week, the following passage from Professor Hosking's late "Guide,"* is *apropos*, and may at this moment make some impression. We have alluded to the evil in question before now. "The very common practice in all large towns of omitting or of removing the outer walls throughout the ground-floor story on two or more of the sides of corner houses, to admit of returned shop fronts, is so fraught with danger, as to make it matter of wonder to all who know upon what a thread such buildings hang, that casualties from this cause are not of more frequent occurrence. Commonly a doorway is made upon a canted or diagonal line cutting off the corner where two fronts intersect, and leaving the quoin or outer angle of the building above to overhang a void; whilst the support given to the brestsummers placed under the walls of the upper stories is generally either slight fir story-posts, or even slighter iron columns, and which supports are not unfrequently placed over openings in the walls below, and almost always over timber in some form or other, in situations and under circumstances most liable to induce decay. Plastering and joiners' fittings cover up the parts upon the soundness of which so much is made to depend, and consequently danger will hardly appear unless accident develop it in such manner as to attract attention in time to avert it, until the wretched fabric falls upon the heads of the indwellers, and of those persons who may be otherwise within reach of the ruin.

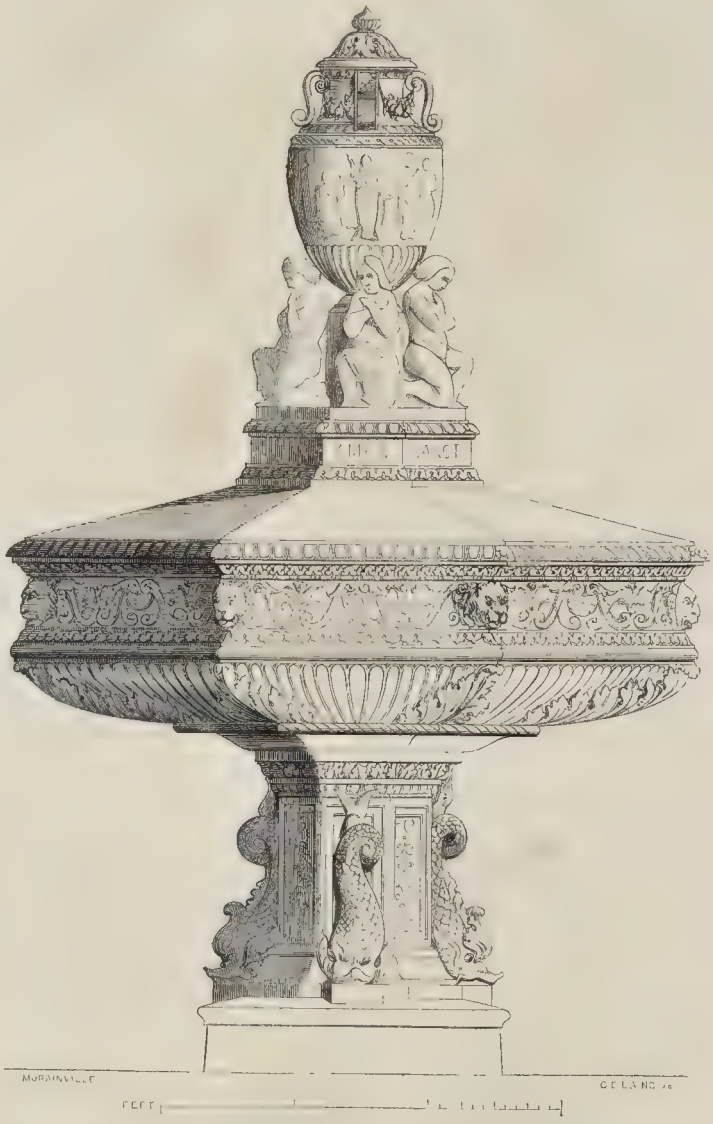
Connected in some degree with the practice of removing outer or front walls at the street level, and substituting mere posts as stilts to the walls above, is that of cutting away chimney-breast from side and party walls for the same purpose of fitting the ground-floor story of a house for a shop, and, as commonly performed, it is both destructive and dangerous. The overhanging upper parts of the breast and the superimposed chimney-shaft are too commonly left dependent upon inadequate or otherwise improper supports, and almost invariably the wall from which the breast projects, and which it overhangs, is pulled over to one side, and so as to render the early condemnation of the wall imperative, whilst it is always to be considered in a greater or less degree dangerous.

In the metropolitan district the operation of the Metropolitan Buildings Act has stopped the practice of cutting away chimney-breasts without proper precautions, and to some extent the stilting of buildings upon posts is checked, but it is not stayed; the operations to that effect upon corner buildings being almost free from control.

Another modern practice which brings with it a hitherto almost unchecked source of danger is the use of bearing beams and girders of cast-iron. Accidents from this source are of frequent occurrence, and as the practice extends itself daily, the danger is, of course, increasing. Used in brestsummers to carry walls, and in story-posts, cast-iron is a dangerous ingredient in the structure of a building in the event of fire, because of its liability to break when dashed with water, as well as to soften and even to fuse when acted upon by intense heat; but cast-iron is less dangerous, nevertheless, in brestsummers and story-posts, which are not generally exposed to concussive action, than in beams and girders to carry floors upon which movement takes place."

* "A Guide to the proper Regulation of Buildings in Towns." Murray, Albemarle-street.

FONT IN THE CHURCH OF THE MADELEINE, PARIS.



THE FONT IN THE MADELEINE, PARIS.

The font in the church of the Madeleine, Paris, is of white marble, with a bronze plinth, and is represented by the accompanying engraving, from a drawing made expressly for our pages, by M. Morainville. It is octagonal in form, 5 feet in diameter, and is supported on a pedestal, ornamented with dolphins. It is surmounted by an urn supported by four angels in attitude of prayer. The total height is 8 feet; the height of the font 3 feet 4 inches.

South Stoneham Union Competition.—The guardians have selected the plans of Mr. Henman, architect, of Clifford's-Inn, London, to whom they have awarded the premium of 60*l*.

BUILDERS' APPRENTICES.

Morrison *v.* Wright.

This was an action, in the Lambeth County Court, to recover the sum of 20*l*., portion of apprentice fee. The defendant was a builder in Holland-road, Brixton. In June, last year, the defendant became bankrupt. At that time he had several apprentices, one of whom was the son of the plaintiff. As he could not carry on business on his own account, his certificate being suspended, he acted as journeyman to Messrs. Roberts and Roby, auctioneers, &c., who had taken to the buildings, and found the work. For the plaintiff it was contended that this was not "teaching and instructing" within the meaning of the indenture. For the defendant it was urged that the usual words, "or cause to be taught and instructed," justified the placing the boy out. His Honour (Mr. Chilton) said they did not: an apprentice could not be let out for hire in that manner: he might be taught under the master's eye, or under the master's men, but could not legally be put under another, unless the indenture was properly assigned, but in this case the defendant had, after his bankruptcy, refused to take the boy back—that, therefore, was a breach of covenant against which no plea of bankruptcy would, in his opinion, be a bar to the action. The lad had been apprenticed for five years, and only served one—the whole of the fee was 30*l*., and he thought that 25*l*. would be a fair return, but as he only had power to award 20*l*., he should give a verdict for that amount, to be paid at 1*l*. per week.

STREET ARCHITECTURE—BERLIN.



STREET ARCHITECTURE IN BERLIN.

ANNEXED we give a specimen of the street architecture of Berlin: it represents the front of the house No. 111, in the *Leipziger Strass*, and may afford a useful hint or two to some of our readers. We have engraved it on a reduced scale (9 feet 6 inches to an inch), from the *Allgemeine Bauzeitung*, an admirable periodical devoted to architecture, engineering, and construction, published in Vienna. The editor is Herr Ludwig Förster, an able and accomplished professor of the art, who has created for his work a high reputation on the continent. It is 4to in size, and the engraved illustrations are given in the shape of a folio "atlas" to accompany the letterpress. We shall take an early opportunity to make our readers better acquainted with the nature of its contents, as we should be glad to find it more extensively circulated in England than it is at present.

CONDITION & PROPOSED RESTORATION OF LANDAFF CATHEDRAL.*

THE west end of the nave remains in tolerable preservation; the windows of course unglazed. The north tower, built by Jasper, Duke of Bedford (1485)—he was son of Owen Tudor by Catherine, daughter of Charles the Sixth of France,—is pretty perfect, except that the rich open battlements and pinnacles, which were destroyed by storms in 1703 and 1718, have been replaced by a heavy and modern parapet.

The south tower is a perfect and picturesque ruin. From the west end to the Italian inclosure all is in ruin; the remains are most picturesquely grouped, and the detail of all this part is quite unsurpassed in purity or beauty; and the arrises and sculpture, executed in Sutton stone, are as perfect and sharp as possible.

At the fourth pillar from the west end the inclosure of 1735 commences. The western inclosing wall, with its pedimented door, its Venetian window, dentil cornice, and pediment, was of course carried up from the ground. Up to the choir, the piers and arches are not much interfered with. From thence to the east end of presbytery they were walled up and plastered so as to arrive at the happy result of being "a very stately and beautiful room." Upon the original piers and arches a clerestory wall was erected, with circular-headed windows and sash-frames, surmounted by a stone dentil cornice. The windows of the north and south aisles (of a later period of decorated work), the two Norman doors, and the smaller decorated door in the south aisle, appear to have been little interfered with or injured.

The inclosure in question is covered with a queen-truss roof, to which is suspended a Roman vaulted ceiling springing from a Doric cornice. The Norman chancel arch, the remaining Norman window, the screen, St. Teilan's tomb, in fact all remains of the Gothic work in the presbytery, were scrupulously walled up and plastered over. The aisles are covered with a flat plaster ceiling, and the pavement is raised about two feet above the original level. The chapter-house, a simple and handsome room, is in a wretched looking state (luckily the structural part is quite sound); the upper east end windows of the original building walled up, and new circular-headed ones introduced in other situations, and the roof a flat-slated covering.

The Ladye Chapel was in a sad state of neglect, badly seated and furnished, though constantly used as a chapel for Divine service in the Welsh language; the glazing decayed, and a modern circular-headed window of small size introduced in the eastern wall instead of the fine large window that originally existed, and which has since been restored.

The ground had accumulated round the church to a considerable height above the level of the floor, and the walls were damp and green. Altogether it presented as sad a spectacle of decay, poverty, and bad taste as can well be conceived.

Thus much for the past history and late condition of this fine old church. I will now pass to the last and most interesting part of my subject. I will state what has been done in the way of repair and restoration, and point out how and to what extent we hope to carry our work of restoration.. In 1843, the late accomplished and zealous Dean of Landaff, the Rev. J. Bruce Knight, made an appeal to the clergy of this diocese. To the credit of that body, "the clergy of the oldest bishop's see in the kingdom (though in respect of its revenues the very poorest), they let the fruits of their deep poverty appear most nobly." They responded to the dean's call, and raised about 1,000*l.* more than sufficient to restore the Ladye Chapel.

The dean entrusted this work to the care of Mr. John Prichard, an architect residing at Landaff, who has given much study and consideration to the subject of Gothic architecture. The structural works connected with the restoration of the Ladye Chapel were trifling. The walls were repointed, the stone work cleared of years' accumulation of ochre and whitewash, and repaired; the tracery and mullion of the windows restored; new coping and cross introduced; the ground

* See page 183, *ante*.

lowered, and a drain formed round the walls; a new eastern window, into which painted glass by Mr. Willement has been introduced; a new floor; massive oak seats; a new stone pulpit, with handsome altar table, stalls, and reading desk. Altogether the effect of this part is very pleasing, and gives fair evidence of the interesting result which would attend a more complete restoration of the cathedral itself.

Soon after the completion of this work, having been appointed hon. diocesan architect, I was associated with Mr. Prichard in the future work of restoration. The late dean then addressed the laity of this diocese, as he had previously done the clergy, in language that may well bear repeating, and which may serve as a model for such appeals. He said, "It is to stay the ravages of the great spoiler that I now appeal with confidence to public generosity, to individual taste, and, above all, to national piety. Our desire now is to carry on the work of improvement to the cathedral at large. We dare not indeed anticipate an immediate restoration of all those parts even now in decay so beautiful; but we do cherish a confident hope that a sufficient summay be raised to enable us to restore at once that portion of the fabric now covered in, to a state more worthy of its sacred use, and not wholly unworthy of its ancient purity and architectural interest. To rescue a cathedral (and that the church of the oldest bishop's see in the country), from dishonour and reproach; to raise this daughter of Zion from the dust, and to remove the shame which past neglect and injury have heaped upon her head, is a deed which requires no aid from eloquence. We will not pause to bewail, much less palliate former years of spoil and desolation, nor stop to lament the barbarous work of the last century; but trusting that the God of heaven will prosper us, we will proceed as did the holy Bishop Urban in his requisition for aid."

Shortly after this appeal the diocese of Landaff lost the services of her revered and zealous dean, Bruce Knight. He bequeathed this work, on which his heart was set, to one not less learned and hardly less interested than himself,—to his successor, Dean Coneybeare. This gentleman issued a fresh address, and called a county meeting, which was fully and influentially attended, and a considerable sum subscribed.

Working from the east, the following works have been already done in the cathedral itself.

The floor of the presbytery and side aisles has been lowered to its original level (about 2 feet 8 inches); the mass of stonework which choked up the arches of the choir and presbytery has been removed; the reredos, or screen, and Bishop Teilan's tomb brought into view; the whole of the plaster knocked off the walls up to the level of the Italian cornice, thus exposing the fine Norman chancel arch, the curious Norman remain in the south wall, and the Norman string running under the clerestory. All these interesting portions were lost sight of in the "stately and beautiful Roman room;" and the stonework of the Norman arch, and of the piers and arches, has been scraped and repaired.

The ground has been cleared away from the walls; they have had the rough cast removed, and are pointed with dark mortar. Four new windows of "decorated character" have been introduced. A new window is being introduced in the north wall of aisle, and two new windows at the east end of the north and south aisles.

An open decorated parapet has been introduced over the wall of south aisle, and a close one is now in progress in the north wall.

The wooden Ionic fittings of the choir for the present remain untouched; and, as I before said, are well worth the attention of architects about to build or furnish.

The available funds at the disposal of the dean and committee will, we hope, enable us to put a new roof over the whole of the presbytery, choir, and nave, as far as the Roman inclosure; the material to be oak and the covering lead. There is no sign of the cathedral having had a groined roof, and as the timbers must shew, we have considered that such a roof as that over the nave at Ely would be most effective and most in character with the Early English architecture. We propose to introduce a large arch between the choir and presbytery: that an arch originally existed in this place we have no doubt from the break in the walls, and from the fact of our having found plinths at the two angles of the wall, with bases and shafts walled in, which would quite answer to this situation. We have not thought it right, in the absence of any remains of the Norman clerestory in the presbytery, to restore in that style; or to commit the solecism of putting early work over later. We have thought that the "decorated" period of the piers, arches, and screen of the presbytery, should be our authority for all the new work in this part. The large arch, with the piers and arch mouldings, will be of this period; and the clerestory windows and triforium (for the gallery will be continued) of similar character. (Those who have seen Carlisle will, no doubt, remember the rich and beautiful effect of the "decorated" clerestory of the choir, an example which we have taken as our authority). The "handsome freestone window" over the Norman arch, described by Browne Willis, no doubt existed, for we find walled in, in this situation, four mullions, which may well have belonged to a five-light decorated window. We therefore re-introduce such a window, which will open into the Ladye Chapel. The tomb of St. Teilan will be restored, and a doorway, of corresponding character, introduced immediately adjoining it, leading from the presbytery into the Chapter-house. The perpendicular tomb on the opposite side (stated to be Bishop Marshall's) will be restored. Eventually, we anticipate the restoration of the reredos and sedile, and the introduction of screens on the north side to inclose the presbytery. There are the remains of a small door-jamb attached to the tomb of Bishop Marshall; and the difference in the level of the plinth calls for a step at this spot. (The same thing exists on the opposite side, shewing that the level of the side aisles was six inches below the platform, immediately in front of the altar steps.)

We purpose that the large blank space adjoining the Norman window in the south wall, should be relieved and decorated by an encaustic painting of St. Teilan, the second bishop (similar in effect to those figures painted on the walls of the Temple Church, by Mr. Willement).

The aisle roofs will be made good, at least up to the extent of the presbytery: we hope at the same time to carry them on to the western inclosure.

The fittings of the choir and a proper screen at its west-end, must remain a matter for present hope and future consideration. We have thought it of first importance that the shell or structural part of the present inclosure should be restored and made good, before we completed the fittings or decorations of any one part. Having the roofs and clerestory made good up to the modern enclosure, we purpose completing the restoration of reredos, screens, &c., in the presbytery, and so working westward as funds will permit. On the south side of the Presbytery no difficulty occurs with the arrangement of the steps. It is evident, from the level of the screen and of the sedile, that the upper stage extended thus far; and the level of the doorways into the north and south aisles determines the level of the lower platform. These steps correspond with the description given by Browne Willis; but a difficulty occurs, from the fact of the bases of the piers on the north side being considerably lower than the corresponding ones on the south side. To preserve those bases perfect, keeping round them the original line of paving, and at the same time preserving an approach to the north doorway in the altar-screen, it becomes necessary to return the steps in a curious manner. The irregular effect of this would, I fear, be unpleasing and unusual. If, however, they are carried entirely across, the original bases of the columns and piers adjoining the north end of altar-screen must be covered over, and a new and false base be introduced at this level. This, clearly, cannot be restoration.

T. H. WYATT.

A QUERY.—Sir,—Will you allow me to ask one of your mathematical readers to give a simple formula for ascertaining the surface of a curvilinear cone, or its difference from a right cone, having the same base and altitude? The object sought is a ready mode of taking the dimensions.—A. P. M.

LEAVES OUT OF A FRENCH BOOK:
FOR THE BENEFIT OF ENGLISH WORKMEN.*

OUR readers are doubtless acquainted with a decree of the Provisional Government of France, which suppresses under-contracting (*le marchandage*), and shortens the working day by one hour. We have seen with deep regret the interference of the public authorities in questions which can only be determined by the natural play of competition, and into which the regulations of the law can only bring trouble and confusion. There is no power on earth which can succeed in confining and constraining circumstances of this kind. They take their position of themselves, no barrier can arrest them, and in spite of all we can do they will continue their course in the midst of our impotent efforts. Obstacles may change the stream into a torrent, but cannot dry it up.

Let us put aside high-sounding senseless words, which excite the passions and mislead the judgment. It is not true that under-contracting is a trafficing or speculation (*une exploitation*) in one workman by another. It is the most legitimate use of intelligence and capital. It is a right which may be regulated, but which we cannot justly prohibit; and above all, one is lost in astonishment when the prohibition proceeds from a revolution effected in the name of liberty. When a man who has only two arms to set to work, possesses intelligence and capital enough to take the direction of a greater number, he cannot equitably be hindered from making of this *excess* of intelligence and capital the use which appears advantageous to him.

How do these things take place? The proprietor, assisted by the advice of his architect, applies to a general contractor, who undertakes for a stipulated sum the projected building as a whole. This general contractor turns over to particular master tradesmen acting as sub-contractors, the works belonging to their trades, and these, in their turn, intrust to skilful workmen, termed under-contractors (*marchandeurs*), parts of the work, which they also undertake by contract. In this we only perceive agreements between them of the same kind and precisely of similar character; we only see contractors of different degrees, who all act by virtue of the same right, and to the extent of their respective means. The *marchandeur* is in reality, and the decree recognises him as such, a contractor in the third degree.

These three different contractors all obtain by the men whom they employ a profit, which is justified by their labour. Their intervention, in fact, is *productive*: productive through the intelligence employed in the superintendence of the work, productive by the capital laid out in tools or in advances. This productiveness deserves reward, and it is untrue to assert that their profit is a barren impost levied on production. If you put down one you must put down all, and the workman must be brought into direct relation with the proprietor. The profit of the sub-contractor is not more legitimate than that of the *marchandeur*, the profit of the general contractor is not more legitimate than that of the sub-contractor. There can be no need, in speaking to intelligent and thoughtful workmen, to exhibit the impossibilities to which such a consequence would lead.

We have considered the justice of the case; let us now look at the interest of the workmen: will this be served by the measure in question? We do not think so; and the experience of by-gone facts confirms us in our conviction. The abolition of under-contracting (*marchandage*) places all workmen on the footing of perfect equality. So far well, and we would that it could be so; but are the workmen in truth equal in talent, equal in skill, equal in intelligence?

The measure then has necessarily for its result the favouring of inferior workmen; workmen unskilled, indolent, or dissipated; but it will turn upon these very men who have solicited it, and it will consummate their ruin. Now, what does the contractor do? He engages workmen at an abatement, we admit; but he addresses himself to workmen less active, less instructed, short of tools, and who only receive diminished wages, because they do not deserve to receive higher. He supplies the skill which they lack, by his own, he di-

* Translated from the *Moniteur des Architectes*.

rects them, and they are thus found suitable enough for second-rate work. Under-contracting (*marchandage*) abolished, the master will no longer have an interest in employing inferior workmen. He will apply to the best, to those who are now *marchandeurs*, and who joining usually more power of arrangement and love of work to greater skill, will redouble their efforts in order to bring back their lost profit. The workmen formerly employed under them will be repulsed, and in place of reduced wages, will have none at all.

What we are here relating is matter of history. Things have happened just thus to the operative carpenters. They combined to get their wages advanced, they obtained what they asked, and immediately the bad or middling workmen were driven from the builders' yards. A similar fate is in store for the workmen of other trades. Will it be supposed that trade will acquire such activity that it will be necessary to employ any sort of workmen, and that no hands will remain idle? the idea is futile. If the quantity of work produced by the inferior workmen is no longer in proportion to the wages they receive, the price of the object produced will increase, and work will fatally diminish. What obstacle, what stoppage can be applied to this retrograde movement?

Let us pass to the reduction of the hours of labour.

Doubtless, such a measure is eminently desirable and admirably humane. Doubtless, we cannot too much deplore the fatigue and the pains of the workman, bent all the day long over an ungrateful task, without respite or intermission, without variety or pleasure. Doubtless, it is necessary that all statesmen and philanthropists should unite to render life agreeable, to give free air and pleasant light to those intelligent and laborious generations which succumb to labour; but will the means taken enable us to attain the end? Here lies the question. A diminution in the duration of labour is, in fact, an increase in the wages paid. This increase of wages resolves itself finally into an increase in the price of the object produced. There will then be loss for somebody. Who will bear it?

The contractor? Can it be thought of for a moment? Do we not know at the present day on what terms contracts are undertaken? The profit of the contractors in the greater part of works is as restricted as possible, sometimes disappearing altogether. We see master-tradesmen, who every day submit even to some loss, hoping that the turning over of the funds which pass through their hands will enable them to live, to meet their engagements, and wait for better times, or retard their downfal; others expecting to regain by fraud what they expose themselves to lose, and seeking from robbery a profit which the blunderings of competition deprive them of. This, without doubt, is not legitimate competition; it is what we deprecate.

We see, then, as matters now stand, that it is not the contractor who can sustain the loss. Will it, then, be the proprietor? We see no inconvenience in this, provided he consents to it. But this party wishes to derive from his money a reasonable interest, in proportion to the risk he runs. If the cost of building diminishes this interest, and brings it below the real value of money in the market, the consequence is easy to foresee: he will take away his capital from a pursuit which does not furnish sufficient remuneration, and carry it elsewhere. Work will thus be exhausted. Thus, turn to whatever side we may, we see that the movement of wages, scorning all human regulations, obeys invincibly those necessary causes which the law does not control, and which it cannot subdue. The workmen are wise—they are intelligent—they will meditate on these truths so important, so incontestible, so frequently verified by facts. They suffer, we know, and we suffer with them. They are impatient to arrive at a better state. Alas! we, who every day are witnesses of their courage, their perseverance, and their moderation—we, who see them at work, exhausting their strength to live honestly and to maintain their families, our impatience is equal to theirs; nevertheless we have the courage to say to them, "Since you have waited so long, wait a little longer: have patience. You have lived many years under a Government which, absorbed by the interests of corruption and of power, has taken no real care of you; under a Government odiously immoral and selfish, and which has therefore perished; but you may now have hope; you have at your head men whose high intelligence, which is equal to their immense task,—whose entire good faith and ardent love of good, which are above all suspicion, present you with absolute guarantees."

They desire your welfare, and they can accomplish it, or it is impossible. Trust in them and wait; trust in them and distrust yourselves. Do not forget that these questions are difficult; that one must grow grey in study to penetrate their depths, to measure the consequences of the slightest regulations, to embrace the relations which bind them to all the institutions which exist, and constitute our social state. Good faith may exist in hosts the most opposed to each other, when the question is that of resolving problems so difficult.

NOTES IN THE PROVINCES.

The contract for enlarging the Andover Bridewell is taken by Messrs. Annett and Son, builders there.——A new process for burning bricks is said to have been invented by a Mr. Wm. Swaine, of Westonbury, Pembridge, by means of which a saving of more than half the usual quantity of fuel will be effected. The invention is to be patented.——The new lunatic asylum for Wilts has *not* been shelved, as was reported, though there appears to be "a scarcity of sites, at least of eligible ones, and no great plenty of plans for the new erection." A decision, according to the *Hampshire Independent*, will shortly be come to by the committee, for recommendation to the sessions. ——The training-school in the Cathedral Close at Salisbury is to be enlarged by the Diocesan Board of Education, on the suggestion of the Government Inspector.——The parish church of Stretton Sugwas has been repaired by Mr. Heather, of Hereford, the contractor. Its woodwork has been restored in oak. There is an encaustic pavement of the fifteenth century there in tolerable preservation.——The spire of the old church at Hinckley is in a dangerous state, and on inspection, Mr. Broadbent, of Leicester, advised that a portion of it should be rebuilt.——The ancient parish church of South Leith, near Edinburgh, is undergoing extensive repair. This edifice dates prior to 1496, and had its choir destroyed during the burning of Leith by the English army in 1544. A century afterwards it formed a stable for Cromwell's horses. Many doights and farthings, rings, &c., of Queen Mary and King James have been turned out during the repairs.——At Glasgow, according to the local *Gazette*, canvas has been made available, by means of suction-pipes, for fire-engines and other purposes. The whole of the outside is canvas, and the interior vulcanised caoutchouc, which renders them not only perfectly water-tight, but equal in strength and durability to the best leather, with great comparative lightness and cheapness. ——The foundation-stone of the new church at Newtown, near Soberton, Hants, was laid on Thursday, the 13th instant. It is to be built in the Early English style, with sittings for 260, all free, and without doors. The cost will be 1,200*l*. Mr. John Colson, of Winchester, is the architect; and Mr. Pink, of Hambledon, the builder.

Surveyors' Association.—A meeting of the new association was held on Wednesday in last week, when it was stated that a deputation had waited on the Sanitary Commissioners, and had been received by Sir H. De la Beche and Mr. Edwin Chadwick, two of the commissioners. The remonstrance and representations made by the deputation were listened to with attention; but the gentlemen to whom they were addressed assured the deputation that they had no power to interfere with respect to the survey of London. The Commissioners of Sewers had undertaken to provide the survey, and to them the application should be made. A memorial to the Sewers Commissioners was then determined on.

THE MYSTERY OF ART-MANUFACTURE.

"ALL NOT GOLD THAT GLITTERS."

Sir,—By the desire which has arisen on all sides for improvement in our manufactures by the infusion of better taste in form and ornament, a vast deal of quackery has been begotten, which, unless it meets some check, will only tend to the private advantage of individuals, and not the advancement of art. The desire is but just that the artist should coalesce with the manufacturer; but their combined operations should be given to the world without any suspicion of intrigue, improper influence of journalism, or mystification of origin. If the artist and manufacturer unite; if the latter gives recompense for the talent of the inventor, there exists an honourable compact deserving of public patronage. The insinuation of agency to contrive these compacts under assumed or fictitious names, will prove eventually the curse of art-manufactures.

The preceding remarks are originated by some very visible symptoms in the getting up of the present free exhibition of select specimens of British manufactures at the Society of Arts, which you truly said, in a preceding number, bore the appearance of clique. Three years ago this Society of Arts rewarded, by the gifts of medals, &c., some designs for articles of tea-service, by a gentleman who presented the designs under an assumed name; and it is for others to judge if they were cognizant of the matter, or in a condition of blissful ignorance of the real truth. The affair itself proved of very little consequence in results, for after plentifully foretelling that from the peeress to the washerwoman tea would thenceforth only be drunk out of the society's pot, it has vanished from the crockery shops into oblivious security.

The Society of Arts is at this moment again about to distribute a series of rewards for designs appropriate to art-manufacture. The society assumes the high office of passing judgment on efforts of mental skill and cultivated taste. The constitution of the society scarcely gives assurance of its fitness; and it becomes necessary, to sustain it in its new and arduous mission, that their proceedings in the ensuing distribution of rewards should not bear the impress of "*clique*." When the royal commission for promoting the fine arts gave premiums for the cartoons, &c., they wisely made it a condition that, if required, the successful competitors should execute a work to satisfy the commissioners that no extraneous aid had been employed, or deception practised. Will the Society of Arts do the same? That remains to be seen, or whether a good crop of the prizes may not be awarded to fictitious names, or to persons not authors of the designs, but to manufacturers who have ferreted out obscure talent, and are willing to absorb honours to which they have no more pretensions than the strutting jay of "Æsop's Fables" to the borrowed plumes of the peacock. These suspicions are vaguely manifested by an examination of the catalogue of the present exhibition, which is swelled by the addition of nearly twenty names of persons who are not manufacturers at all of the articles exhibited under their names, but merely London traders of respectability. The addition of these names to the list is significant of adding variety to the paucity of "*exponents*." A bookseller in Bond-street has his name affixed to architectural brackets; another in Fleet-street descends to a mustard-pot; and the Messrs. Colnaghi, of Pall-Mall East, are in a similar category with bottle stoppers, fish knives, and salad forks. Some contributors, too, there, are whose names appear to the exposed articles in the catalogue, but are not found in the index, and among them we find J. S. Russell, probably the secretary, and Felix Summerly, the non-existent.

The most painful part of the present exhibition of the Society of Arts is the small figure made by the newly-appointed masters of the Government School of Design. It holds out a melancholy prospective to the students who may be condemned to years of study under these principals, here displaying such a weak result of invention in art manufacture. Whether their lucubrations have originated from good nature or otherwise, it is certain that if they are so prominently thrust forward by an

agency which exacts 12½ per cent. from every manufacturer who has fabricated the works from these designs, it will eventually recoil on the institution they have been appointed to direct; the incubus of the "*clique*" will neutralise any advantage to the general manufacturing interest of England, if it does not even blight the very purpose of the establishment of the School of Design.

The position of all true designers is largely compromised in the ensuing award of prizes; it remains to be seen if the public are to be misled by management, or mystified by false cognomens.

AN ARTIST.

Correspondence.

SIR,—On perusing the first page of advertisements in one of your late numbers, I felt much surprised to find them the medium by which an injury was to be done to that portion of society which, above all others, it is your duty, as Editor of THE BUILDER, to protect, viz., the master builder, the honest foreman, and the deserving mechanic. I allude to an advertisement, of which the following is a copy:—

"Notice.—To Foremen of Carpenters.—A young man, aged 24, by trade a carpenter, and a good workman, is in want of a job, but will not work under wages. Any foreman that can give the advertiser a job, he will allow a discount weekly, that may be agreed on, as long as he can keep him on: the utmost secrecy will be observed. Address, &c."

I think it would be difficult to imagine a more direct robbery than this intended upon the master builder, and perhaps on one of his best joiners, by depriving him of his employment, if the worthless author of the advertisement can find a corresponding rogue, in the character of a foreman, to carry out his intentions. You will perceive, Sir, instead of endeavouring to obtain employment by his own merit, he proposes, in effect, that the good workman shall be displaced to make room for him, or, at all events, offers an inducement for this; and his fellow rogue, if he succeed in finding one, is to be compensated for carrying out his intention by receiving a portion of the money he would receive weekly, over and above the value of his labour. Surely the columns of THE BUILDER will not be permitted to be the medium for concocting robberies of this description; if so, we may shortly expect to see something like the following:—

"To builders' Foremen.—The advertiser has great facilities for the disposal of stolen property, of any description that is portable: a good price given. Apply at the office of THE BUILDER, &c."

I am aware that, generally, the editor is no more acquainted with the nature or character of the advertisements than his readers, therefore I attribute no blame; but having called your attention to the case, I hope you will see the necessity of giving some instructions on such matters in future.—I am, Sir, &c.

A BUILDER'S FOREMAN.

Walworth, April 18, 1848.

THE FRICTION HAMMER.

SIR,—I see in your number for the 25th of March last, an article quoted from the *Bristol Mirror*, wherein it states that a friction hammer has been erected at the Great Western Steamship Company's works in that city, *by its inventor Mr. Jones, the manager*.

I cannot understand how Mr. Jones can allow himself to be put in print as the inventor of the friction hammer, when it is well known to engineers and machinists that the honour belongs to the late Mr. Hicks, a partner in the engineering house of Forrester and Co., of Liverpool.

The inventor very kindly shewed me one of his machines at work in Liverpool, four or five years ago, where it had been for some time, and offered me a drawing of it.

My object in writing to you, Mr. Editor, is to claim what is due to the memory of one that has long since passed into the other world. Mr. Hicks had a kind, generous, and inventive mind, and did not avail himself of the patent laws to protect his invention, but left it to ungrateful man to hand his name down to posterity as the inventor of this machine; but as soon as he was thought to be forgotten, Mr. Jones, or some of his friends for him, claim, through the press, the invention of this *very useful machine*.—I am, Sir, &c.,

RICHARD CLYBURN, Engineer.

Uley, near Dursley, April 19, 1848.

Miscellanea.

PEEL ON THE LABOUR QUESTION.—Sir Robert Peel, in a speech on the "Sedition Bill," last week, when speaking of the experiments now making in France, said,—I hope the working classes of this country will not be deluded by the doctrines that are held there upon that subject which intimately concerns their labour and the wages of labour. If the doctrines that are there maintained be true, if there be indeed an antagonism between capital and labour—if it be true that all men, without reference to their different capabilities, different strength, and different capacities, are to have some iron formula applied to them, and all to receive the same daily wages,—if these things be true, then all the experience and all the lights of the last 150 years have existed in vain. Let us burn the works of Turgot, Say, and Adam Smith. Let us establish in triumph the doctrines of the Mississippi scheme, and the doctrines of that Law who was supposed to involve France in misery and confusion. Let us wait for the results of this experiment. Let us calmly contemplate whether it is possible that executive Governments can be great manufacturers — whether it be possible for them to force capital to employ industry—whether they can contravene the decrees of Providence, and reduce all men, without reference to habits or strength, to receive the same wages. For God's sake give that social principle the same fair trial as you are about to see given to the political principle. But I do earnestly trust—I have that confidence in the good sense of the working classes of this country—that they will believe that no false delusion of the compulsory sharing of profits, no enmity directed against capital, no extinction of competition among individuals, no overpowering of individual enterprise by Government undertakings at the public expense, can possibly be for the benefit of the working classes, or have any ultimate result than involving them in misery and ruin. Upon the political principles I pronounce no opinion; but it would be a shameful suppression of the truth, without arrogating to ourselves too much of the liberty of speech, not to predict fatal consequences to those social experiments now in progress in other countries.

THE LIVERPOOL ARCHITECTURAL SOCIETY.—The new society is going on well. The mayor of Liverpool has accepted the office of president; Mr. J. A. Picton is chairman *pro tem.*; and Mr. C. Reed the secretary. Dissemination of taste and knowledge, improvement of construction, public improvement, *the formation of a good architectural and artistical library for reference*, preservation of the remains of antiquity, and facilities for improvement to students, are the objects aimed at by the founders. Some of our readers may be disposed to aid in the formation of the library by donations.

STAINED GLASS.—Mr. Warrington has just now completed a memorial window in St. James's Church, Bury St. Edmund's, and three windows in the church at Caversham, near Reading. He has a triplet also ready for fixing in St. Martin's Church, Hereford; and some windows in hand for St. Lawrence's Church, Reading. It is in anticipation by the dean and chapter to fill with stained glass the great west windows of Norwich Cathedral. A short time ago, we saw some small stained-glass windows, nicely executed by Mr. E. B. Lamb, the architect, for a private chapel in Scotland, built under his direction. As we shall probably give an illustration of the building, we can then further allude to them.

GLASS.—Sir: A great deal was said some time ago about substituting glass bells for metal, in schools, if not in churches: can any of your corrospondents give me information on this subject? It was said that they were used in churches in Sweden some few years ago. Is this true, and do they succeed?—A BUILDER.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 9th May, for the erection of a mill in the Watford Union Workhouse, and for the erection of closets, washrooms, &c., and alterations and additions to drainage there; by 13th, for the building of a wall for inclosing the Kensington new Workhouse grounds; by 9th, for the erection of a new savings' bank in Cambridge; by 4th, for the erection of a rectory-house and offices at Bury, near Ramsey: by 2nd, for the supply of gravel, granite, gratings, gutter-plates, pitchers, oak planks, &c., necessary in repair of Portsea Parish highways; by 2nd June, for the erection of baths and washhouses at Hull; by 10th May, for the iron-work in girder-bridges on Nos. 1 and 2 contracts, Rugby and Stamford Railway; and by a time not specified, for the erection of the Worcester Exchange.

THE ARCHITECTURAL SOCIETY of the Archdeaconry of Northampton are to meet this year at Oakham, on 9th proximo, Marquis of Northampton in the chair, when papers on Oakham Castle, Oakham Church, local church towers, &c., will be read, and an excursion arranged. One of the acting secretaries is the Rev. H. Green, of Hambleton, Oakham.

THE YORKSHIRE ARCHITECTURAL SOCIETY'S quarterly committee met on Thursday week in its rooms, Minster-yard, York, when measures were taken to prevent, if possible, the destruction of the two ancient chapels of Bolton and Redmire, in Wensleydale; and a survey of the churches of the Deanery of Pontefract was decided on, in pursuance of the plan of ascertaining the characteristics of the Yorkshire churches in general. A grant is to be proposed for the restoration of the west window of St. Saviour's, York. On the same day a general half-yearly meeting was held, the Rev. S. Gamlen in the chair, when Mr. J. W. Hugall read a paper on the earlier portions of York Cathedral church.

ESSENTIAL OBJECTS OF EDUCATION.—They are—first, to cultivate all the various principles of our nature, both speculative and active, in such a manner as to bring them to the greatest perfection of which they are susceptible; and secondly, by watching over the impressions and associations which the mind receives in early life, to secure it against the influence of prevailing errors, and, so far as possible, to engage its prepossessions on the side of truth. That the teacher may rightly fulfil his duty in developing and improving the faculties, and in calling forth and regulating the affections of those committed to his charge, it is essential that he should have some acquaintance with the principles of the human mind. In general, his utmost aim at present corresponding with the extent of his capacity, is to lead the intellect through some of the lower processions of elementary teaching. Even this branch of duty opens to him a field of usefulness, on which he is seldom prepared to enter.—*Dugald Stuart*.

MARYLEBONE BATHS AND WASHHOUSES.—The time allowed by the Commissioners for preparing the competition plans is so short, that it may be reasonably doubted whether any plans worth having will be sent in. It is to be hoped that the Commissioners will take care that the plans which they eventually decide on are superior to any which are at present known. If not, the competition will have been, at the best, a sheer absurdity.

COPPER, LEAD, AND IRON.—The Commons have resolved that, in lieu of the present copper and lead duties on importation, copper ore and regulus shall be charged 1s. per ton; old copper or unwrought, part wrought, or plate copper, and coin, 2s. 6d. per ton; and pig and sheet lead, 2s. 6d. per ton.——The number of copper miners in Devon and Cornwall are estimated at 21,730 persons, or, with families, 61,000. These are exclusive of mechanists, tradesmen, farmers, &c., dependent on copper mines, estimated at 50,000 more. ——The export of Peruvian copper from Arica amounts annually to from 20,000 to 25,000 cwt. of ore, and 3,000 to 4,000 cwt. of smelted copper in pigs. It is brought chiefly from Corocoro in Bolivia.——A patent has been taken out in England by Mr. G. Witherell, of New York, for a machine for manufacturing iron under various forms, and imparting to it a twist, by which the fibre is laid in a spiral

direction instead of longitudinally. The machine consists of a powerful bed-plate, with two sets of rollers, the second of which not only rotate on their own axes, but, with their frame and gearing, revolve in a vertical direction; and so twist the iron into a form precisely similar to that of a wire rope, and greatly increase its tenacity and toughness. "We have seen samples of the iron made by the machine," says the *Mining Journal*, "one of which being polished and bronzed, shows the fibres to lie in contortions similar to those in a good gun-barrel."

TENDERS

For the erection of a dwelling-house and mill at Ray Mills, Maidenhead, for Mr. J. T. Bell; Mr. W. Brown, architect.

D'Anson	£2,496	0	0
Bilting	2,410	0	0
Cooper	2,393	0	0
Biggs (accepted)	2,310	0	0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, MAY 2.—Institute of Civil Engineers, 8 P.M.

WEDNESDAY, 3.—Society of Arts, 8 P.M.

THURSDAY, 4.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

TO CORRESPONDENTS.

"*Regular Subscriber.*"—The Portland cement should be mixed with water to the consistency of mortar, and applied immediately, care being taken to let the work on which it is to be used be thoroughly wetted previous to its application. It should be worked in one coat; and for stuccoing in dry situations, should be mixed with four parts of clean, well-washed, and dried river sand to one of cement. In damp situations less sand should be used; and for water works it should be used pure.

"*C.'s Self-acting Valve*" broke when we touched it; and we were more tender with it than most housemaids would be. It is similar to one invented by a foreigner, and illustrated in THE BUILDER some time ago.

"*C. B. R.'s Query.*"—A note of ours to this query last week, pointing out that it was an old friend with a new face, and had been answered in THE BUILDER some time ago, was accidentally omitted. We will see if any of the replies sent are superior to the solution then given.

"*To clean Slate.*"—A correspondent asks to be informed of "the best method of cleaning Welch slate shelves in a dairy."

"*Grease.*"—"Sir: I should feel greatly obliged if any of your numerous readers can inform me of any means by which a spot of grease can be removed from a drawing."

"*Received.*—" J. H." "W. T.," "J. W. P.," "J. B.," "D. C.," "A. B.," "J. H.," "Captain C.," "V. P.," "J. S.," "Henricus," "A. O. D."

"*Books received.*"—"The Law of Fixtures: to which is added the Law of Dilapidations." By S. G. Grady, barrister-at-law. Richards, Fleet-street.) "Rickman's Attempt to Discriminate the Styles of Architecture in England." Fifth edition: with additions and new plates. 1848. (J. H. Parker, Strand, and Oxford).

"*Books, Prices, and Addresses.*"—We have not time to point out books or addresses.

ADVERTISEMENTS.

WOOD PAVING.—The Directors of the Metropolitan Patent Wood Paving Company are prepared to execute orders on the shortest notice, for paving Railway Stations, Sheds, Wharfs, Yards, School-rooms, Gateways, Forges, Workshops, Breweries, Stables, and Barns. Their system of Wood Paving is already adopted for the above purposes, and is much in use.—Office, Belgrave Works, Thames Bank, Pimlico.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PHILLIPS, WHARF-ROAD, CITY-ROAD. N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE.—LUARD, BEEDHAM, and Co beg to inform Architects, Surveyors, Merchants, Builders, and others, &c., that they are importing, by large and frequent shipments, CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L. B. and Co. invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 2*l.* upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from ..... 12*s.*
Veins-Marble ..... 40*s.*

RESTORATIONS Estimated for in which Branch S. C. has had considerable practice. Dairies fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr MAGNUS, at the PIMLICO SLATE WORKS. Upper Belgrave-place, planed both faces at the price that inferior slabs in the rough self faced are currently selling. These are laced prices are also subject to a very large trade discount. These slabs have been extensively used at Buckingham Palace, Stratfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone-square, Baths and Wash-houses, on most of the Railways, and are specified for by the most eminent Architects. Whole canvoys supplied direct from Mr Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick.

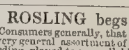
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico late G. Moore and Son, and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MUIR'S PATENT



PLANING MACHINE.

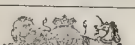
SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

RODNEY SAW MILLS, BOLLING-BROOK-ROW, BATTERSEA.—The Proprietors of the Rodney Saw Mills beg to acquaint the Building Trade in general, that, from the improved nature of their Machinery, they are enabled to compete with similar establishments in the Execution and Prices of the work they may be favoured with. An inquiry and inspection is solicited. Dispatch and fair prices may be relied on, a list of which can be obtained at the Works, or at the Office of W. P. and Co., No. 8, Old Jewry.—The Works having a river front age opposite the Kensington Canal, goods can be landed and stored

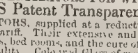


WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For sale of or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

TO BUILDERS, EXCAVATORS, &c.

BARROWS to BE SOLD, very cheap.—135 Barrows, mostly Excavators, made of ash frames and inch elm tops. Persons in want of such will find this lands of advantageous as they may be bought full 25 per cent. less than the selling prices.—E. LL. 3, Tottenham court, New road, St Pancras. Also some LADDERS, very cheap.

By Her Majesty's



Royal Letters Patent.

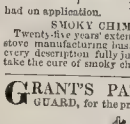
GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer the most perfect and successful application for the CURE of SMOKY CHIMNEYS, and the thorough, but safe and agreeable, Ventilation of Apartments, Offices, &c.; this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking houses, Insurance Offices, and in the Sitting rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.

Orders received by FAIRS and Co., No. 139, New Bond-street; BUNNETT and CORPE, No. 26, Lombard-street; and at the Manufactory, 15, Goldsmith-street, Pimlico.

N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.



DR. ARNOTT'S CHIMNEY VENTILATOR.

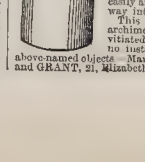
F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7*s.* 6*d.* to 30*s.* each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

GRANT'S PATENT ROTARY WIND-GUARD, for the prevention of Downward Drafts and cure of Smoky Chimneys, by diminishing a Strong Current of Air at the Mouth of Chimney Pot. The attention of the Public and the Trade is respectfully solicited to this simple Apparatus. The Patentees guarantee its effecting the purposes named. Let the wind blow from what quarter it may, it is not liable to derangement; can be easily and cheaply applied, and does not in any way interfere with the Sweeping the Chimney.



This apparatus is also applied to work an archimedian screw or fanner, for exhausting the vitiated air from public or crowded rooms. In no instance has it failed to accomplish the above-named objects. Manufactured by the Patentees, LAMBERT and GRANT, 21, Elizabeth-street, Eaton-square.

JENNINGS'S SHOP-SHUTTER FASTENER SHOES as well as SECURES the Shutters: they can be had BY THE TRADE in Malleable Iron, for 3*s.* 6*d.* per Shutter.

JENNINGS'S PATENT COCKS, JOINTS, VALVES, CLOSETS, &c. &c., may be seen or had at the Manufactory, 29, Great Charlotte-street, Blackfriar's road.

THOSE SPLENDID FRONTS, known as Lambeth House, Westminster-bridge-road, have just been secured with JENNINGS'S SHOP-SHUTTER SHOE and FASTENER, as have also those extensive range of Fronts known as Atkinson's Warehouses, and being Nos. 70, 71, 72, 74, 75, West-minster-bridge-road. This invention has been before the public about fifteen months, and at this time upwards of 2,000 fronts can be referred to. The fronts in New Oxford-street, secured by Jennings's Patent Fasteners, look much better, and are more secure, than those fastened with the Clumsy Bar.

They can be had in Brass, by the Trade, at 4*s.*, and in Malleable Iron at 3*s.*, per shutter. The cost, even in Brass, is one-third less than the cost of the Bar and Iron Hoop Shoes.

JENNINGS'S other Patented Inventions, such as the India-Rubber Tube Cock, &c. &c., &c., can be seen or had at the Manufactory, 29, Great Charlotte-street, Blackfriars'-road.

JENNINGS'S PATENT VALVES can now be had of WARNER and SONS, Brassfounders, Jewin Crescent, they being duly licensed to manufacture and sell the same.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 90, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of SIX Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of H. HOWARD and Co., Old-street

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at the Manufactory. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twice the pieces stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw, worm and wheel, can, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable.

CLARK and Co are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application.

MOULDINGS, STAIR-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 233, Wapping, London

BUNNETT and CORPE, ENGINEERS, Patentees of

REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of

ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Sole Ingenieers for the manufacture of MARVIN'S PATENT DIAMOND AMALGAMATINGS, for Areas, Balcony Floors, &c.

The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by practical skill and experience have been adopted, and the prices greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS.

B. and C. have also made great registered improvements in Revolving Wood Shutters, which are fitted up with proper metallic hinges that cannot rust (without which no shutter can be safe or durable), and are worked by the patent raising gear as for Iron Shutters, or counterbalanced in a new or improved way, and are wound up or down with the greatest ease, without the use of objectionable loose lines. A comparison with any others, as to quality and price, is respectfully solicited.

A modification of the above, working vertically, is especially adapted for Bay and Oriel Windows.

The prices of the Patent Metallic Sash Bars, &c. have been revised, and where practical, reduced; Shop Fronts, &c. are completely fitted and fixed in a superior style, either plain or ornamental, and with strong drawn moulded stallboard plates handsomely engraved, also completely glazed with best plate glass

The Patent Diamond Wrought Iron Grating will be found a great desideratum for areas at shop fronts, in shops and warehouse floors, and for balcony floors, as it does not obstruct the light, yet admits of ladies walking over or standing on the same.

IMPROVED BENCH AND FLOORING CRAMPS FOR BUILDERS,

which are greatly superior to anything hitherto introduced.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes. Which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

THE BUILDERS' BENEVOLENT INSTITUTION.

PRESIDENT.—Hugh Biers, Esq.

VICE-PRESIDENTS.

S. M. Peto, Esq., M.P.	William Herbert, Esq.
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William Cubitt, Esq., M.P.	Stephen Bird, Esq.,
Hugh Biers, Esq.	George Spencer Smith, Esq.

TREASURER.—Mr. George Bird, 33, Edgware-road.

SECRETARY.—Mr. William Grubb, Hawley-road, Kentish-town, COLLECTORS.

Mr. Edward Herbert, 42, Crawford street.
Mr. Charles Jackson, 3, Paradise-terrace, Holloway.

BANKERS.—Sir Samuel Scott and Co., 1, Cavendish-square.

HONORARY SOLICITORS.—Messrs. Jaques, Edwards, Jaques, and Layton, 3, Ely-place, Holborn.

The Committee for carrying into effect this laudable charity, earnestly solicit the aid of all those connected with the trade to enable them to commence granting relief to the decayed and afflicted members. The Charity, although in its infancy, bids fair to be one of the noblest institutions in London, and purposes to be extensive in its operations, perhaps more so than any institution of a similar description in the kingdom; although the first principle is to assist decayed Masters, their Widows, and Children, it will also afford relief to Workmen in case of accidents, without the necessity of being members of the Institution, and thereby save from destitution and misery their families during the period of affliction. The Committee have pleasure in stating, that the fund for raising the "Builders' Alms-Houses" is satisfactorily progressing, and so soon as the required sum is subscribed, a meeting will be called to decide upon the expediency of carrying out the intention.

The first Anniversary Dinner in aid of the funds of the Institution will take place in July next, particulars of which will shortly be advertised. Gentlemen kindly accepting the office of Steward will not in any way be liable for the expenses of the dinner.

Subscriptions and Donations will be thankfully received by the Bankers, the Treasurer, and the Collectors.

The Rules and Regulations of the Charity, and other information, may be readily obtained of the Secretary, at the Office, Poland House, Broad-street, Golden-square, on Mondays and Thursdays, from Ten to Four.

SMITH and ENGLISH,
ENGINEERS, BUILDERS' MACHINISTS,
IRON and BRASS FOUNDERS, and GENERAL
MANUFACTURERS,
PRINCES-STREET, LEICESTER-SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, ornamental Sciteres, Finials, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
16s, DRURY LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal use, being perfectly odourless and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Iron Work, complete upon Contract, and the work executed with every attention to punctuality and dispatch.
61, AVIES'S FOUNDRY,
16s, DRURY-LANE, and CHARLES-STREET.

IRON WORK FOR BAKERS' OVENS
F. A. TIDDEMAN, Purfleet Wharf, Earl
Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS.

OLD ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 15, Oxford-st., Wells-st.
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Register Stoves, Kitchen Ranges, &c., &c
Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Bars, 9½d. and upwards
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3ft. 6 in.	4 ft.
£7	£8 18s.	£9 8s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per bell.

IRONMONGERY WAREHOUSE, 19, Bradford-street, Manchester-square, leading from Baker-street, Portman-square.
TO BUILDERS and CARPENTERS,—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

	Best Patent Cut Clasp		
4d.	6d.	10d.	20d. per 1,000.
6d.	8d.	1s 4d.	1s 8d. "
	Cast Butts.		
2 in.	2½ in.	3 in.	3½ in.
1d.	1s 2d.	1s 5d.	2s. per doz

Also Best Patent cash Iron knots.

4	5	6	per doz. knots.
6s 6d	7s 6d	10s.	12s.

Every other article equally reasonable.
Catalogues of Prices can be had on pre-paid application, inclosing postage stamps.—Country orders will meet with immediate attention, and will be executed either upon the receipt of a remittance for the same, or of a satisfactory reference in London.
JOHN and EDWIN YOUNG, Proprietors.

R. FULKES, Wholesale Ironmonger, Stove
and Range Manufacturer, 91, Park-street, Camden Town, London.
Best Cut Iron Nails, 10s. per cwt.
Best cast Lath Nails, 12s. 6d. per cwt.
Iron and Wood Venetian Blinds, with large Brass Furniture, fitted with Dove's Patent Spindles, 36s. per dozen.
Cast Iron Locks, with large Brass furniture, and brass striker-staples, 4s. per doz.
Elliptic Stoves, 3d. per inch.
Register Stoves, 6d. per inch.
Best Self-acting Ranges, fitted complete, with Oven and Boiler, Revolving Shelves:—

3 ft.	3 ft. 6 in.	4 ft.
£7 15s. 0d.	£8 5s. 0d.	£8 15s. 0d. each.

Orders from the country, containing a remittance or Post-office order, made payable at the Camden Town Post-office, forwarded same day.

TO BUILDERS AND CARPENTERS.
BURT and POTTS, York-street, West-minster, Wholesale and Retail Ironmongers, Smiths, and Stove and Range Manufacturers, Delivered free within five miles.
Cast Iron Rain-water Pipe:—

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The Builder.

No. CCLXXIV.

SATURDAY, MAY 6, 1848.

AMID the "press of a tumultuous crowd," as an old chronicler writes, we strove on Monday last to get some idea of the 1,474* works of art which line the walls of the Royal Academy, and shew what our artists have been at during the past year. Join these with the 800 works exhibited by the Society of British Artists; 474 in the British Institution; 516 in the Free Exhibition at Hyde-park-corner; 346 by the old Water-colour Society, mentioned hereafter; 413 by the new Water-colour Society, and at least 1,500 which have been returned to the artists, for want of merit on the one side, or want of room on the other—making a total of 5,523—and they afford a sufficiently striking evidence of the industry of the British school, without counting the large number never exhibited at all, and the larger number shewn only in the provinces.

The collection at the Academy is a good one—above the average—but not better than last year. The hangers do not seem to us to have done the most that was possible for the pictures; but knowing well the difficulties which beset this operation—the many interests which have to be studied, and the impossibility of pleasing all parties—we shall not say much on this head in respect of the general exhibition. As regards it, however, in what used to be called

The Architectural Room, silence on our part would be crime. Architecture has long been scurvily treated in the Academy—elbowed and shouldered by live lions and rustic swains. On the present occasion, the hangers have evidently sought to give her the *coup de grace*: there is, in truth, no longer an architectural room in the Academy. Two sides of the room are wholly occupied by oil paintings: and on the other two sides the drawings are piled up to the ceiling, so that it is perfectly impossible to see what many of them represent. As a natural result of the course which has been pursued in former years, the collection is very indifferent, and would afford us little evidence in our attempt to rebut the often repeated charge, that the art of architecture is on the decline in England.

We are glad to think, however, that the condition of the art is not quite so bad as it will appear to foreign architects who visit Trafalgar-square,—that notwithstanding there was no evidence of it on the walls of the architectural room—we have a national building in progress worthy to rank with one of any age or people,—that churches are rising in every hamlet of the kingdom, and railway stations in all parts of the country, which, if not evidence of the most perfect state of artistic ability, are yet creditable to their producers, as happy instances of adaptation, arising out of a research into the history and developed principles of the art,—and that our street architecture is improving.

At a first glance, a few Elizabethan schools and houses (red brick and stone, which colour so easily), two or three chapels, carefully copied from existing examples, half-a-dozen designs already published in our pages, some drawings of architectural antiquities, and a few of the designs which were submitted for the Army and Navy Club, seem to make up the show. A closer examination enables us to say something more hereafter, but this is the first impression. There are very few men of standing amongst the exhibitors,—henceforth there will probably be fewer,—of the academician architects only one.

This inevitable result is much to be regretted. We know of few more important aids in the improvement of architectural instruction than the exhibition of designs; each architect there learns more from his neighbour than months of study might give. The loss by piracy of his design is comparatively nothing to the exhibitor, for it is not by enabling us to take fac-similes of good features in designs that the exhibitor benefits his fellow architects, but rather by suggesting currents of thought, and affording opportunities for comparison. At best—or worst—of little value must be the ideas of him who cannot afford to give some away. We certainly look upon public exhibition of designs as an important aid for the progress of the art, which it is the interest of every one to minister to; we felt this strongly in going over the competition designs for the Army and Navy Club; and if the annual exhibition at the Academy is not equally interesting to us, it is certainly by no means valueless, whilst for the great object of educating the public eye, it might be made an engine of the greatest service.

Amongst the drawings already published by us are our contributor, Mr. Truefitt's, clever design for the Army and Navy Club (1,233), likewise the design which is "now erecting in Pall-mall" (1,187). In our review of the Army and Navy Club competition, we noticed the other designs which are now again exhibited, namely, Mr. Tattersall's prize design (1,096), and (1,229), that with a rounded corner. The design by Messrs. Allom and Cross (1,216 and 1,117), Mr. Payne's design (1,171), and Mr. Johnson's design (1,294), and we have further engraved views of the buildings shown in 1,194, "Proposed Municipal Hall for Sheffield," T. J. Flockton; and of the "Clock Tower and Engine-house at Epsom, Surrey," J. R. R. Butler and H. Hodge, as well as given views of buildings of which further illustrations are here exhibited. Elizabethan architecture, as we have said, has been much called into play, although seldom with the precise character of the style, or with even that beauty of which it is capable. With reference to drawing, we do not notice the same excellence that the exhibition usually presents, and in colouring, the late comments of the professor of architecture, to which, however, we would not be understood as offering objection, might seem to have had some influence.

Amongst the churches, that erecting at Laverstock Green, Herts, by R. Brandon (1,102) is one of the best, and the double bell turret combines well with the nave and aisles. A "Design for the west elevation of a Church" (1,103), took us some trouble to find, for it is in that unknown style, the Greek. By combining the portico of the Agora with the turrets of Mr. Cockerell's Church in Regent-street, Mr. E. L. Tarbuck has certainly produced that which has as much claim to be a design as many a church in a more favoured style. The "Design for the interior of a room, decorated with illustrations of the Coldstream Guards," (1104) by H. Shaw, and (1289) "Drawing of an Ancient State Pall belonging to the Company of Fishmongers of London," by the same artist, are works which are positively wonderful for the amount of labour in careful drawing and colouring which they contain. In the latter, every stitch of the worsted appears, and we really doubt whether the artist has not given us some woven material rather than a drawing. The design is a happy arrangement of colour, though possibly as a drawing deficient in artistic effect.

The appropriate character of design for a railway station seems difficult to decide, since there are designs of all descriptions, even by the same architect. Doubtless directors require that there should be variety upon a line, but does it not show greatly a want of invention, that variety can only be obtained by change of style? Mr. Doyley's version (1109) has a central arch flanked by porticoes. "The Stoke Station," now erecting from the designs of Mr. R. A. Stent, is superior to many of the Elizabethan attempts, being certainly in the spirit of the style.

Mr. S. S. Teulon, in 1114, "The additions now making at Skendleby, in the county of Lincoln, for Sir Edward Blackenbury," has shown ability; his design evinces a taste which ought to be appreciated. Though altering an old building, he has contrived to produce much novelty of effect, yet with a comparatively small outlay. No. 1115, is a "House now erecting at Southend, Sydenham, for S. Forster, Esq.," by Coe and Goodwin, and is Elizabethan, and not without merit. There is a large porch of good character, and the effect of the building is aided by the pierced boundary wall. On the importance of attention to such points as the last, we have often expressed an opinion. The design would have been more effective if the building had stood upon a slight eminence.

"The Schools at Knowl Hill, Berks" (1,119), by J. Turner, are picturesque and appropriate. 1,120 is "A View of the New Prison for the Borough of Liverpool," C. J. Peirce. The "Design for a Collegiate School and Master's Residence," R. M. Phipson (1,123), is the fantastic version of "Elizabethan," which, though perhaps not without *precedent*, we cannot understand the merit of in modern design. The "House now erecting for Lord de Mauley," H. Clutton (1,124), is a good design in the Gothic style, with oriel windows and gables; an exception to most modern Gothic houses, in which no material but red brick seems to be worth adopting—this house is of stone; the site is not stated. From Mr. J. W. Daukes we have the "North-east View of Trinity Church, now being erected at Brompton, Kent" (1,128); the style is, as usual, early decorated, and the tower stands at the east end of the north aisle. Now that it has been discovered that during the middle ages towers occupied other positions than the centre of the west end, we scarcely see a modern design with a tower in that position: it should not be forgotten that the west end is, generally speaking, the most advantageous position. Of course we are only hinting an objection to its being removed from that place without reason; in the present instance, as in many others, another position may have been chosen with great propriety; the tapering of the spire might, we think, be lessened with advantage. Mr. E. Walters exhibits a design for a church (1,138), and two designs for villas (1,174); in the latter there are some pleasing features. Mr. Teulon, besides the drawing already mentioned, exhibits the "Schools recently erected at Cantley, in Yorkshire" (1,142), good and appropriate designs, "The new Entrance between the Court of Almshouses, recently erected at Holkham for the Earl of Leicester" (1,178), "The Almshouses now erecting at Riby, Lincoln" (1,198), and the "New Church and School now erecting in St. Stephen's, Southwark" (1,228). The last-mentioned design shows a low broach, similar

* 1,451 last year.

to the well known example at Sompting, Sussex. The window tracery is of that description in which there are no cusps; the architect might, we think, in this particular matter have pleased us better. "A Village School," C. H. Gabriel and A. Billing (1,144), is injured by the clumsy effect of the turret stair at the angle. The same names are appended to a design for a church (1,231), in which there is an octagonal tower, surmounted by a spire. Mr. J. W. Papworth exhibits a "Design of a façade for the Cathedral Church of Sta. Maria del Fiore at Florence" (1,155), concerning a certain design for which we once had occasion to speak with reference to some proceedings of the Institute. Perhaps Mr. Papworth will also call on the Institute for their opinion on his design. The general arrangement of the elevation seems in accordance with the style of the campanile—detail has scarcely been attempted. Mr. N. J. Cottingham exhibits a view of the "Village Schools and Master's Dwelling-house erecting at Great Chesterford, Essex" (1,157), which are picturesque, but much injured by the enormous size of some of the details. The buttress at the end of the building can, we think, have no thrust to resist that could require such a mass of masonry. The same architect gives a "View of a Design for the intended new Corn Exchange and Town Clock, with new Post-office, &c., at Saffron Walden, Essex" (1,278), respecting which we might make the same remarks as in the other case. Indeed, the great *calibre* of some of the details makes the building almost a caricature of Gothic architecture. "The Church now building at Skipton, near York," G. T. Andrews (1,156 and 1,290), and that "about to be erected at Penge, in Surrey," E. Nash (1,158 and 1,271), are of average merit, but certainly, like many others, make us long for innovation. The "Design for the Church to be erected at Treverbyn, Cornwall," G. E. Street (1,166), is a plain but good design.

"The Kensington Workhouse, now erecting," T. Allom (1,172), is a front view of the same design which was illustrated in a former number of THE BUILDER. The drawing, though a mere sketch, with apparently the very *minimum* of labour, is very effective, and sufficient for every purpose of competition. Mr. R. W. Billings has several of his admirable drawings, which he lately exhibited at the Institute of British Architects, in a paper noticed by us, and which are in course of publication in his work on the Antiquities of Scotland. He also exhibits his design for the "Hall Screen, erected at Kemble, for Robert Gordon, Esq." (1176). No. 1177, is the "Interior of the New Coal Exchange now erecting in Lower Thames-street—J. B. Bunning." We have already given an exterior view of this building in our pages. The drawing shows a rotunda with glass domical skylight, and numerous windows in the walls. There are three stages of balconies. Mr. T. T. Bury's "Designs for the Church at Chatham" (1181 and 1244), and for "Radipole Church, Dorset" (1203), show much careful treatment of the details. "A Sketch for a National Gallery, W. Westmacott" (1182), is magnificent in intent, but somewhat a failure; the central lantern light would, we think, be particularly unsatisfactory. "Highbury New Church, now erecting, T. Allom" (1183), is in the Decorated style, with a broach spire ornamented with niches, which give considerable richness. Mr. G. G. Scott, exhibits a "South-East View of the Cathedral Church of St. John, Newfoundland" (1192), part of which is now in course of erection. The building is cruciform, and appears to stand upon shelving ground, so that the principal windows on the north side are much elevated. There appear to be other windows beneath, so that we suppose there is a crypt. The tower at the intersection of the cross is low, and is surmounted by a pyramidal coping. Mr. J. Livock exhibits several designs for railway stations, all of different character. "Tamworth Station" (1196), is Elizabethan, "Lichfield Station, Trent Valley Railway" (1208), is better, and in the Tudor style, whilst the "Rugeley Station" (1210), seems to be a half-timbered building. The design for a Cathedral, for which the gold medal of the Academy was awarded in 1847 to Mr. E. Rumsey, exhibited in Nos. 1197, 1202, and 1209, is a very clever design, and is well drawn. The centre tower, however, appears much too thin, and we think the western towers would also appear so in parallel perspective. Mr. F. E. H. Fowler exhibits his arrangement of "The Square, Notting Hill," (1199) in which several of the houses appear to be well designed.

Amongst the illustrations of polychromatic decoration, are—"View of the Entrance-hall and Staircase of the British Museum, decorated by L. W. Collman" (1200), "A Design for Embellishing the new Coffee-room at the Carlton Club," by F. Sang (1095), and "A Design for an Entrance Saloon, adapted to the English climate," W. Papworth (1288). The combination of blue, red, and yellow, in the latter, strikes us as somewhat too gaudy. Mr. Collman's ability in decoration is well known, and of Mr. Sang's room we have already spoken favourably. 1201 shews "The new Buildings in the Temple," S. Smirke, A., for which we are unable to say much. An interior "Design for a Church," J. K. Colling (1205), seems well drawn, but the artist would have misrepresented the effect of the ornaments in the ceiling, even if they were intended to be silvered. In geometrical drawings we represent details as they really are—in perspective views, of course, under their natural aspect. Mr. P. C. Hardwick has a "View of the House about to be erected at Aldermaston, Berkshire" (1217), a large building, of Gothic character, and well designed. It stands upon a considerable eminence, and has a square tower, surmounted by a roofing of peculiar character. Mr. W. Grellier gives a view of "The Royal Insurance Company's new Building, Liverpool" (1221), which he is erecting—the style is Italian. Mr. W. Railton has "The Staircase, Beaumanor Park, Leicestershire, of Elizabethan character" (1224). There is a "Sketch of the Interior of the General Meeting-room for the London and North Western Railway Company, Euston Station" (1225), by P. C. Hardwick. There are coupled Roman Doric columns, and a coved and panelled ceiling. 1226 is a "Design for a Cathedral Church," very neatly drawn, by C. Innes, whose name is not unknown to our readers. "The Font lately erected in the Cathedral, Manchester" (1245), is by Mr. G. Truefitt, and is a very clever design, in accordance with the style of the building, which is a fine example of late, but good Perpendicular.* The tower of the church is not very unlike that of All Saints, Derby (1111). In No. 1275, Mr. E. Christian shows the restorations which he is about to carry out at the church of St. Mary, Scarborough—a very interesting building, but one which from our recollection of it, must have presented no ordinary difficulty, which appears likely to be very cleverly got rid of. "St. Saviour's Church, Haverstock-hill," now erecting, H. E. Kendall, jun. (1279), has some good windows, with a well-proportioned tower and spire. "St. Mary's Hospital, building near the terminus of the Great Western Railway, T. Hopper (1282), is one of the worst designs we recollect seeing. What would Wren have done with the red bricks and stone coins which are here so ineffective? We look at the building itself with regret whenever our business takes us to the railway station, close to which it is. "The Choir of Ely Cathedral," G. Hawkins (1287), is, we believe, being restored by Mr. G. G. Scott. The drawing is an admirable one, and the stall work of good design.

The last drawing we have to mention (1291), is a "Continuation of a design for improving the property on the banks of the Thames, between Blackfriars and Southwark Bridges," by T. Allom, and has other merit than its beautiful execution. The wharfs are preserved, and the communication from them to the street is by inclined ascents, over which the carriageway passes by arches, when requisite. The west front of St. Paul's is reached by a curved street, the best suggestion that could be made for the approach to a building. We think, however, that Mr. Allom has lessened the distance from Blackfriar's-bridge to the cathedral. Some slight liberties which are taken with the towers of certain churches are, perhaps, improvements. The drawing has some clever designs in the buildings lining the new street. Certainly this is an improvement which all would like to see carried out, and we hope that whenever that may be the case, Somerset House will not be allowed to suffer, as it would were some suggested designs likely to be put into practice.

The sculpture room contains a good chimney-piece, from the chisel of Mr. W. C. Marshall. The frieze represents "The Seven Ages," in arabesque; on the piers are figures of L'Allegro and Il Penseroso, and the whole is surmounted by reclining figures of Cupid and Psyche. The sculptor has produced a very beautiful work, and we should be glad to see sculptors generally employed upon works of this nature, but it must be with due deference to architectural rule.

Leaving this room, we pass to the general exhibition, where the first picture that excites attention is No. 8, "The Sisters," by E. U. Eddis, a charming work. Close under this is "Cardinal Wolsey" (11), by C. W. Cope, R.A. elect. The greatness of feeling and purpose in this at once strike the spectator; the conception of the fallen cardinal is fine—the utter prostration, physical and mental, is well conveyed; a thorough impersonation of the "old man, broken with the storms of state;" the expression of the abbot, and indeed throughout, is in accordance with the subject, and the difficult task of composing and arranging so many habited similarly, without monotony, successfully overcome. The right of election to the rank lately conferred upon this artist is efficiently proved. No 262, "Il Penseroso," by the same artist, is also an eminently fine work.

Mr. Uwins, R.A., in 36, "The Vintage in the Vineyards of the South of France," displays his old skill in works of this class.

77. "St. John the Baptist reproving Herod," J. R. Herbert, R.A., displays the elevated conception and rigid severity in execution, which characterise Mr. Herbert's works; never has his great academical knowledge, displayed without pedantry, appeared to more advantage than in this picture: the self-conviction of momentary fear displayed by Herod, not only physiognomically, but by general action, and the rage and scorn of the females, contrasted by the calm, fearless demeanour of the Baptist, are happily conveyed. The painting of the draperies and marble interior, to speak of mechanical excellence, is remarkable.

A picture by W. P. Frith, A.R.A., for relation of story, colour, character, and manipulation without obvious labour, is scarcely surpassed by any in the exhibition. It is entitled "An old Woman accused of having bewitched a Peasant Girl" (395), judiciously represented as occurring during the reign of James I., an epoch replete with incidents of superstitious credulity and terror; the quiet, harmless appearance of the supposed witch, who is being accused by the mother of having cast a spell upon the young girl, whose only ailment was that of love, which love "she never told—

> But let concealment, like a worm i' the bud,
> Feed on her damask cheek: she pined in thought;"

the fond old father, the aristocratic justice, whose head and bearing betoken him of gentle blood; the sturdy yeoman, seemingly so concerned in the case; the officious porter, &c.—are beautifully characterised. The accessories and background are painted with great truth.

403. "A Random Shot," E. Landseer, R.A. This, though a painful subject, is endued with so much sentiment and truth to nature, as to produce no other sensation than those of wonder and admiration. The rosy light of the setting sun reflecting upon the snow the foot-prints, and the painting of the shadows and snow generally, are so perfect as to induce belief of its reality; whilst the ani-

* This font, which is a present to the church by a lady, was fixed last week, at the head of the north aisle. It is on three steps, two octagon and the third cruciform on plan. According to the *Manchester Courier*, which gives a very flattering account of the font, it is octagonal; the shaft contains eight niches, which are filled with seated figures of the four Evangelists, with their respective emblems; also St. Peter, St. John the Baptist, St. Paul, and St. Philip (standing), being the four saints most especially connected with the principal baptisms recorded in the New Testament. It is inscribed "To the glory, and for the service of Almighty God, this font is an humble offering in memory of Edward Frere, who died March 4, 1844, and Mary Ann, his wife, who died January 10, 1846, at Bitton, in Gloucestershire. She was the eldest daughter and co-heiress of James Greene, who inherited Turton Tower and Clayton Hall, in this county, from Humphrey Chetham. 'Blessed are the dead which die in the Lord.'"

mals are so thoroughly understood and portrayed, so real in appearance, that in spite of the painful story, a pleasurable wonder at its perfection displaces all disagreeable feeling.

A picture by the same artist, beyond all criticism, is that of "Alexander and Diogenes," —the expression is almost human, and yet as true to the reality as possible: never was there a finer bit of modeling than the white dog Alexander.

186. Mr. Pickersgill, R.A., stepping aside from portraiture, exhibits a subject, "The old Oak Chest." "Young Lovell's bride," a life-sized figure, is about to enter the chest which is to prove her coffin. The head is a brilliant piece of painting.

217. "Amalfi," C. Stanfield, R.A. One of those marvellous adaptations from nature on which this artist's name is so firmly founded.

252. "Chancel of the Collegiate Church of St. Paul at Antwerp," by D. Roberts, R.A. An interior, painted with the precision of a daguerreotype, and producing the very sensation of chilliness which belongs to this building.

282. "The Death-bed of Robert, King of Naples," A. Elmore, A., has some excellent passages, and the painting in parts is unexceptionable; but the picture wants general interest, and is mannered and meretricious. The heads of some of the figures are very good, and none better than that of the king; but as a whole, the picture does not leave so favourable an impression as some of his previous works.

336. "Euphrosyne," W. E. Frost, A. Admirably chaste, both in drawing and colour; perhaps not equal to the "Una" of last year, but laying claim to the highest encomiums. The utmost refinement without affectation, in conjunction with a true notion of the beautiful in nature, give Mr. Frost a right to the title of a first-rate artist.

383. "A Summer Morning," by F. R. Lee, R.A. and T. S. Cooper, A., is one of the most perfect pictures of its class in the gallery: each artist has outdone himself.

416. "Highgate Fields during the Great Fire of London, in 1666" E. M. Ward. Mr. Ward has shewn himself a man of mind, and of an original way of thinking. Last year his contribution was one of the finest wrought subjects exhibited, and promised great achievements in the profession. The present performance can scarcely take the same rank. 587, "Charles the Second and Nell Gwynne," by the same, displays some beautiful painting.

440. "Arlète, a Peasant Girl of Falaise, in Normandy, first discovered by Duke Robert le Diable," P. F. Poole, A. A wonderful picture for qualified colour: the painting and treatment of the landscape are admirable.

511. "Palmer and Sir Guyon's approach to the Bower of Bliss," W. D. Kennedy. This picture does not derogate from the usual ability of the artist; mannered certainly, but full of artistic quality. The colour of the two foreground figures is pure, and the whole agreeably peculiar; originality of style being the most striking trait in the picture.

515. "The Contest of Beauty for the Girdle of Florimel—Britomartis unveiling Amoret," F. R. Pickersgill, A. With many good qualities, this picture is less satisfactory than other of this artist's productions. The fine drawing, composition, and honest excellence that served to distinguish the Westminster Hall contribution of this painter are wanting.

529. "Queen Elizabeth discovers she is no longer Young," by A. Egg. One of the best pictures in the rooms. The queen is admirably conceived, the colour of the whole picture powerful as that of the old Venetian masters. It is composed simply, and with excellent judgment; there is a grandeur and largeness about it that is wonderful when the extreme nicety of finish is considered.

A great improvement upon former productions is the picture by Mr. H. N. O'Neil, "Catherine of Arragon appealing to Henry VIII." (542), exhibiting more particularly advance in feeling for colour and in execution. Weakness about the male figures is its chief failing. Nevertheless, much may be anticipated from this favourable change. The painting in parts need not be better.

Next week we will resume our notice.

AWARDS OF OFFICIAL REFEREES.

OUTSIDE BLINDS—TIMBER NEAR FLUES.

In the matter of an information laid by the surveyor of the district of South Kensington against Mr. Newson for irregularities in building some houses in Bute-street, it appeared that the subjects of the notice were Venetian blinds made of wood sliding over the face of the front walls of the ground-floor story in light wooden runners, fixed to and upon the face of the walls, and that the piers between the windows of the respective houses in question were about ten feet wide; and it also appeared that the several houses to which the said blinds had been put up do not stand up to the public way, but are separated therefrom by open areas, and that the fronts thereof are at a greater distance than 30 feet from the fronts of the buildings opposite thereto; and it further appeared that an alleged irregularity, the subject of a second notice, was, that certain of the filling-in joists, being of timber, were inserted half an inch into the 4-inch brickwork forming flues, and that the district-surveyor required either that the timber in this and such like cases should be 3 inches distant from such brickwork, or that the face of the brickwork should be plastered before the timber is placed against the same.

The referees determined, "As to the first alleged irregularity, that inasmuch as the blinds and runners in question are made of wood, and are put up or fixed upon the face of the external walls of the houses, and not in the reveals of the windows, so that every part thereof be flush with such face, the same are contrary to the said Act, but having regard to all the circumstances hereinbefore recited as to the nature and situation of the work in question, we make no direction thereon."

And as to the second alleged irregularity, "we do hereby find and certify, determine and award, that inasmuch as timber has been laid or placed within 3 inches of the brickwork of certain flues, the thickness whereof is less than 8½ inches, and the outside whereof had not been previously rendered or pargetted, the same is contrary to the rules and regulations of the Metropolitan Buildings Act, and we do hereby direct the said John Newson forthwith to remove all such timber in the five houses in question, as may be at a less distance than 3 inches from the brickwork of which the outside or face of all flues as are next the interior of the respective buildings in question are not rendered or pargetted with proper mortar or stucco to the satisfaction of the surveyor of the district."

ATTIC-ROOMS—CURB ROOFS.

In the case of an information laid by the St. Pancras district surveyor against Mr. M. F. Chapman, for certain alleged irregularities in houses in Drummond-street, one complaint was that the sloping part of the roofs of the said houses, viz., the front and back curbs, have been begun at a less distance than 3 feet 6 inches above the attic floor.

The referees determined,—"That inasmuch as it is not contrary to the Metropolitan Buildings Act to form curb roofs on dwelling-houses, it is unnecessary to require the provisions in respect of attic rooms to which the information refers to be literally observed where a curb roof is employed, and we make no direction thereon."

FURNITURE BAZAARS—PUBLIC BUILDINGS.

In the case of an information laid by the Marylebone district surveyor against Mr. Dent, in respect of certain alterations to his premises in Crawford-street, known as a furniture bazaar, the referees decided, That inasmuch as the building in question is used as a public bazaar, and any person is at liberty to go through without obstruction, it belongs to the public building class, must be altered in accordance with the regulations in the Act for such buildings, and must consequently have fire-proof accesses and stairs.

Ventilation of Emigrant Ships.—Bad ventilation in emigrant passage-ships, kills thousands. It has been suggested that if means were provided for *cooking the food under deck*, and their use made imperative, the fire would necessarily change the air, and prove a most powerful disinfecting agent.

WORKMEN ABROAD AND AT HOME.

It is announced in respect of the "Drawing-rooms" about to be held, that "Her Majesty the Queen, ever desirous of giving encouragement to the trade and industry of the United Kingdom, and particularly so at this time of commercial depression, would wish to see them in dresses of British manufacture." This should lead us to doubt the truth of a statement recently forwarded to us, to the effect that much of the furniture required for the new apartments at Buckingham Palace is being made abroad!——The men in the employ of Mr. Thomas Cubitt have resolved, at a general meeting, "That, under existing circumstances, it is desirable to raise a fund, to be called "Cubitt's Workmen's Philanthropic Fund," to assist those men who formerly worked in the establishment, but are now out of work." Mr. Cubitt was requested to act as treasurer, and Mr. Dines was appointed secretary. Representatives of the various trades have been elected to form a committee, and a code of rules agreed on. The subscription is to be made for four Saturdays; and on the first of them 91*l.* were raised thus:—Men, including clerks and foremen, 39*l.* 9s. 11½d.; Mr. Cubitt, 50*l.* per cent. on the sum raised by the men, 19*l.* 15s.; Mr. Cuthill, 5*l.* per cent., 2*l.*; Mrs. Cubitt, 5*l.*; and Mr. J. A. Warre and friends, 25*l.* £27 were distributed to eighty-two applicants. We hope to see this example followed. The *Times* had a good article the other day on the effect produced on men by the conduct of their masters, and brings forward a John Higgins and Jem Stubbins in illustration. "Higgins works with a general contractor named Jones. Stubbins is journeyman to an upholsterer, named Tibbs. Higgins's employer is a man who began in the same condition as himself, and has worked his way up. Stubbins has done the same; but there the similarity ends. Higgins's master is kind, courteous, and genial; Stubbins's is hard, surly, and—as his men phrase it—"*rayther* high." The former looks after his men, has built them cottages, which he lets at a just rent, and a school for their children; he has also set a little savings-bank on foot, in which they deposit their earnings. His wife gives tea-parties to the women, and looks after the school. The other never took a moment's interest in his labourers, except when he wanted to canvass them for his own candidate; and Mrs. Tibbs, a *ci devant* lady's maid, is very fine and grand. Higgins's fellow-workmen are devoted to their employer; Stubbins's hate theirs. The consequences are what might be supposed." * * * "Jones's men are in the main content; Tibbs's think they are personally injured because they don't sit in Parliament, and pay themselves for the trouble. They hate the Throne, they hate the Church, they hate the aristocracy; but they hate with a ten times bitterer hatred the class of employers, whom they believe to be men without heart, without sympathy; living on their labour, and thriving on their wretchedness. Jones's men hate no order of society, because the only superior orders that they know of they find friendly, genial, and sympathetic." Indeed, it is by means as simple and orderly as these that the welfare of society is cemented. Half the grievances of any one man, and more than half the grievances of any one class, are sentimental ones. The Higginses and the Stubbinses are each a numerous body. Were all masters as indifferent or as haughty as Tibbs, all artisans would be as dissolute and as violent as Stubbins; but were all masters as kind and thoughtful as Jones, all mechanics would be orderly, peaceful, and well-disposed. We commend these remarks to the serious consideration of some of our large contractors.——*A Testimonal to the Metropolitan Working Classes*, of an appropriate and judicious description, in response to their recent demonstration on behalf of order peace, and law, has been suggested by Lord Robert Grosvenor, who has issued a circular urging the concurrence and co-operation of influential parties on behalf of the Metropolitan Benefit Societies' Asylum, at Ball's Pond-road, Islington, for the reception of the aged and infirm contributors to or members (male and female, and widows of members) of benefit societies, to which it is proposed to contribute funds sufficient to complete the building,

by the erection of the wings forming part of the original design, and to commence at least one additional asylum in another part of the metropolitan suburbs. As his lordship in announcing his well-timed suggestion rightly remarks, the class of persons assisted by such institutions "is one with which almost all persons are inclined to sympathise, becauee it is composed of those who have done their best to assist themselves. The asylum can neither encourage idleness nor interfere with labour: it is dedicated solely to the use of the working classes; it is managed solely by them, with an economy worthy of all imitation; and when once the buildings are completed, will be supported entirely by the benefit societies." The friends of the institution, under the especial patronage of her Majesty, the Duchess of Kent, the Duke of Cambridge, &c., &c., have accordingly resolved to have a public dinner, at the Freemasons' Tavern, on Tuesday, 16th current, under the personal auspices of the Duke of Cambridge, who will preside, and with the view of aiding the exertions now making in order to accomplish the end in view.—— The metropolitan trades delegates met last week to adopt a petition to Parliament, representing to the Government the state of the working classes. A desire to avoid politics was expressed, but the "Chartists" proved too clever for them, and the end of the meeting was a petition for the "six points" and the repeal of the union with Ireland!!! At this meeting a printed proposal was circulated to raise a fund of 50,000*l.* for the formation of industrial colonies on commercial principles, under an Act of Parliament to be hereafter obtained. It stated that there are 60,000 men in immediate communication with the association, so that "if each man paid only twopence per week regularly for two years, it would amount to 49,000*l.*" The proposal was moderately worded and is not to be hastily scoffed at, if only on the ground of offering inducement to the labouring classes to save money and become themselves capitalists. Let them be careful, however, of the hands into which they get, and watch carefully the result of the experiments going on on the other side of the channel: they may thus get wisdom without paying for it. Such experiments are costly, and, involving the well-being of the social fabric, should not be rashly entered on, especially when, if we wait a little, the goodness or otherwise of the means proposed will be made evident by others. The newspaper already quoted says, speaking of the French Government workshops, recently established, wherein the wages of every man are to be equal, without reference to either his capacity, his industry, or his calling, "There will be no temptations to employ a good capacity or improve a bad one—no stimulus to industry, no motive for thrift. The most frugal and painstaking workman will get no more than his most idle and reckless companion. No sagacity or sobriety will enable him to rise above that average dole which the universal combination of his brethren has fixed. He has nothing to hope from activity, as his neighbour has nothing to fear from sloth. He can lay out no plans for his future course, and conceive no designs for his private advancement, comfort, or protection. He will have no home of his own, nor any cheerful fireside, for it is admitted that life in common will be a necessary feature of these 'social' establishments. All individuality of disposition or talents, together with all consequent distinctions of fortune or fare will be utterly lost. A man will be no longer an individual with his own private hopes and fears, ups and downs, joys and sorrows, to be regulated by his own temper and controlled by his own conduct. He will be a simple unit of an interminable series, identified by a number or a symbol, like a ticketed convict, and the whole country will be nothing but a gigantic union workhouse sustained by the partial labour of its inmates."—— The Palace of the Louvre is to be completed, and, under the title of The Palace of the People, is to be appropriated for the exhibition of the works of art, the productions of national industry, and the national library. The Rue de Rivoli is to be continued on the same plan. The works relative to the construction of the Palace of the People are declared works of public utility; and the "expropriation" of the houses intervening is to commence forthwith.——The skeleton of the new building for the National Assembly is finished, and workmen are busy in placing the doors, windows, staircases, and floors. The lower part of the edifice is said to be exceedingly strong, the architect having apparently had two things in view,—durability, and capability of resistance against a popular attack. It is of great size, and oval in form. The benches are of wood, covered with green baize. The decorations are pale green and yellow. About the chair of the president is a drapery resembling the curtain of a theatre: on the right and left are inscribed "French Republic, Liberty Equality, and Fraternity." A double row of casements lights the hall by day; and nine lustres, in three parallel rows, by night.——The trees at the sides of the roads in the department of the Seine are placed at the disposal of the director of the Paris fortifications, for the purpose of making drawbridges.——Trade, as a matter of course, is suspended. Some letters recently received by us, from manufacturers and artists, present a melancholy picture of the once Gay Capital.

EXHIBITION OF THE OLD WATER-COLOUR SOCIETY.

THE private view preceding the forty-fourth annual exhibition of the parent Water-Colour Society took place last Saturday. Comment upon the perfection attained in the art by many of its contributors, would be superfluous,—a repetition of a many-year-old conviction. Who is not fully sensible of the wonderful ease and power, conjoined with perfect knowledge of composition and individual form, and consummate comprehension of expression, of Cattermole; the masterly ability and feeling for elegance and truth of Fred. Taylor; the natural freshness and freedom of handling of David Cox and P. De Wint; the atmospheric effects of Copley Fielding; the artistic quality introduced into the drawings of Prout and Callow; with the several excellencies of a host of others, little or no less celebrated?

The contributions of Cattermole form, as they always do when present, the chief feature in the exhibition. His drawings, six in number, evince the force and beautiful feeling for colour and effect for which he is so famous. The wonderful results emanating apparently from little labour,—the expression conveyed by comparatively slight definition, and the beautiful tone and sombre richness of colour, with actual grandeur of composition, have never told to better advantage than in (259) "Refectory—Grace," and (272) "The Youthful Champion departing to the Combat." The "Scene from Sintram" is less pleasing as a picture than remarkable for the perspective arrangement of the armour and general execution. (146) "Interior of a Highland Larder—Weighing the Stag;" a large drawing by Mr. Taylor, well arranged, and executed in a masterly style: some of the figures want expression and interest: but the still life is beautifully fine, and the two gentlemen sportsmen are capitally drawn. This picture belongs to Mr. M'Lean, and is to be engraved. Several delightful little hawking and hunting parties, by the same artist, are inimitable; fresh and pure in colour and execution.

The reflections from nature, rendered so happily by Mr. Cox, exhibit an independence of manipulation which is surprising. Nothing can be truer in arrangement and production than his best drawing of this year—"Lower End of the Vale of Clwyd, North Wales:" the freshness and cool quality of the greens are remarkable. (32) "Going to the Hayfield," (45) "A Green Lane," (114) "Windy Day," &c., exhibit the master's hand, but slightly degenerate into coarseness.

P. De Wint's equally true and masterly portraiture of nature is exhibited in his contributions,—(3), "A Landscape with Cattle;" (11), "A Hayfield near Waltham Abbey, Essex;" (118), "Kenilworth Castle;" "View at Walton-upon-Thames;" (153), "A Cornfield, Lincolnshire," &c.

Some drawings by G. Fripp call for approbation, reminding us forcibly and favourably of poor Müller. (34) "Cookham Church, on the Thames," (72) "On the Avon, near Clifton," (155) "The Valley of Desolation, Old Park, Bolton Abbey (a delicious bit), (163) "Eel Bucks, on the Thames," &c., are beautiful.

The figure drawings of A. Fripp do not possess their usual merit: disagreeable colour, added to hardness and mannerism in drawing, take away from the interest excited by the like subjects when embodied with stricter adherence to truth and simplicity. (193) "A Pilgrim at Clonmacnoise, approaching the Altar Site," is a clever conception, well drawn, but mannered and exaggerated. One or two Highland interiors are the best of this artist's contributions.

A fine specimen, though small, is (117) by Rayner, having all the appearance of an oil picture divested of its glazed surface. We regret seeing no larger work with his name attached.

Mr. Copley Fielding has walked out of the beaten path, and produced an admirable coast scene, full of power: (120) "A Storm on the Coast of Mull;" a welcome exchange for some of his smaller landscapes of late production. Several large landscapes, in his usual style, varying in attraction, but mostly of great merit, form an important feature in the exhibition.

(88) From the ballad of Rory O'More, by F. W. Topham, is a sweet picture, full of refined, yet simple truth. No artist depicts with so much feeling and sentiment the characteristics of the Irish; the effect of sunlight is admirably rendered.

Mr. Duncan's "Gillingham on the Medway" is rather grey, compared with former productions, nevertheless a covetable drawing; the foreground beautifully decided in execution, yet not too obtrusive.

(116) "The Music Party," G. Dodgson, is a charming drawing; one of the artist's best, quiet, yet full of colour. (52) "Interior—Evening," admirable in arrangement of light and shadow and general tone.

The three artists last named are those who seceded from the new society, and were elected into the old. Concerning this transaction we have unfavourable impressions, and should have been glad, for the sake of the artists themselves, if it had not occurred.

Bentley (300, "Dartford Creek," is beautiful), Callow, Evans, Mrs. Harrison, Gastineau, Nash, Nesfield, Oakley, Palmer, Price, Richardson, Smith, &e., all deserve lengthened remarks on their several excellencies.

Some wonderful studies of still life and rustic life, by Hunt, need no eulogy; and the floral delineations of Mr. Valentine Bartholomew stand unrivalled.

A proof of unflagging perseverance, by Stephanoff, "An Interior of a Picture Gallery" (201), ought to be particularised, but want of space prevents us.

FULHAM UNION WORKHOUSE COMPETITION.

WE have ascertained that the explanation of the long delay in the decision in this matter is as follows:—The plan placed first of the three prize plans is a close and bare-faced copy of the Greenwich unionhouse, reduced by the master of that house (with the assistance of some young draughtsmen) from the architect's drawings, presented by him to the Greenwich board on the completion of the building; a direct plagiarism unacknowledged, and not the first which the workhouse master has achieved and benefited by. Architects should look to this. In this case, however, it is happily likely to be defeated, for the amateur architect's model was built to contain 1,300 inmates, and the number required at Fulham is 450. The necessary reductions have occasioned, in the hands of these uninitiated, more than all the confusion to be expected. Many of the *first essentials*, as we learn, have been entirely overlooked, and numerous errors have been gradually developing themselves during the last seven weeks, such as very short and bad accommodations,* bad drainage,† impracticable constructions,‡

* Deficiencies in beds, those provided chiefly double beds; no bath-rooms or lavatories in the house, no water closets in ditto, only in yards and hospital.

† A series of cesspools, instead of a branch sewer to the adjoining main sewer, as distinctly required.

‡ Walls too slight, some of the enclosing walls are one brick thick, and generally only one and a half ditto; no fire-proof accesses, as required by Buildings Act: false bearings; high and important walls without any substructure to carry them.

and a medley of confusion as regards working arrangements. Many of the accommodations have been kept intact in the small design, although quite inappropriate, thus ensuring for Fulham, if the house should be built as planned, one of the most ill-arranged and constructed of modern workhouses.

It is hardly necessary to add, that large and showy drawings were got up with considerable effect (although sections were wholly wanting) with front views, and perspective, coloured and varnished with suitable landscape, in the "neatest style," probably by one of the able artists who so kindly devote themselves to assist architects in producing "effects" on judges. But the subject is too serious to joke on. The guardians and officers of the Fulham Union are honourable men, but wanting, as a matter of course, the right sort of knowledge, and, scorning assistance, have placed themselves in a difficulty. We venture to think that they would not *willingly* commit an injustice towards those who, depending on their integrity, have spent time and talent in the preparation of designs; and, in order that they may not do so, we intreat them, even now, to take proper advice, and retrace their steps, if found to be taken in error.

ARCHITECTURAL COMPETITIONS.

SIR,—Instead of its being surprising that many committees make gross blunders in deciding on competition plans, and so become exposed to the accusation of being influenced by improper motives, the wonder should rather be that they ever arrive at a correct decision. In the report of the sub-committee of the Health of Towns' Association, on the pending Health of Towns' Bill, is the following passage: "The very assumption on the part of the local authorities, or their representatives, that they can carry out the requisite works by themselves, is only a deplorable proof of the ignorance of both as to what is required to be done. The baker who is the chairman of the City Commission of Sewers has declared that he and they are 'willing' to carry out complete works of sanitary improvement. He might as well say that he is 'willing' to construct a well-working locomotive steam-engine. Such assurances from such men only shew that they know not what they promise."

The assumption, for instance, that half a dozen guardians of the poor can duly decide on the plans for a workhouse, or that as many magistrates can form an accurate judgment on those for a lunatic asylum, is not less preposterous. *Ne sutor ultra crepidam.* The guardians or the magistrates may be not only "willing," but *anxious* to decide fairly; but it does not follow that they can do so, or that they can avoid laying themselves open, by the decision to which they come, to grave suspicions of having acted under some improper bias.

Still, whatever may be the objections, these unprofessional committees, being either the paymasters or their representatives, cannot be expected to give up their privilege or duty, whichever it may be, of deciding on competition plans; and I therefore beg to suggest, for the consideration of architects, a mode of obviating the existing evils.

Giving committees full credit for intending to act uprightly, it is fair to suppose that they do not know what are the most important points to which their attention should be directed, and that they are often caught by a pretty elevation, when the plans or sections annexed to it are almost worthless.

I would therefore submit, that the Institute of Architects, or some other body, whose authority on such matters might be reasonably deferred to, should publish papers of instructions for the guidance of committees having to decide on competition plans, pointing out to them the course which they should take in making their examination, and directing their attention to the most important details of elevations, plans, and sections, for buildings of various descriptions.

I would also submit, that every architect who sends in any competition plans, should send with them the published paper of instructions applicable to the competition in question.

These precautions against unfairness or ignorance might easily be taken by architects, without giving any offence to committees. A further precaution, which the adoption of my proposals might lead to, would be to impose on the committees the necessity of making written reports of the grounds for their decisions; but, of course, the architects could not, at present, insist on such reports being made.—I am, Sir, &c., N. R.

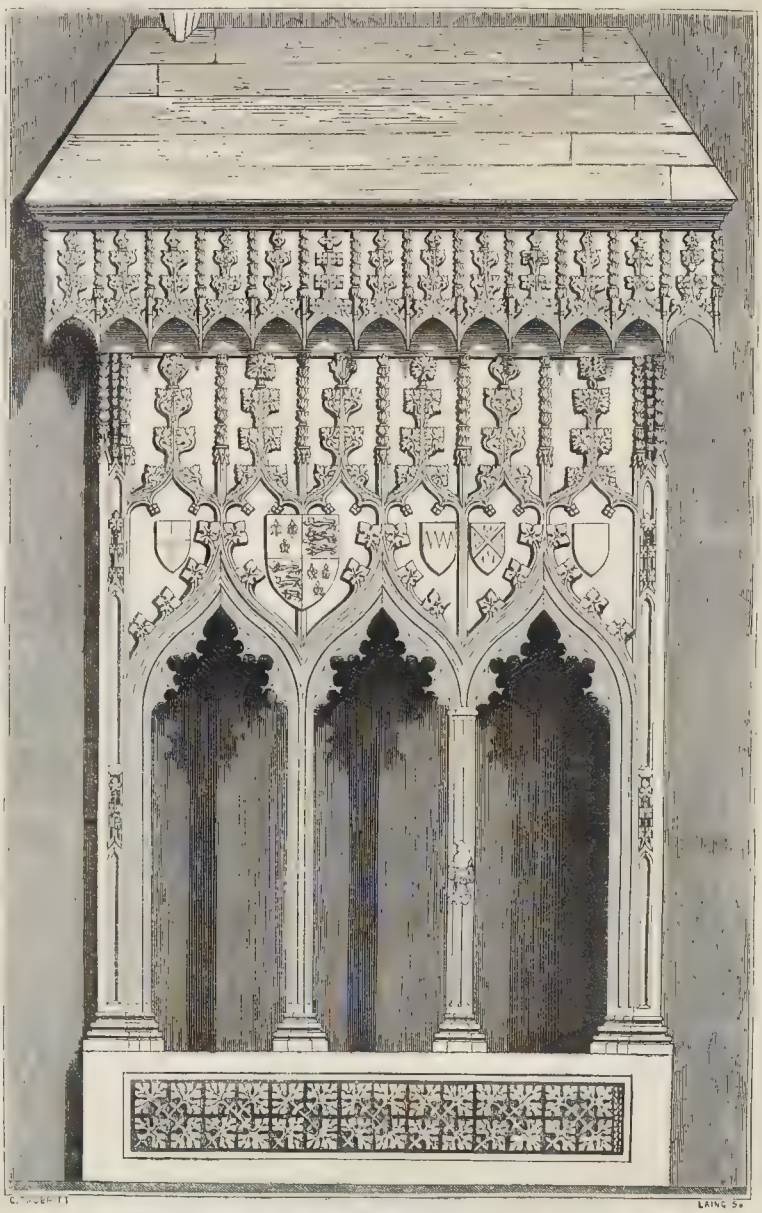
DRAINAGE OF TOWNS.

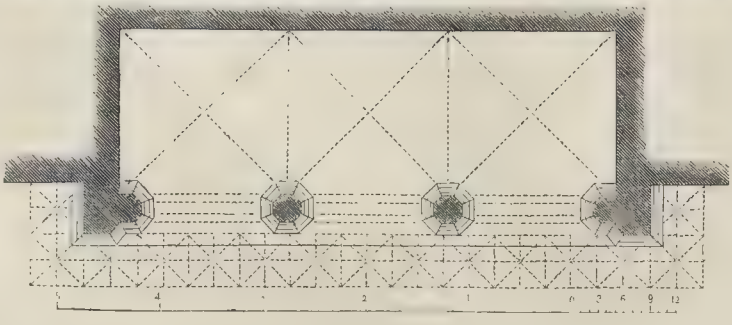
SIR,—It is now pretty well proved that the sewers of London deserve no other epithet than that of continuous cesspools. Their area being disproportionately large to the bulk of their contents, the force of the current is insufficient to propel these to the outfall, and a deposition of solid matter takes place throughout their extent, which becomes permanently adherent to the bottom of the sewer, and getting channelled by the ordinary dribbling going on within, constitutes, in fact, the actual walls or substance through which the sewage flows. The working part of the sewer, then, is lined with the very matter it is intended to convey away; it possesses evils to which the ordinary cesspool is not chargeable; it is in free contact with the open air, and is liable to a continual partial movement, and an occasional thorough stirring up of its contents; the frequent accession, from heavy rains, to the body of the current within it, serves to denude the solid deposit of its superficial coating, thereby exposing a fresh surface (foul in its freshness) of putrescent matter, to be acted on by the abundant supply of air within; and as this acquires in its transit and sojourn in these immense canals a considerable increase of temperature, the most favourable conditions are presented for the further development of putrefactive fermentation. Here, then, is a vast laboratory of corruption, lying a few feet beneath the surface on which dwell upwards of two millions of people, winding its tortuous way in endless intricacies among them, just sufficiently covered in to be a *reservoir*, as well as *generator*, of foul mephitic vapours, which finding a ready outlet through the numberless open gully-holes, do their work of mischief as surely as the pure air of heaven does its work of good; the materials, too, of this mighty gasometer, the mass of putrid matter, the exuviæ of millions of beings, mixed with endless varieties of putrescent animal and vegetable refuse, besides belching forth their foul and poisonous breath through the untrapped surface inlets, is at length sluggishly and partially excreted into the Thames, thus rendering this noble river an open sewer, and giving it at low water all the appearance of a dirty ditch. And by this system of poison-gas making—of poison-gas supplying in unlimited quantity to the lungs of the inhabitants—by this system of holding vast stores of *fever mixture* in stock—by the keeping in action this monstrous inhaler of cloacine vapour, less rapid, but more lasting in its effects than the fashionable chloroform—by this system of converting the Thames into a dirty ditch, and its banks into a mass of evaporating liquid filth, as disgusting to the eye as baneful to the health;—by this monstrously absurd system do we lose an agricultural agent valued at many millions per annum; we permit that, which is nothing more than food purchased at a dear rate, brought from all parts of the earth, and which has merely undergone one of the stages in the great chemical process of nature,—we permit that to become a source of disgusting annoyance, of pestilence and contagion, which, if passed through the channel which science points out with an unmistakable hand, would reward our labours with fertility and abundance. Yet are there remedies for these evils, simple, efficient, practicable. The plan that presents itself to every one who has cast a thought on the subject, is that of rendering the house drainage distinct from that of the surface: yet how are we to do this, and to carry out the details of the method consistent with economy, facility, and the preservation of the product without the production of noisome effluvia? I would propose the establishment of a distinct system of tubes of glazed earthenware for the house drainage, and that of excrementitious and offensive matter of every description from every source, such as stables, cow-houses, slaughter-houses, urinals, &c. &c., and that this line of tubes be inclosed in the sewers, which are confessedly many times too large for their present functions, and that this soil, or excretory duct, be a closed one, its continuity being no where interrupted, having the various inlets from the houses and other buildings, and only one grand outlet, and possessing no communication with the external air, but instead of terminating where the sewers now do, on the mud banks of the Thames, or where they are proposed to do, further into the body of the river, I would carry the soil ducts along its banks on each side—above or below ground would matter not to the principle of the plan—and convey it completely away from town to the marshy banks below Woolwich, or even further off, if desirable; and on any locality presenting itself as most eligible for the purpose, I would erect a terminus on each side, in which should be the grand reservoir or receptacle, sunk in the ground, or otherwise, which should be hermetically closed; from this the fluid contents could be raised, when necessary, by an exhaustion pump, worked, of course, by steam-power. The sewage, even when devoid of the surface water, would be too bulky to admit of being easily conveyed away, but it might at once be dried, and become the valuable poudrette, the *human guano*, the great value of which has been proved beyond all doubt or question. The process of Dr. Ayres, described in No. 1,273 of the "Mechanic's Magazine," would suffice to reduce the whole mass to a perfectly dry powder, as rapidly as it accumulated, without evolving any fetid gas whatever; the process even on this vast scale would be no more unwholesome or noisome than that of an ordinary manufactory for other purposes.

The advantages which I conceive would accrue from this complex system of drainage, carried out and completed in the manner proposed, would be these:—1. The concentric arrangement of soil-duct within the aqueduct would be the most economical of any plan yet projected, consistent with the preservation of the product; and being enclosed within the present enormous sewer, it would at any time be accessible in case of obstruction, or other derangement; any interruption in the surface drainage would not affect the soil-duct, which would be always performing its function of excretion by the *vis a tergo*, and the exhaustion in the reservoir. By a connection with the water-pipes, supposing each of the inlets to be armed with a valve, the soil-duct could be flushed with ease and efficiency. The sewers containing little more than water, the necessity for trapping the numberless inlets would be abolished. Were the cab-stands to undergo the desirable modification proposed by me in a recent number of THE BUILDER, the mere soilage of the streets would be too insignificant to render the sewers, even in their present exposed state, a source of annoyance. The sewage being deprived of the surface drainage, would admit of being much more rapidly reduced to a proper condition for agricultural purposes, and the powerful manure thus produced could be shipped off, or conveyed by railway, &c., from the wharfs of the termini, with great facility; and it is to be remembered that by this desiccating process, the soil loses none of its fertilizing properties, but merely its redundant moisture. The clumsy system proposed and approved of, of erecting vast chimney shafts, with currents of heated air, for ventilating the sewers, and thereby contaminating further the stratum of air above the houses, already sufficiently intruded upon by the masses of soot, vapour, and irrespirable gases now furnished by the house chimneys, would be rendered needless. The plan of sinking large iron tanks in various parts of town, and pumping up their contents, to be conveyed away, is operose and complicated,—why do that by instalments which can be effected in one single process? Of course, where sewers do not already exist, a water or surface drain, and a *cloaca comes* would be laid down together, or the soil-duct could be quite independent, in structure, direction, and termination, of the surface drain. To all towns, whether situated high or low, this system of drainage is equally applicable.—I am, Sir, &c.

F. H. WALLER.

SEDILIA, HOLY-CROSS ABBEY, COUNTY TIPPERARY.





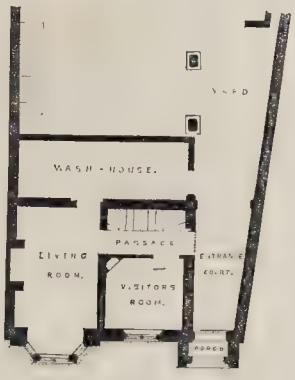
PLAN.

ST. PAUL'S SCHOOL, OXFORD.





SECTION.



GROUND PLAN.

SEDILIA, HOLY-CROSS ABBEY.

Sir,—Annexed I send you an elevation, with plan, of the Sedilia in Holy-Cross Abbey, county Tipperary, which will be found very curious and beautiful.

Though evidently the Sedilia, it has been a subject of dispute among Irish antiquaries, from Sedwich to Sir Wm. Betham, as to whose *monument* it is. In a note appended to Mr. and Mrs. Hall's work on Ireland, page 112, it is stated that Mr. Petrie assigns it to a Countess of Desmond, and Sir Wm. Betham to a Countess of Ormonde, which he says "removes all difficulties, all the escutcheons of arms being in perfect order," &c.

It stands in the usual position, near the high altar, with a piscina close to it on the east, and is built of black marble. The vaulting ribs spring out of the sloping roof near one end.

Benjamin Woodwarde.

Dundanion Castle, Cork.

ST. PAUL'S SCHOOL, OXFORD.
SELF-SUPPORTING ROOFS.

Sir,—I have frequently noticed in your excellent paper engravings and descriptions of various schools, erected or erecting, in different parts of the country, and as it is a subject of great interest at this time, when so many parochial and other schools are building, you may not think a short description of that lately erected in St. Paul's, Oxford, unimportant to your numerous readers.

Surrounded as we are there by so many fine examples of Gothic architecture, we have perhaps rather exceeded the bound of usual practice in ornamental detail, not forgetting, however, substantiality, sound work, and good materials. The elevation faces and contrasts well with the fine Grecian front of the university press; this part forms the dwelling-house for the mistress (the school is only for girls), and a small room for the vicar, to transact his parochial business in. The school-room extends behind: it is 55 feet long, 20 feet wide, and 18 feet between the apex and the floor. Those engaged in educating the smaller children always consider it most advantageous to be able to send them out occasionally—for a little recreation to lessen the confinement—and as our site was too limited for a play-ground, we adopted the plan of placing the school-room on the second floor, and devoting the lower one to this purpose.

In the construction not a particle of wood has been used. The roofs are supported on terra-cotta ribs, with transverse sleepers of the same material, and the floors, arched on geometrical principles, are formed by tiles set in cement; both are of undoubted strength and durability. The mullions and jambs of the windows, the chimneys, copings, and many of the ornaments, are all of terra-cotta; by the use of these materials, and with the skill of the patentee, Mr. Grimsley, he has been enabled to give us a building, which is creditable to all parties, at a much less expense than ordinary places of this kind cost. I am sure you will be doing good service by making known this mode of building. Its applicability is not confined to schools, but well suited for workhouses, stables, barns, and warehouses, both for safety against fire, strength, and durability, not forgetting that from the absence of wood and carpenter's work, it is less costly

by one-fourth than the common mode of building.—I am, Sir, &c., T. C.

Oxford, April, 1848.

P.S. The cost of this school was 650*l.* The accompanying engravings shew the appearance of the building externally, the plan of the front portion of it, and a section of the school-room and play-ground.

CHURCH BUILDING.

THE Holy Rhood Church rebuilding committee report that, after selecting out of 20 designs that of Messrs. Mee and Webbe, and finding that only 1,000*l.* could be collected over and above the 2,000*l.* proposed to be borrowed from the Exchequer, they had consulted with the architects, and now proposed to rebuild the church with their present funds according to the plan chosen, and "without materially affecting its general character, or at all detracting from its stability." It has therefore been resolved that the committee's proposal be carried out, the parish contribution not to exceed 2,000*l.*, and no part to be applied till the whole be realised.——Trinity Church, Hartshill, was consecrated by the Bishop of Worcester, on Wednesday week.——A site and 2,008*l.* have been obtained towards the building of a church in the Wier district, Bristol; 600*l.* more will be required.——Christ Church, Cotmanhay, says the *Nottingham Guardian*, has been consecrated. It is in the Early style, with a bell turret; length of nave, 74 ft. 9 in.; aisle, 72 ft. 6 in.; width, 48 ft. 2 in.; length of chancel, 10 ft. 6 in.; width, 23 ft. 7 in. The architect was Mr. H. Stevens, of Derby; and the builder, Mr. J. E. Hall, of Nottingham.——St. John's Church, Goole, was consecrated on Tuesday, Ellerton Church (rebuilt) on Wednesday, and the Norman church of Sowerby, near Bridlington, on Thursday week, all by the Archbishop of York, who was also to consecrate a church at Carlton, near Pontefract, on Monday, and the new church at Balby, near Doncaster, on Tuesday. Three or four other Yorkshire churches will be ready for consecration in course of the summer. St. John's Church, Holmfirth, was to be consecrated by the Bishop of Ripon on Thursday. Contracts have been entered into for the restoration of a considerable portion of Sandal Church, Wakefield. Christ Church, Doncaster, is about to be inclosed, and ground for interment consecrated.——The new church now on the eve of completion at Woodside, Horsforth, was struck by lightning in a late storm. The upper stones of the turret were scattered, and most of the others shaken and displaced to the depth of three or four courses below the sill. Some of the stones of the upper part of the south side of the western gable were then fractured, and others thrown down. The roof, too, was much injured, and some very large stones went through it, while others were thrown 60 yards from the building. Funds are required for the completion of this church.——The old English oak pews of Northallerton Church, erected in 1787, have been replaced by open fir stalls, affording additional free sittings.

THE ARTISTS' AMATEUR PERFORMANCE on the 27th ult., in aid of the Artists' General Benevolent Institution, went off very successfully. "The Heir-at-Law," and "Plot and Counterpart," were the pieces chosen. In the former, Mr. J. Wilson, Jun., as *David Dowlas*; Mr. R. J. Hamerton, *Dick Dowlas*: Mr. Frank Holl, *Dr. Panglos*; Mr. T. W. Angell, *Steadfast*; Mr. M. Wood, *Kenrick*; Mr. John Tenniel, *Henry Moreland*; and Mr. F. W. Topham, as *Zekiel Homespun*, showed how quickly artistic sensibility adapts itself to a new path. The acting of the latter was especially excellent, as good as anything of the sort we have ever seen, nor can much less be said of Mr. J. Wilson and Mr. Holl. In the farce, Mr. J. F. Redgrave, Mr. George Cruickshank, and others, had parts in addition to the gentlemen already named. The house was not quite so full as it might have been, or as it would have been, with a *little* better management in this respect, so that the committee will scarcely be able to send so large a sum to the excellent charity in whose favour their exertions were praisworthily made, as they did last year.

INSTITUTE OF BRITISH ARCHITECTS.

THE annual general meeting of the Institute was held on Monday evening last, to receive the report of the council and elect officers for the ensuing year. The report, which shewed that the financial condition of the Institute was better than it has ever been, having been read, Mr. Kendall moved its adoption. Mr. Mayhew moved a vote of thanks to the president, Earl de Grey, and in so doing took occasion to suggest that a paid lecturer should be appointed, and that those members of the Institute who cannot give time for the preparation of papers themselves should contribute towards the expense of such an appointment.

Mr. Godwin moved a vote of thanks to the vice-presidents, and in respect of the heavy drag on the funds for the rent, urged that the council should keep in mind the often-asserted possibility of uniting several artistic societies under one roof, by which the expense might be lessened.—Mr. Ferrey moved thanks to the council—and Mr. Mocatta to the secretaries. A vote of thanks was also given to the foreign corresponding secretary, Mr. T. L. Donaldson. The officers were then balloted for, and the following declared duly elected:—Earl de Grey, president: Messrs. Bellamy, Poynter, and Sydney Smirke, vice-presidents; ordinary members of council, Messrs. Chantrell, Donthorne, Gutch, P'Anson, Kendall, G. Mair, Mee, C. C. Nelson, Penrose, and Woolley. Mr. Cole, auditor. Messrs. Bailey and Scoles, secretaries.

On Monday evening a special meeting will be held to consider the memorial submitted to the council some time ago, for the formation of a benevolent fund for the less fortunate members of the profession.

RAILWAY JOTTINGS.

'MERCATOR,' in *Herepath's Journal*, recommends Government to assist the railway companies who have works in course of construction, on the ground that, in the event of a continental war, the national importance of the railways would be greatly increased, as an adjunct for the 'chief carriers of the world,' which he thinks we should probably again be, and as a substitute for our coasting vessels in the transmission of coals and other goods coastwise, during a period when not only would premiums of marine insurance be high, but our coasting carriers be converted into foreign voyagers, and an immense increase of traffic by railway ensue. 'Mercator' enforces his appeal by the hint that tens of thousands of our unemployed and restless labouring classes would thus be usefully engaged. He proposes that Government should issue Exchequer-bills to the companies, to be secured on their property, and repaid in five years.—— It has been suggested that a pair of coupling-chains, fixed diagonally between the ends of every two carriages, the one crossing the other from and to opposite sides of the rail, would diminish the effect of the centrifugal force at curves, and lessen the chances of trains running off the line, especially when placed nearly on a level with the centre of gravity in the carriages. Experiments are said to have confirmed the practical utility of this suggestion.——A speed of 53 miles in 50 minutes, with a train of 50 tons weight, was lately attained by one of the new class of 8-feet driving-wheel engines, "The Emperor," on the Great Western. Greater part of the run between the 4th mile-post from Paddington and Reading was made at the rate of nearly 70 miles an hour, and several miles were gone over in 49 seconds per mile. This speed is said to be the greatest ever maintained with a train, whether on broad gauge or narrow.——The Chester and Holyhead line was to be opened for about forty-five miles—Chester to Conway—on Monday last. Further experiments have been made on the strength of the Conway tunnel bridge. With trains of several hundred tons weight, the maximum of the inflection is said to have reached an inch only in one instance. A slight oscillating motion is perceived by those on the top of the tube or leaning against its sides in the interior. The masonry of the Menai or Britannia tunnel bridge (which will consist of two tubes, each 460 feet long, and three buttresses for each of the two lines of rail), is in rapid progress; but it will be twelve months ere one set even can be finished. The permanent way through Anglesea to Holyhead is completed to near Carnarvon Bay. From Conway to Bangor will be opened in a month. The total expenditure on the works at last half-yearly meeting was 1,645,385*l.* 19s., while 257,235*l.* 18s. 11d. had been paid for land and compensation, and 245,251*l.* 1s. 10d. had been expended on the tubular bridges. ——Three millions of bricks, it is estimated, will be requisite in the formation of a viaduct of 300 yards, in progress, at Brierly-hill, on the Oxford, Worcester, and Wolverhampton line: two years have been agreed on for its completion.——The stability of the new 'truss' bridge over the South Drove drain, about two miles from Spalding, was tested on Friday week, in presence of various architects, engineers, contractors, &c. A steam-engine and 30 ballast waggons (each weighing nearly five tons) passed over, the bridge, according to the *Stanford Mercury*, yielding not more than the sixteenth of an inch.——The Manchester, Sheffield, and Lincolnshire is about to apply for leave to improve the Humber Ferries, by constructing a long pier on the Hull side of the river. The Admiralty has assented, and experimental operations have commenced.—— The new railway station at Hull is nearly finished.——The Boulogne and Amiens line has been opened at length throughout, so that the first great highway of the iron age, between the centre of the two first nations of the world, is now, if we may say so, finished as far as it can or will be, unless that model of Menai tubes, the submarine tunnel tube across the strait at Dover, be itself now destined to be realized. The line is said to be well formed, and the carriages handsome and convenient, as well as costly. The Boulogne station is on a smaller scale than at first contemplated by at least 30,000*l.*

ELECTRO-TELEGRAPHIC PROGRESS.

THE *beau ideal* of electro-telegraphic converse we have often alluded to as a consummation much more likely to be wished for long, than shortly realised. But can it be credited that this very *beau ideal* has already been realised,—that while the well-known 'fist' of some one correspondent is rapidly tracing out its familiar characters at John O'Groat's house or the Land's End, at that very moment, by some magical hocus-pocus, a perfect fac-simile of it may and can now suddenly appear before the *second* sight of his astonished coadjutor in the metropolis! Nay more,—that still more rapidly than it is possible for even the most expeditious to write, their lucubrations may, *verbatim et literatim et formatim*, be so transmitted to or from the Ultima Thule,—that in fact at the rate of 500 letters, or, on an average, at least at the rate of 100 words of ordinary writing per minute, or four times that number of stenographic characters or words, may now be not only so transmitted, but set down —exactly *transcribed*; and, moreover, that with even greater rapidity, letter-press printing may be copied, and thus fac-similes of the morning papers be transmitted to Liverpool, Manchester, and Edinburgh, long before the papers are themselves delivered to their London readers! On the credible authority of the *Spectator*, we have now to announce all this as a reality,—that by the electro-magnetic "copying telegraph" (it ought to be called the "electro-magical pentagraph") invented by Mr. F. C. Bakewell, all this, and more, *can* be done, and shortly *will* be done. The invention is to be patented, and is consequently not yet described, but the *Spectator* has seen 'a specimen of its writing,' and can, therefore, testify to its 'character' as an accurate autographer.

"The letters traced on the paper appear of a pale colour, on a dark ground formed by numerous lines drawn close together. When this means of correspondence is in operation, instead of dropping a letter into the Post-office box, and waiting days for an answer, we may apply directly to the Copying Telegraph, have it copied at the distant town in a minute or less, and receive a reply in our correspondent's handwriting almost as soon as the ink is dry with which it was penned. There

are various means, too, for preserving the secrecy of correspondence; the most curious of which is, that the writing may be rendered nearly invisible in all parts but the direction, until its delivery to the person for whom it is designed."

The *Spectator* bewails the pending fate of St. Martin's-le-Grand—a fate now threatening to be consummated by that very instrument, the electric telegraph, by whose aid it so recently 'tinkered' time with patch upon patch, but all, unfortunately, *in the wrong direction*, widening the 'mean' gap *obviously* in place of narrowing it to its minimum, as we had long hoped *would* be done, by those very means, so absurdly abused, which thus are thought to be about to make a retributive visit, on the wings of insulted Time himself, to the 'grand,' but presumptuous usurper of his solar throne. In earnest, however, we rather doubt the clairvoyance of our respectable contemporary, the *Spectator*, in his seemingly serious prophecy that ere long St. Martin's 'occupation' will be 'gone.' The old electro-telegraphic prices will, at all events, first have to *concentrate* their power and cope with a potent antagonist; and certainly the P. O.'s will not be extinguished by their antitheses till then—the tendency of late having been all the other way.

ARCHITECTURAL MODELS.

We saw the other day, at the residence of the artist in Lower Grosvenor-place, a model by Mr. T. D. Dighton, of a mansion designed to have been erected at Gatton, by the late Lord Monson, which seemed to us nearly the perfection of such work. The details are accurately made out, and the ornamental portions, capitals, friezes, &c. beautifully executed. In the design of the building, Mr. T. Hopper was associated with Lord Monson, and the result is a well-proportioned and elegant whole. The principal front displays a large Corinthian octastyle portico, with, a carriage drive through it, and the building is crowned by a tambour and cupola.

Mr. Dighton's models are well known to the profession, and have given him a reputation which will be further increased by the work to which we are alluding. The demand for architectural models of a high character, requiring patient devotion of time, knowledge of architectural details, and great mechanical skill, is so small as to offer little inducement in a pecuniary point of view to men fitted to produce them. In this age of casting, electrotyping, and otherwise reproducing, a hundred pounds, which would, perhaps, little more than pay for the time and talent spent on the model before us, would seem a large sum, and be willingly paid only by a very few.

INSTITUTION OF CIVIL ENGINEERS.—

April 18.—The President in the chair. The paper read was the second part of a communication made in the year 1841, descriptive of the "Bann Reservoirs, county Down, Ireland," by Mr. J. F. Bateman. The first part, of which a short abstract was read, gave the object of the construction of these reservoirs, which were undertaken with the view of regulating the quantity of water in the river Bann, and more effectually supplying water-power to the increasing establishments on its banks; this river is, from the naked character of the Mourne mountains, among which it rises, naturally liable to the greatest irregularity in its volume; devastating floods frequently pour down the channel, where a few hours previously there was not sufficient water for agricultural purposes: greatly injurious as this must have been to the agriculturist, it was infinitely more so to the mill-owners, who depended entirely upon water-power for their manufactories.

Mr. Fairbairn was consulted on the subject; he examined the locality, and advised the formation of reservoirs. The author was then appointed the engineer, and acting, in some degree, upon the suggestions of his predecessor, whom he continued to consult, the works were undertaken, which were described in the present paper. It was shewn, by calculation based upon actual experiment and observation of the quantity of water received, stored, and delivered from the reservoirs, that the works had increased the value of the mill-power of the river Bann full five fold, at a comparatively very insignificant cost, as the actual expenditure for the works at Corbet Lough did not exceed 3,300*l.*

April 18.—The paper of the evening was a series of "Observations on the Resistance of Railway Trains at different Velocities," by Mr. Daniel Gooch, of the Great Western Railway.

He shewed by experiments that the total atmospheric resistance to a train weighing fifty tons differed but slightly from that to a train of one hundred tons weight, if the carriages were small and the train long, in the one case, and the reverse in the other.

The general result of the diagram of resistance, with trains of one hundred tons, and with fifty tons, shewed that the resistance calculated by the narrow gauge formula with a fifty-ton train, at sixty-two miles and a-half per hour, was thirty-seven pounds. With a train of one hundred tons, by the same formula, at sixty-one miles, it was thirty-one pounds and a half. The broad gauge resistance, with a train weighing fifty tons, at sixty-two miles and a half per hour, was under twenty-three pounds; and with a train weighing one hundred tons, at sixty-one miles and a half per hour, was twenty-two pounds and a half.

The author concluded his paper by saying that it appeared to him to be necessary that, before any general formula for calculating the resistances to railway trains could be made, the value of the following elements, necessary in such formula, should be determined by experiments.

1st. The axle journal friction, at different velocities, and with different weights, per square inch of journal surface.

2. The resistance to the rotation of the wheels and axles per pair at different velocities and with different diameters.

3. The resistance due to the rolling of the wheels upon the rails, with different weights upon them and with different diameters.

4. The resistance due to the passage of the train through the atmosphere, at different velocities, with different proportions of weights and lengths and breadths of train.

5. The resistance due to the oscillation or unsteady motion of the train, at various speeds.

New Books.

The Port and Docks of Birkenhead. With maps, plans, &c. By Thos. Webster, M.A., Barrister. Chapman and Hall, Strand.

Birkenhead is an example of what may be done toward effective sanitary arrangements, convenient streets, public buildings, parks, and promenades, when men of judgment and taste undertake the founding of a new city. At present, Birkenhead languishes. It hoped to flourish on the overflowing resources of Liverpool and Manchester. It incurred vast expenses in providing accommodation for that overflow, but having been somewhat over forced, and temporary causes having depressed the springs of commerce in those marts of industry even below the usual water line, Birkenhead without minerals, without manufactures, without a rich agricultural district at its back, in fact, without internal independent sources of commerce, finds its railroads little used, its shops unlet, its warehouses empty, and its docks silent. But enough has been done to ensure to Birkenhead, as a continuation—an expansion of Liverpool, a pre-eminent position as a great mercantile and naval port.

The opposition, on the part of the corporation and dock trustees of Liverpool, to the establishment of docks at Birkenhead, led to long parliamentary contests, and made what may be called the "Birkenhead case," a matter of importance and notoriety. Mr. Webster, who was one of the many counsel engaged in it, thought it very desirable "that the case upon which Parliament had been induced to pass the several Bills, that the motives by which the Crown may be presumed to have been influenced in making a free grant of more than 250 acres of land, and that the history of the various transactions, so far as such transactions had been matter of public inquiry, should be presented in a form accessible to all who were interested in the subject,"—and hence the work before us, which, as the author says, is not to be regarded as an abstract of the whole evidence, but of the evidence given in support of the Bill, with so much of the former as is necessary to make the case intelligible. It contains, as a matter of course, many valuable observations on the tides in the Mersey, the wants of commerce, and the manner in which it may be encouraged by affording adequate dock accommodation. A clue to the way in which some of the founders of Birkenhead have made their enormous fortunes is found in the following sentence of the evidence given by the engineer, Mr. Rendel:—"Since the works have been in contemplation, the value of land has increased enormously; something like 4,000*l.* to 6,000*l.* per acre; before, it was worth little or nothing,—land that was sold before the passing of the first Act at 7*s.* 6*d.* per square yard, has, since that Act, been sold at something like 3*l.* or 4*l.* per square yard!"

The estimated cost of the works in the docks, &c., is two millions.

Correspondence.

ARCHITECTURAL EDUCATION.

Sir,—A young man in whom I am interested is about to enter this university, with the intention, after taking his degree, of following the profession of an architect. He is what is technically called a public-school boy, and combines, with a very fair attainment in the studies pursued there, a taste, and I hope an ability, for the practice of architecture.

Now, the question to which I would call your attention, or that of any of your correspondents who may be inclined to assist me, is this: setting aside all predilections on his part for either one or the other, to which of the two branches of study pursued at the university, *classics* or *mathematics*, I should, with the best chance of success, advise him to direct his attention, in order to secure the greatest advantages which the university course holds out for following up that profession which he has been led by his own choice to adopt.

Hoping that you will admit the importance of the question to be a sufficient excuse for intruding upon your valuable time,

I remain, Sir, &c. A. B.

Trinity College, Cambridge,
April 25, 1848.

*** We insert the above with the view of eliciting opinions on the subject: there will probably be little difference, however, between them.

Miscellanea.

A new Stone and Marble Hand-saw has been patented by Mr. Hutchinson, the patentee of the mode of indurating building materials, lately noticed in The Builder. The frame is mounted on a pair of grooved rails, regulated laterally by screws, while the frame itself can be adjusted vertically, and, being balanced by a bob-weight and pulley, can be moved backwards and forwards by hand more easily and smoothly, and with greater effect, by a boy of ten years of age, it is alleged, than the usual hand-saw can by the most powerful and experienced workman. Several saws can be worked and several slabs cut in parallel lines with the same frame, and the work is not so liable to be injured by vibration as with the more expensive steam saw. Provision is also made for the supply and regution of water and sand, and the machine is covered by a portable shed.

The Worcester Corn-Market.—Of five designs sent in, two by Mr. William Hopkins, of Worcester, have been chosen. Both are of Grecian character, but the one preferred is the plainest, the expense of a tetrastyle Doric portico in the other being objected to. The interior in both chiefly consists of a room 97 feet long by 40 broad and 40 high, exclusive of a dome light, which has been adopted as the nearest approximation to an open air light, free from shadow or sunshine. The Worcester Journal, on public grounds, regrets the rejection of the more ornamental design, and recommends a further attempt to meet the additional expense.

PROJECTED WORKS.—Advertisements have been issued for tenders by 24th inst., for taking down and rebuilding the South Stoneham Union Workhouse; by a date not specified, for finishing the carcases of several houses in Newington, Surrey; by 15th inst. for building a shop and dwelling-house at Deptford; by 9th, for erecting a Savings' Bank in Cambridge; by 3rd June, for erecting a County Court-house at Belfast; by 7th June, for the erection of booking-offices and other buildings at the Wellington Railway Station, Leeds; by 11th inst., for taking down and rebuilding a house at Worcester; by a date not specified, for building a Corn Exchange at Worcester; by 18th inst., for the supply of an iron tower for a light-house at Cork; and by 9th inst., for gas pipes and fittings at the Hackney Union Workhouse.

LABOURERS' COTTAGES.—A correspondent of the *Art-Union Journal* has forwarded to the editor 10*l.*, to be awarded for the best design for a cottage suited to an agricultural labourer; to be erected in pairs, each containing a living-room, scullery, three bedrooms, and out-house, at a cost not exceeding 65*l.* each, or 130*l.* the two, including the necessary outlay for what are usually termed landlord's fixtures, such as stoves, shelves, &c. "In the arrangement of the plan, the first consideration will, of course, be given to internal comfort, arising from ventilation, draining, cleanliness, supply of water; and then as much external ornament should be introduced as so limited a sum would admit of. The designs submitted for competition must include an elevation of both sides, drawn to a scale of three-eighths of an inch to the foot; a sectional plan, quantities and specification; a description of the internal finishings and fittings proposed, with the requisite working drawings and detailed estimates; also a smaller plan, to be published in the journal if selected. Bricks are to be taken at 40s. per thousand, or brickwork at 12*l.* per rod." The designs must be submitted by the 1st of June to the editor of the journal in question, who, with two other gentlemen named by him, will award the prize.

METROPOLITAN.—The Board of Works have ordered the whole of the houses on the north side of Holborn-bridge, from Victoria-street to Field-lane, as also the whole of the east side of Field-lane itself, to be forthwith demolished, to widen and improve the thoroughfare.——Government are also said to have determined on the speedy abolition of that monster nuisance, Smithfield market.——On Wednesday week the demolition of the Borough Mint was commenced, by order of the Southwark Improvement Commissioners, for the construction of a new street from St. George's Church to Southwark-bridge-road.——A correspondent of the *Times* complains of the state of the public pathway in Mare-street, Hackney, in the centre of which are several wells covered over with wood, now so rotten, that one of them lately sank under the weight of one or two foot passengers, whose lives were nearly sacrificed. It is nevertheless said, that the Commissioners of Sewers of the Metropolitan Trust, though beseeched to cover them with stone and brick, "have merely placed on the top of this frightful well a few boards covered with gravel."

THE INSTITUTION OF MECHANICAL ENGINEERS held their usual quarterly meeting at Birmingham on Wednesday week,—Mr. George Stephenson, president, in the chair,—when papers were read on "the fitting-up of cylinders for locomotive engines," by Mr. Fothergill for Mr. Beyer; on "the formation of the teeth of the drivers of pin wheels," by Mr. Kintrae for Mr. F. Basforth, of Cambridge; on "Craddock's boiler and condenser," by Mr. Craddock, of Birmingham; on "a hydraulic starting apparatus," by Mr. Fothergill for Mr. Jackson; on a "patent safety buffer," by Mr. Buckle for Mr. Chesshire; and on "Banks's patent steel tyres," by Mr. Fothergill, who announced at the close that fifty-eight new members had been elected.

THE INSTITUTE OF FINE ARTS.—On Saturday last, a sessional meeting of the Institute was held, when Mr. T. F. Marshall read a very interesting and valuable paper on the Rise, Progress, and Decline of Italian Art, and the revival of art in the present day. We shall give some portions of it next week.

THE ARCHITECTS' AND BUILDERS' PATENT SQUARE.—This instrument, which is made on the same principle as Blundell's Agricultural Drainage Level, and is designed by Mr. Robert Blundell, surveyor, consists of an endless tube bent into a shape somewhat resembling an isosceles triangle, having an enlarged globular reservoir at the angle opposite the shortest side of the triangle, and partially filled with coloured spirits of wine: the tube is fixed in a frame having two straight sides, one at right angles to the other, and thus it forms a square. When the lower side of this square is placed on a horizontal line, the spirit in the tube indicates the same by its surface in the side against which the index is fixed rising to a point marked "Level;" and when the square is placed on any sloping surface, the spirit will indicate the angle of deviation from the horizontal: if the vertical side of the square be placed against any vertical line, the spirit will stand at "O" or "Level" on index; but if it be placed against any sloping line, the side of a column, or any sloping wall, the spirit will register the angle or deviation from the vertical line. It is intended for the use of builders, architects, surveyors, and the foremen of building works; and its superiority over the square and plumb-bob now in use appears to be considerable: it is much more accurate, because the plumb-bob is disturbed and rendered inaccurate by the slightest breath of air, and it can be used where the plumb-bob is useless, namely, in the open air in any weather. It will be found more expeditious in use, and this must be allowed to be a great advantage; and it also indicates, without any calculation or adjustment, the angle of deviation from the horizontal or vertical, and has a graduated scale affixed to the index, which shews the slopes of water courses, gutters, columns, or any lines deviating from the horizontal or vertical. It is very portable, and not at all liable to be injured. The spirit-tube is protected by being imbedded in the square, and no part left visible except a small portion at the index.

MANUFACTURE OF WHITE LEAD.—M. Versepuy has communicated to the Paris Academy of Sciences a notice of a method patented by him, of manufacturing white lead in closed vessels, whence it is extracted and mixed with water. It cannot, consequently, be diffused in dust through the atmosphere of the workshops; the workman neither touches nor breathes it; the only contact which occurs, with some precautions, is to put it in and take it out of the stove, and thus many of the dangerous consequences resulting from the present mode of making white lead are avoided.

TO DISSOLVE INDIAN RUBBER.—A correspondent asks how this can be effected. The usual and cheapest solvents of Indian rubber are naphtha or turpentine, and these will keep the Indian-rubber in solution so long as they are not exposed to the air; but, of course, being spirits, on exposure in small quantities, the spirit leaves the Indian rubber. These solutions are used to cement hose and pipes of leather, &c. If Indian-rubber be literally melted in an oven, at about 210 or 220 degrees of heat, it will not return to a solid state.

MACHINE-MAKING MACHINERY.—A very powerful, self-acting, sloting machine, for fashioning, polishing, and perfecting the cranks and cross-heads of the largest marine steam-engines, from the rough block out of the forge, is in course of erection for Messrs. Fulton and Neilson, of Lancefield Forge, near Glasgow. The single casting which forms the base of this machine weighs 28 tons, and took four months to mould. It was executed by Messrs. John Goldie and Co., of Hayfield Foundry. Two hundred men and six horses were required to move it; and fears were entertained that one of the bridges by which it crossed the Clyde would not be strong enough for the burden.

THE ART-MAGICAL.—Such "conjuring," to use a vulgar word, as that now exhibiting by Robert Houdin at the St. James's Theatre, is in truth a fine art, and teaches while it astounds,—teaches what seemingly impossible things may be achieved by practice and devotion to the end in view, and that what are called "our senses" are not always to be trusted.

CITY COURT OF SEWERS AND THE HEALTH OF TOWNS ASSOCIATION.—Some statements in a pamphlet recently circulated by the association, condemnatory of the City Court of Sewers, have caused the latter body to request the name of the party who furnished them, and have led to a long correspondence on the subject, at present, however, without result. The city commissioners are very indignant, and consider the statements false and unfounded.

TO REMOVE GREASE SPOTS FROM DRAWINGS.—If a little magnesia (it will be well to try both the calcined and the carbonate) is powdered over the grease spot, with a piece of clean thin blotting paper laid again on that, and a common laundry iron moderately passed a few times over it, the grease is often readily removed. If it does not come out at once, or if there is a very large spot, it will be well to shake off the magnesia which cakes with the heat, sprinkle a fresh quantity over it, and pursue the same plan.

FROM HOBART TOWN there were 130 subscribers to the Art-Union of London in the late distribution; from Sydney, 102; from New York, 87; and from Boston, U. S., the same number.

THE ROYAL COLOSSEUM.—Mr. Bradwell's new and splendid panorama, "Paris by Moonlight," will be opened on Monday, and if we mistake not, will prove a great hit. We shall speak of it next week.

"EVERY MAN HIS OWN GAS MAKER."—Sir: Some time since I read an account headed "Every man his own gas maker," but having no interest then in the subject, I did not engrave it on my memory. I now live in a village twelve miles from London, where (by inquiries I have made), from 100 to 120 burners would be used at the shops and public buildings, if gas were to be had. It is an improving neighbourhood: there are three churches and chapels; a market; and there is now being built a literary and scientific institution. By informing me how to be my own gas maker, you will oblige W. H.
—Bexley Heath, Kent.

TENDERS

For the complete external restoration of Ware Church, Herts: Mr. G. Godwin, architect, Brompton.

Cundy	£4,794
Carving Works, Pimlico	3,760
Patrick	3,745
Carter, Holloway (accepted)	2,977
Bishop	2,520

By a curious coincidence, the architect's estimate, on which the parish had acted, was *exactly* the mean of the five tenders.

For new baths, &c., at Middlesex Hospital. The specification prepared by Mr. Jeakes; delivered to Mr. T. H Wyatt, architect.

D. and E. Bailey	£404 16 0
Bramah and Prestage	337 0 0
G. Pitt, jun.	330 0 0
Cottam and Hallen	320 0 0
Benham and Sons	289 0 0
J. W. Smith	256 0 0
Jeakes	254 15 0

For schools at St. John's, Hoxton.

Roycroft	£1,332
Hill	1,200
Burton	1,181
Glenn	1,174
Ebbs	1,159
Mills	1,150
Haynes and Co.	1,145
Higgs	1,095
Knightley	1,095
Smith	1,055
Wallbutton	1,046
Pollock	1,040
Carter	997
Perry	995
Watson	892

For building a house at Norwood for Mr. James Franks: Mr. William Lambert, architect.

Trego	£1,182 0 0
Piper	1,175 0 0
Litchfield	1,154 0 0
Vaughan	1,088 0 0
Butler	1,063 0 0
Heath	981 10 0

For the Fever Hospital, Liverpool-road, Islington: Mr. C. Fowler, architect.

Lawrence	£13,742
Baker	13,450
Lee	13,200
Cubitt and Co.	12,926
Grimsdell	12,373
Piper	11,980

For building Aylsham Union; Mr. Donthorne, architect.

Wright and Cattermole, Norwich	£12,461
Lucas and Son, Lowestoft	10,199
Peebles, Dereham	9,509
Robinson and Scissens (accepted)	9,450

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

Tuesday, May 9.—Institution of Civil Engineers, 8 p.m.

Wednesday, 10.—Society of Arts, 8 p.m.; Graphic Society, 8 p.m.

Thursday, 11.—Royal Society, 8½ p.m.; Society of Antiquaries, 8 p.m.

Friday, 12.—Archæological Association, 8½ p.m.; Architectural Association.

TO CORRESPONDENTS.

"*W. W. W.*"—Ask for a prospectus of the loan classes at the British Mutual Assurance Office, 17, Bridge-street, Blackfriars.

"*W. N.*"—Was the paper *sized* before using the varnish?

"*W. E.*"—We shall be glad to receive the information offered. Condensation is of course desirable.

"*C. C. Clark's*" very impertinent and foolish letter, dated "Reading," prompts us to place our opinion of his "trap" more clearly before the public than we had any intention of doing, when he will perhaps learn the wisdom of being civil.

Received.—"A. H. D. A." (thanks), "T. B." (will find a reply in present number), "G. J. R.," "W. C. D.," "J. P.," "A Subscriber," "E. H." (blocks were returned), "C. R.," "J. H. S.," "J. W.," "J. M."—"The Decorator's Assistant," Vol. II. (Gibbs, London); "Social Distinction, or Hearts and Homes," by Mrs. Ellis, Part I. (Tallis); "Blackwood's Magazine" for May; Littell's "Living Age"—the Ether Discovery—(Boston); "Man in the Moon" for May; "Voice of the People," No. 2, (Knight); "Collectanea Antiqua," by C. R. Smith, F.S.A., Part XI. (Nichols); "Christian Memorials," by W. Osmond, jun., Part III. (Masters, Aldersgate-street); "Descriptive Atlas of Astronomy," by the Rev. J. Milner, M.A. (Orr, Paternoster-row.)

ADVERTISEMENTS.

TO SMITHS.

WANTED, SMITH'S WORK against a CARCASE-FINISHED HOUSE or BRICKS.—Apply at Mr. LAWFORD'S, 15, New-road, near Gower-street.

STEAM SAW MILLS.—FOR SALE, the STEAM ENGINES and MACHINERY for a STEAM SAW MILL, consisting of High pressure Steam-Engines, with Boilers, vertical double Saw-frames, to cut Planks or Deals; a Planing Machine, circular Saw Tables, &c.; any part of which may be purchased separately.—Apply to Mr. MEDWIN, Engineer, 5, Great Union-street, Newington-causeway.

TO BUILDERS, ENGINEERS, FOUNDERS, &c.

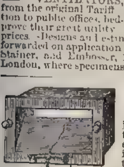
WARD and HART, Honduras Wharf, Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire-Bricks, Lumps, Tiles, Clays, &c. &c., have got an extensive and superior stock, and invite Builders, Gas Companies, Engineers, Shippers, &c., to inspect it and purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large arrival of first-rate Stourbridge, Welsh, and Newcastle Bricks, and Patent Corn-drying Kiln Tiles so admirably adapted for Malting, &c. &c. Stock Bricks, Dutch Clinkers, Windsor and other Oven Tiles and Bricks; FOUNDERS' LOAM and MOULDING SAND, HOUSE SAND, (RED AND WHITE), Lime River Sand, Ballast, Cement Country Pan, Plain, Ridge, and Paving Tiles, Chimney pots, Drain Tiles, Pipes, &c. Goods made to pattern.

*** A quantity of Welsh Bricks now in the River.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 20, Poland street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater inducements for its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough, but safe and agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining-rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.

Orders received by FAIRS and Co., No. 130, New Bond-street; BUNNETT and CORPE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham street, Pimlico.

N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature but are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints of hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

THE FRUGALITY BUILDING AND INVESTMENT SOCIETY.

Trustees—Wm. Shadbolt and George Tayler, Esqs. Bankers. The London Joint-Stock Bank, Princes street. Shares 20l. each. Monthly Subscription, 2s. per share. Entrance Fee, 2s. 6d.

Established to enable its members to acquire Villa Residences, Shops, and other buildings, at the west end of London.

The success which has attended the operations of the Directors enables them to announce that they are prepared to make advances, and that all persons entering on or before the 4th of June next will be entitled to apply for an advance.—Prospectuses, Rules, Plans, and Shares can be obtained of CHARLES GARDINER, Esq., 10, Old Jewry Chambers. W. R. COLE, Secretary.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence.—Orders to be addressed to Mr. B. TODD, 23, Dean-street, Soho, London.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM 5, MAIDEN-LANE, TO 22, STEEL-YARD, UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet—does not discolour by Damp—wants no Paint—never cracks or blisters—adheres to any substance without previous preparation—is not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect producible by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations.—Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface, which may be made equal to that of the finest marble, NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 185, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT. This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 14s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay, requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's lane, Lombard street.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-moulds, Pateras, &c., &c., 36-inch Centre-Flowers fixed complete, 21s. each, smaller in proportion. An assortment of Shop front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES. ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1½ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

TIMBER AND DEAL SAWING AND PLANING MILLS, Belvidere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In shooting, or groving and tongueing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

TO BUILDERS, EXCAVATORS, &c.

BARROWS TO BE SOLD, very cheap.—135 Barrows (or any part of them), mostly Excavators, made of ash frames and uch-elm tops. Persons in want of such will find this highly advantageous, as they may be bought full 25 per cent. less than the selling prices. G. ELL, 5, Tottenham-court, New-road, St. Pancras.

Also some LADDERS, very cheap.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address 4, Wharf, Macclesfield-street South, City-road Basin.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 2d. per square foot; "Seconds," at 9½d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere road, Waterloo-bridge; and in the country, at the Works, Palace row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr Robert Charles, Mill hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr John Connor, Newton Limavady, County Derry.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £150,000, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the procuration, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

MESSRS. HOPKINS and Co. solicit the attention of Architects, Builders, Upholsterers, and the Public generally to their REGISTERED SELF-REGULATING BLINDS, which, dispensing entirely with the centre line, is peculiarly suited to Free Stone, Stucco and Brick Fronts. OUTSIDE SUN BLINDS ON IMPROVED BALANCE ACTION.

Hall's Patent Self-Regulating Spring Blind, PATENT MITRE GROVE ACTION, contrived for the easy and noiseless extension of Brass or Wire Blinds. Transom Sashes, made to suit, with invisible screws for fastening. Sun, and other Shades, of Moderate Quality, on Hire.

HOPKINS and Co., late Jones, Bate, Wallis, and Hall, Manufacturers, Cabinet and General Brass Founders, 61, Castle-street, East, Oxford-street, London; and at Birmingham.

THOSE SPLENDID FRONTS, known as Isambath House, Westminster-bridge-road, have been secured with JENNINGS'S SHOP-SHUTTER SHOE and PASTENER, Lamb's Conduit-street, Theatre, Drury-lane, Astley's, Wellington-street, and Nos. 74, 75, 76, West Strand. Upwards of 3,000 Shutters have been fitted with them within these last three months, and at this time upwards of 3,000 are in course of fitting. The Patentee has now introduced, secured by Letters-Patent, Patent Shoe and Pastener, which are more secure, less liable to get out of order, and more simple than those before used.

They can be had in Brass, by the Trade, at 8s. and in Malleable Iron at 4s. per shutter. The Iron Shoe is one third less than the cost of the Brass and Iron Hoop Shoes.

JENNINGS'S Patent Improved Inodorous Rubber Cocks, Valves, &c. &c. are recommended for the Manufacture of Coal Gas, Steam, Water, Beer, &c.

JENNINGS'S PATENT VALVES can now be had of WARNER and SONS, Hosiers, 133, Aldersgate-street, they being their licensees, to whom all orders must be addressed.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 26, REGENT STREET, and 13, CHANCERY LANE. Patentee's card to be had at the Manufactory, or of Messrs. Yates and Thrupp, agents to Richard Shuttleworth and Co., Bolton, Lancashire, and Messrs. Hayward and Co., Birmingham, Manufacturers of Patent Iron Shutters, and Messrs. Ellis and Co., Wednesbury, Staffordshire, Iron.

The Patentee has for many years been honoured, and is pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, with all the modern improvements, and at less cost, or any other complicate movement, capable of, other makers.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection of their Manufactory, Wapping, at the back of the Docks, in the street. The great features of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twice the strength of the ordinary flat laths, to insure their general adoption.

CLARK and Co. also call attention to their Patent Improved gearing, for raising and lowering the patent Shutters, with ease and certainty, and to the Patent Iron Sash Bars, which are then easily fixed in the Sashes, and are more secure than the old method of fixing the Sash Bars in the Sashes.

CLARK and Co. also manufacture their Patent Improved Shutter Bolt, for the Top and Bottom of Shutters, which is a most simple and effective Bolt, and is the best adapted for Shutters of Private Houses, Shops, &c.

These Shutters are fixed complete, and warranted, by CLARK and Co., Manufacturers, Wapping, at the back of the Docks, near the Entrance of Princess-street Bank.

CLARK and Co. also SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS, Engraving and Prospectuses forwarded upon application. The PROVED DRAWN METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STOPS, and BEAD PLATING &c.

Steam Power Sawing, Planing, Moulding, and Mortising, offered at a short notice to the Trade and Public generally. Carving Tools, &c. Lathes, Planes, &c. CLARK and Co., Engineers, 245, Wapping, and 3, Newcastle-street, London.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, Sole Licensees for the Manufacture of MARVIN'S PATENT DIAGONAL GRATINGS, for Area Purposes.

The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others in the Government service, and the prices greatly reduced to meet them. CHAMPION'S, as well as BEST IRON SHUTTERS, kept in Stock.

B. and C. have also made great (registered) improvements in Revolving Wood Shutters, which are fitted up with proper metallic lines, so that one or more Shutters may be raised or lowered by a single hand, and are worked with the greatest ease, without the use of objectionable loose lines. A comparison with others, as to quality and price, is respectfully solicited.

A Patent Iron Shutter Bolt, which is especially adapted for Bar and Shop Doors.

The Patent Improved Sash Bars, which are of Brass, and when fixed, have the appearance of Wood Sashes, are fitted and fixed in a superior style, either plain or ornamental, and with strong Iron Bars, if required, at a little more cost, and also supplied separately.

The Patent Improved Iron Gratings, for Area Doors, &c., are of a most durable nature, and are made to any pattern, and fixed with Bunnett and Corpe's Patent Improved Fastenings, which allow of ladies walking over them with safety.

IMPROVED IRON HURDLING CRAMPS FOR BUILDERS, which are strongly recommended to their notice.

Manufacturers of Improved Sash Bars, Sashes, and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and contracts entered into for any country Patterns, with Specifications, &c., may be seen, and supplied on at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

[illegible]; and 24, Crosse-street, Islington.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, which they clean at the Floking-press, warrant quite sweet, and re-cover in fresh ticking, if required, with patent machinery.

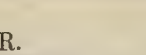
Poultry	1s. per lb.	Best Grey Goose ..	2s. 6d. per lb.
Grey Goose	1s. 2d. "	White Goose	2s. 0d. "
Foreign Grey do.	1s. 6d. "	Best Bourtie do ..	2s. 0d. "

A list of prices of every description of Bedding sent free by post on application. HEAL and SONS' Factory, 196, Tottenham-court-road, opposite the Chapel, Tottenham-court-road.

ARCHITECTURAL ENRICHMENTS

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has received the highest approval from the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. Bielefeld's Papier Mache is the cheapest material for Ceilings, Dados, Cornices, Friezes, Panels, Trusses, Pendants, Centres, Chair Rails, Gas Hall Lamps, Ornaments, Mouldings, and Pauferies. Beauty, where it is required, and durability, where it is necessary, and that in the most elegant designs, and at the most reasonable prices, will distinguish Bielefeld's Papier Mache over every other kind of composition, both for beauty and durability. Bielefeld's Papier Mache for the decoration of ceilings, panelling of walls, &c. A volume of coloured plates, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

CHEAP AND DURABLE ROOFING.



By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
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HONOURABLE EAST INDIA COMPANY,
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HER MAJESTY'S ENGINEER, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been awarded, 1, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural society's House, in Hanover-square.

Its advantages are its lightness, durability, and economy. It is impervious to rain, sun, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. Two feet to a square. It is supplied with full directions as to laying, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, in every part of the town or country. A Dry-hair Felt, for covering buildings, also kept in stock. A saving of 50 per cent in Roofing. Estimates are respectfully granted to send their orders DIRECT to the FACTORY, as the most simple method of the genuine article, and in the best state it could be in for use. Take notice CAUTIONED AGAINST MISREPRESENTATION, as the only works in Great Britain where the above Roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the Felt to be seen at the Factory, also the new Victoria Theatre, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

REDUCED PLATE GLASS TARIFF.

LONDON AND MANCHESTER GLASS COMPANY,

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MANUFACTORY, SUTTON, NEAR ST. HELENS.

PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup.	£ s. d.	Feet Sup.	£ s. d.	Feet Sup	£ s. d.	Feet Sup	£ s. d.
1	0 4	9	2 10 9	16	6 10 8	24	13 13 5
2	1 8 3	10	2 18 5	17	7 11 4	29	13 7 7
3	0 12 6	12	3 8 0	21	8 9 5	30	14 2 0
4	0 17 0	14	4 17 1	23	9 13 9	31	14 17 8
5	1 2 6	14	4 6 11	24	9 4 0	32	15 12 10
6	1 7 0	15	4 11 8	24	9 16 10	33	16 6 1a
7	1 11 8	16	5 8 6	25	10 10 8	34	17 2 6
8	2 0 6	17	5 10 10	26	11 4 9	35	18 0 0
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Intermediate and other Sizes in the same ratio. No extra charge for Silvering, Grinding or Bevelled Plate. Patterns and thickness sent, supplied free.

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors, and other Building purposes, of every thickness, at reduced prices.

Blind Tops complete, to be put to, and all extra charges to be delivered by purchasers.

Packing Cases charged, but full price allowed if returned free of expense and in good condition, within one month.

Plate Glass Repolished, and Bent.

*** Glass ordered to be made for breakage after delivery from their Warehouse.

Every Plate and Sheet marked upon application to the Agent, Plate and Sheet Glass may be had framed upon application to the Agent.

J. J. GRUNDY, Company's Agent.

12, Rathbone Place, London, 18th April, 1848.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new Looking-Glass, and Picture Frame Warehouse, which I can execute orders, I am enabled to reduce my former prices considerably. The present Assortment of MIRRORS, DRAWING-ROOM, and Looking-Glass SCREENS, PIER GLASSES, &c. &c. is unequalled by any Establishment in the trade. Observe the number, 76, Newman-street, Oxford-street. CHARLES LONG, No. 1, King-street, Bryanston-square, Portman-square. Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in any quantity, at the lowest Market Price. Orders for Glass cut to any size, punctually attended to. Address, 8, Bath-street, street-walk.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS MILLINGTON, 87, Bishopsgate-street Without, London, has now for sale a large and well-assorted Stock of the above articles, which he can supply with the most satisfactory dispatch, and upon the most favourable terms for cash.

CROWN SHEET, and PLATE GLASS, in any quantity; VARNISH.—Pale Oak, Fine Walnut, Pale Copal, 12s. 12s. per gall.; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps, Sockets of every description.

Sash Pans, Patent Ropes, Bead and Chamfer Glasses, Paper hangings from 1s. per piece upwards, of very superior description.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and prices of Plate Glass of this Company. To encourage the use of Plate Glass for glazing, a further reduction has been made on the quality used for the following

ROUGH PLATE GLASS supplied at 3-8, 4, 5, and 6 inch thick for roofing, and other purposes, at a considerable reduction and every assurance of this article.

LONDON WAREHOUSE, 6, Union Garden, Holborn.

H. CHRISTIE, Agent.

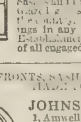
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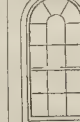
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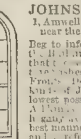


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The Builder.

No. CCLXXV.

SATURDAY, MAY 13, 1848.

A FEW weeks ago we referred to various letters received by us, asking guidance or encouragement in the pursuit of knowledge, apart from technical information, and we put together some remarks on education generally, for which, by the way, we received more kindly acknowledgment from one class of our readers than we had reason to look for.

In the present article we would offer some observations, suggested by three or four communications from the same class of correspondents, relating more particularly to their professional wants. What they all say, in other words, is this:—"I have nearly served my time in an architect's office, with, up to this moment, very little opportunity to examine buildings in progress, and am now occasionally sent to various structures to see that the men are going on properly, and doing their work well. Will you inform me how I am to know this, and what particular points I ought to look to?"

One writes,—That his articles have expired, and that an appointment is offered to him which would be advantageous in many respects. He would be required, however, to see his own drawings substantially carried out, and, candidly admitting that he does not know how mason's work ought to be set, how brickwork ought to be done, good mortar from bad, or where to look for the weak parts of a construction, requests us to give him the information in brief, and enable him to undertake the appointment! Another, admitting an equal amount of deficiency, asks, with greater consideration for our time, to be referred to some one book wherein he may find all he needs to know, properly set forth: and these, let us remind the reader, are real inquiries, and not manufactured cases, as might, by some, be fancied.

Compliance with such at the moment is of course out of the question,—reference to such a book is so altogether. To acquire the knowledge sought for much must be seen, and many books must be read. Little has been done, as we have over and again deplored, to furnish proper aids for reference, and to lessen the labour of acquiring a knowledge of the profession of architecture. Manuals, indices, and properly classified precedents and data, might be made to afford information without effort, the acquirement of which now either absorbs the time which is wanted for the higher branches of the art, or is wholly neglected. "The creation of visible beauty (to which *fitness* is essentially necessary,"—as the writer of this paper has elsewhere, in earlier days, remarked*) "is the highest office of the architect, and requires the highest order of mind, as well as the most sedulous study. This is architecture as an art; but before this point can be reached, before the powers of the mind can be rendered available to this end, architecture as a science, if we may so speak, must be understood; under which head, although requiring a less order of intellect, its ramifications are so extensive, and the points to be considered are so numerous and of such exceeding importance, that unremitting application almost of a life's duration is necessary for its mastery.

It has been often said that a knowledge of construction is as necessary to the architect as that of anatomy to the sculptor; but we would go even farther than that, and say it is as necessary to him as the latter is to the surgeon, inasmuch as it is by means of that alone that he can usefully operate. Without it, although an artist may possess the greatest powers of invention, and be able to produce forms of surprising beauty *per se*, he cannot materially assist in effecting the chief purpose of architecture; namely, the comfort and happiness of individuals, and the advancement of society."

We have known many young men of talent to leave offices of first-rate practice wherein they had been educated, not merely profoundly ignorant of all that relates to construction (even of the workman's nomenclature, and therefore certain not to command any attention from workmen); not merely unable to point out how they would have their ideas carried into execution, and to discover if the work were properly or improperly performed; not merely unable to arrange their plans with a view to the relative expense of certain methods and materials, so that the greatest effect might be produced at the least cost; but so thoroughly imbued with the notion that such mechanical portions of their professional duties were unworthy of their attention, that they were not likely to attempt to gain any acquaintance with them, until they had been slowly taught their error by experience.

It is of the utmost importance that such information should be made easily available. What has been said on this head before in our pages, led more than one publisher to consider the expediency of attempting the production of such a work as was pointed at, and we do hope that a long time will not elapse before it be commenced.

Our student friends, however, must not wait for this, but should apply themselves vigorously to obtain such knowledge through the means already at their disposal; constant personal examination of buildings in progress, and conversation with intelligent practical men, will greatly aid their endeavours. Apart from the study of works expressly devoted to construction, they must of course acquire the leading principles of all the physical sciences, an undertaking by no means difficult in these days of diffusion. To quote again our "Hints,"—

"We do not say, stop at general principles: indeed, you *cannot*, if you desire to maintain your position in society, and pursue your profession successfully and honourably; and *would* not, even were you able; for the pursuit is of itself so alluring, and the gain so certain and so glorious, that, enter once upon the chase, and there will be no need of other inducement to continue it. Our only care is, therefore, that you should early feel the importance of general science, and disregard no opportunities for the attainment of it."

That it is important, who will doubt? The architect is called upon to deal with matter in every shape: surely, he should be acquainted with its properties, and the laws by which it is regulated? In other words, he should be conversant with physics. The decomposition of the materials employed in carrying out his designs would frustrate all his hopes. He must know of what they consist, and the mutual affinities of the elements composing each, if he would, in the first place, choose wisely, or, having chosen, apply a preventive or a remedy for an arising evil. This acquaintance he cannot possibly attain without some knowledge of chemistry, any more than he could economically ventilate or warm an edifice, without comprehending the nature of caloric; or construct a building, to answer some desired acoustical purpose, without understanding the science of sound.

With regard to the inquiry made by some of our correspondents, "What are they to look at more particularly when sent to overlook workmen?" we shall before long offer some suggestions to our student friends.

The society for the publication of works connected with architecture, mentioned by us two or three weeks ago, if properly supported, may be led to aid in supplying the class of works in which we are so greatly deficient, and would thus further benefit the profession.

A meeting of gentlemen interested in the establishment of this proposed society, was held on Thursday in last week, when it was determined to make a general appeal, not merely to the profession, but to all who are interested in the progress of the art and in its literature, with the view of enrolling a sufficiently large number of members at the commencement to begin operations on a good scale. An advertisement detailing more specifically its objects will be found on another page.

The following is a list of the promoters of the association; nearly all of whom are members of the Institute:—Mr. George Bailey, Mr. Barry, R.A., Mr. Booth, Mr. Burn, Professor Cockerell, R.A., Professor Donaldson, Mr. Ferrey, Mr. Garling, Mr. George Godwin, Mr. W. P. Griffith, Mr. Habershon, Mr. Hopkins, Mr. Lockyer, Mr. Lockyer, jun., Mr. Marks, Mr. C. W. Orford, Mr. C. Parker, Mr. Papworth, Mr. Wyatt Papworth, Mr. Penrose, Mr. W. Pocock, Mr. Scoles, Mr. Sydney Smirke, A.R.A., Mr. Tite, Mr. Thomson, Mr. T. H. Wyatt, Mr. Whichcord, Mr. Wickes.

Mr. Wyatt Papworth was requested to act as honorary secretary, and Mr. Donaldson consented to be appointed treasurer. We invite our country readers to forward their names previous to the publication of the first list of subscribers.

ON THE RISE, PROGRESS, AND DECLINE OF ART IN ITALY, AND ITS REVIVAL IN ENGLAND IN THE PRESENT DAY.*

IT will be almost universally admitted that the present age is distinguished above all others in the history of the world for the intensity of the excitement which prevails in every department of life. In literature and science, in commerce and manufactures, in everything connected with the advancement of civilization, the diffusion of knowledge, the improvement of our social position and relations, the age is characterised by efforts of an extraordinary kind, and which have been productive of proportionate results. It may be emphatically styled, *the age of successful effort*. What mighty and important changes have not been effected in the literary world? Instead of the scanty allowance that was doled out to inquiring minds in the days of our forefathers, instead of the stunted supply that was distributed then among the masses of people—the flood gates of literature have now been thrown open, that the tide of information gathered from widely-scattered sources by careful research, and persevering energy, may flow forth among the multitudes, as freely as the rivers and streams that fertilise the earth.

* "Hints on Construction: addressed to Architectural Students."—Loudon's Magazine, vol. v., p. 250.

* The substance of a paper read at the Institute of Fine Arts on the 29th ult.

And though it cannot be denied that much that is pernicious may accompany what is good, yet upon the whole it must be desirable that knowledge and enlightenment should be subject to few, if any restraints; that it should be free as the air, and liberal as the sunlight, the inheritance alike of the peasant and the prince.

In the world of science, too, what gigantic changes have been effected; how astounding the results which we have lived to witness, results which, had they been promulgated in the ears of the generation which has preceded us, would have sounded like the ravings of enthusiasm, or the wild wanderings of transcendant folly! Effects and results so amazing that time and space seem to have been annihilated, and the very elements brought into subjection to the powers of man.

In our commercial and manufacturing relations also how great have been the improvements! No cramped or stinted measures of national intercourse will suffice us now; no crippled or precarious exchanges of national produce will meet our extended views—but the kingdoms of the world, as with one mighty consent, have opened their tide gates and their harbours, and give and take the fruits of their soil, or the produce of their native skill, with an earnestness and cordiality altogether unknown to former times. So that it has come to pass, that yielding either to the sword of our conquering armies, the enterprising spirit of our navigators, or to the efforts of our Christian missionaries, there is scarcely a nation under heaven that is not open to the industry of our traders and mechanics, or that does not present a fair field for the exercise of physical and mental skill.

It is no cause of surprise then that, amidst this universal excitement, this panting after improvement, the department of the *fine arts*, the subject in which we are more especially interested, should have engrossed its share of public attention, and called forth the active energies of those who are engaged in it as a profession, or who are otherwise interested in the promotion of its welfare. Accordingly we find that throughout the length and breadth of intelligent Europe, except so far as recent events have interfered, a great and important movement has been going forward. The feeling and interest for art, which floated only on the *surface* of society, has penetrated its depths, leavening the whole mass of the community, and giving hopes that the present age will be second to none in the history of our race, for the height of excellence to which art may attain. Look where we will, we find abundant proof of the existence of this newly-awakened interest in art. In Prussia and Bavaria, in France and Belgium, through the many states of Germany, the greatest efforts have been making to elevate the character of the productions of their artists, and to give art a special protection. Our brethren across the Atlantic, too, seem to have awakened to a sense of the importance of cultivating a taste for the fine arts; half civilised Russia is coming up with hasty strides, and even the inhabitants of the distant homes of Australia, are beginning to seek pleasure and instruction in the contemplation of such works of art as it lies in their power to collect together. Such are some of the indications of the deep interest that is universally felt for the welfare of art in the present day. And if it be asked what part our own country has taken in the general effort to rescue the arts from the obscurity into which they had sunk, we are compelled to acknowledge that she has been among the last to extend a helping hand to the struggling sons of genius, and that she has been the most tardy and indifferent in coming to the rescue; so that up to the present time the conviction of all candid inquirers into the condition of the arts in this country has been, "that from the highest branches of poetic design, to the lowest connection between design and manufactures, they have received but little encouragement. The want of instruction in design among the industrial classes, the absence of public and freely opened galleries of art," and the general difficulty of gaining access to works of excellence, have all combined strongly to impress the feeling, that England has been behind in the race with other countries.

At length, however, a change has taken place: and in various ways, the Government on the one hand, and the people on the other, are endeavouring to gather the dying embers together, to rekindle the expiring light of genius, and to fan the fire of art into a flame that may be seen and acknowledged by all surrounding nations.

Such are the manifestations of the great movement in favour of art in our own country,—a movement, the nature of which it is well worth our while to consider and examine, that we may discover, if possible, whether our expectations of great achievements in art are based upon a safe foundation, or whether we are erecting a superstructure without a basis, which the first political revolution or national calamity might bring to the ground. In order to do this we must take a general survey of the history of art; we must cull the beautiful flower, and trace by its seed the climate where it flourished best; we must open each leaf, and endeavour to find under whose care it blossomed, and in what garden it sprung. We must trace the silver thread of art as it is interwoven in the web of Europe's history, or I might rather say, we must trace the *stream of art* as it winds its tortuous way through the last few centuries of the history of mankind. And a deeply interesting inquiry it is, whether we make it for its own sake, or as it is closely allied with the progress of civilization. At one time we find it a little streamlet wending its way unnoticed, unobserved in obscurity and neglect, and at other times swelling out into the majestic river, bearing on its tranquil breast the sublime conceptions of some of the greatest minds that have ever shed a lustre on humanity; or, to dispense with the metaphor, at some periods of its history we find it pursued with religious devotedness by humble monks in the solitude of their cloisters, and at other times practised and professed by the friends and favourites of emperors, who basked in the sunshine of royalty, before whom princes stood uncovered, and in whose train of followers were the great ones of the earth.

Through such changes we track the stream of modern art up to its humble and apparently inadequate sources, to the days when Pietro Pisano, the sculptor, Cimabue, and, above all, the lowly shepherd-boy Giotto, inspired by the love of truth, and contrasting their own beautiful perceptions of nature with the dry formalities which had for so long characterized the Byzantine school, were impelled to throw the whole strength of their original minds into the work, and thus gave the first impulsive movement to what we call "modern art."

When Italy was overwhelmed by the bold and barbarous nations of the north, the arts fled for refuge to the classic shores of Greece; when Greece was overrun by the Mahometans, the arts returned to Italy, and there maintained a power and acquired a footing almost permanent, so that, in making an examination of the progress and development of art in Italy, we may gain a comprehensive idea of what real excellence in art has ever been.

In reviewing its history, from the middle of the 13th century to the period of its greatest glory, we meet with many deeply interesting and important facts, with much that deserves the exercise of the highest faculties of the mind, and with men of the loftiest genius and most exalted intellect. But amongst them all, art was indebted to none so much as to Giotto, whose mind, no doubt, was peculiarly fitted for the direction it took under the guidance of Cimabue, by that love of nature with which he was imbued, while tending his flocks in the valleys of Tuscany; for we find, that from the very commencement of his career "he not only deviated from the practice of the older painters, but stood opposed to them. He not only improved—he changed;" he took up a position altogether new. And let us mark, in passing, an important principle that is involved in the consideration of his character, namely, that it was by the close and constant study of nature, that he achieved that distinct separation of modern art from the lifeless system that had prevailed for ages before him; it was from the constant study of *nature* that he acquired the power by which he gave to art a total change in its direction and character. Let us ever bear this in mind, since there are not wanting those who teach that we look too much at nature and exercise too little of the faculty of imagination. And let us remember, that true excellence in art has always ebbed and flowed in proportion as the painters of the different periods adhered to *nature*, or were content with the prescribed methods of those whom they set up as models for imitation.

Giotto, then, was the first painter who "held, as it were, the mirror up to nature;" he was the destined instrument through which art was no longer to be, as it had so long been, the mere fashioner of idols, but was to become one of the great interpreters of the human mind, with all its feelings, faculties, and sentiments, and of human life in all its variety of aspects. With him originated that revolution in art which seized at once on all imaginations and sympathies: by him a new impulse was given, new ideas were awakened,—and, as I have said, from him art derived in all that is worth the name its first progressive movement. It is to be regretted that, in this country, we possess no examples of his works to which access may be gained.

The best specimens of his works are to be found in a series of subjects from sacred history and of allegorical representations at Padua, where they adorn the chapel called by his name in the church of Sta. Giustina. These designs were executed at the time that he was living in close personal intercourse with Dante, the influence of whose spirit and genius is clearly visible in these expressive compositions. Of all the existing productions of Giotto there are none so perfect and genuine as these, or which so truly exemplify the character and beauty of his style. Time will not allow us to pause and examine any of these subjects, deeply interesting as the task would be,—for they abound in ideas then new in pictorial design, and were the first great efforts by which art appealed to the sympathies, the feelings, and the heart.

After Giotto, the stream of art flowed on, deriving its supplies, if I may so speak, from his numerous scholars and imitators, receiving fresh accessions to its fulness from the talents of Andrea Orcagna, Simoni Martini, and many others, whose names I need not enumerate in an excursive view of the subject. And here it may be desirable to give a brief account of one of the most interesting and extraordinary monuments of the middle ages, and which had a direct and important influence on the progress and development of art. I allude to the Campo Santo of Pisa; the building of which was scarcely finished when it became the arena on which the best artists of the time were summoned to try their powers. The Campo Santo was a vast burial-ground, inclosed by a beautiful gothic arcade, which was designed and built by Giovanni Pisano, about the year 1283. It was the interior of this arcade that was decorated with frescoes; a work that occupied many years: it was indeed continued at intervals through a period of two centuries; its progress having been interrupted by the political misfortunes and internal dissensions which distracted the city of Pisa. The hand of time has swept away and obliterated the earliest of these extraordinary compositions; some, however, remain, and deeply interesting they are as a series of illustrations of the progress of art during its first development. Some of the decorations were painted by Giotto, but are among those that have perished. Then came Andrea Orcagna, who was the son of a goldsmith at Florence, and who, though not immediately a pupil of Giotto, owed much of what he acquired to that life-giving influence that he had breathed through art. He was one of the many instances in which the goldsmiths of the fourteenth and sixteenth centuries distinguished themselves as painters. And so the stream rolled on till towards the early part of the fifteenth century—a period which may, perhaps, be justly considered one of the most important in the history of the world: it was distinguished by great mental activity, by a rapid advance in the refinements of life, by the revival of classic learning, and by two great events, of which it has been said that the results lie beyond the reach of human calculation,—the invention of the art of printing, and the discovery of the vast continent of America.

The spirit of inquiry and progress which marked the epoch was felt no less in the world of art; there was an evident effort after originality of style, and art found its powerful representatives in such men as Ghiberti,

Massacio, Perugino, and others, till we reach the close of the fifteenth century. And here let me observe, that my object in calling attention to this part of the early history of art, and to the painters of the days which preceded the memorable era we are approaching, is that I think it of the greatest importance that we should understand something of the *philosophy* of art, and that following it in its successive stages, we may observe how it was influenced by the circumstances through which it passed, and the political powers by whom it was protected, that we may discover, if possible, something at least of what it was that gave it the brilliance and the splendour of the Medician age; and that, by a comparison of circumstances, we may ascertain whether, in the movement now going on, we can recognise similar elements, or hope, by any amount of application or of patronage, to realise once more the mid-day glories of art.

With these few observations, then, we approach that period when art reached its highest pitch of excellence, both with regard to poetry of conception and to the various mechanical means through which it was embodied,—when it rose into a degree of importance inferior to none of those intellectual agencies in which the refined and the educated find so much delight, and by which the masses of the people have been influenced and impressed. And at this point of our investigation we are met by an extraordinary phenomenon in the progress of mental greatness, for we find that the three greatest painters the world ever saw were gathered together—one bright constellation—within the short space of about thirty years; they were, in fact, living and working together at the same time. Need I say that these men were Lionardi da Vinci, M. Angelo, and the prince of painters, Raphael,—men who seem to have been miracles of nature, if I may so speak, and would have been wonders in any age, to whatever pursuits they might have devoted themselves. Of these men it may be said that, like Homer and Shakespeare, they "belong to no particular age or country, but to all time, and to the universe."

The age which gave them birth, and in which they flourished, witnessed some of the mightiest changes to which the human race has ever been subjected. The fermenting activity of the fifteenth century prepared the way for the great dramas that were to be acted at the beginning of the sixteenth: a profound revolution was in course of being effected in the depths of the human heart. The shout of *liberty—civil, religious, intellectual liberty*—was echoed, and re-echoed, through all ranks of the people; "it was the spring-time of liberty, everywhere beginning to put forth its buds;" or rather, perhaps, it was the rustling of the forest leaves which told of a coming tempest—a tempest that was to strip off every withered leaf, and tear away every sapless branch, that it might make way for the life and vigour and freshness of a new and more lovely *spring*! And to this feature of the age, as an evidence of the advance that was being made in human culture, rather than to any cause that we find in the history of art itself, must be referred the surpassing excellence to which these great painters attained.

It has been said by a modern writer, that, "we hear of the spirit of the age, but in that wonderful age, *three mighty spirits* were stirring society to its depths;—the spirit of bold investigation into truths of all kinds, which led to the Reformation; the spirit of daring adventure, which led men in search of new worlds beyond the eastern and the western oceans; and the spirit of art, through which men soared even to the 'highest heaven of invention.'" Such was the age which gave birth to these great men; it was upon the crest of such a billow of the sea of time that they were borne to that height of distinction to which succeeding ages have looked up with wonder and admiration!*

T. F. Marshall.

New Lubricant for Machinery.—Mr. Bryson has proposed a composition for lubricating machinery, consisting of oil, sulphur, and vulcanized caoutchouc—which he considers to possess properties superior to any now in use.

* Remainder next week.

THE DUTY OF DISTRICT SURVEYORS.

AWARD OF REFEREES.

With regard to a building known as "The Railway Tavern," in the "Waterside," Wandsworth, a letter, signed W. Smith, North-street, Wandsworth, was addressed to the referees in February last, setting forth that, "whereas it is most important to all persons building or concerned in building operations within the limits of the said Act, that all buildings so to be built should be built, and all operations so to be performed should be performed, uniformly in strict accordance with the rules and directions of the said Act, inasmuch as any laxness allowed to one owner and builder in the observance of such rules and directions may tend to give the owner and builder in such case a pecuniary advantage over other owners and builders in the same district or in other districts:—

And whereas I, William Smith, having been informed that the owner and builder of the said "Railway Tavern" has not built the same in conformity with the several particular rules and directions, which are specified and set forth in the several schedules to the said Act; and as the district surveyor denies the truth of such allegation, and asserts in a letter dated 12th instant, that the said 'houses referred to have been built in a very substantial manner, and the Act has been carried out to the best of my judgment:'"—

He therefore referred the matter to the referees for their decision.

At a meeting held on the premises, the building

"Was found to be rectangular in plan, except as to a rounded corner at the south-east angle thereof; to consist of three stories above the level of the street, and of a cellar below such level, extending along the eastern half of the building; and to measure from outside to outside of its walls at and above the level of its principal entrance, in length, from east to west, 33 feet, or thereabouts, and in breadth, from north to south, 36 feet, or thereabouts; the rounded corner before-mentioned taking off about 5 feet superficial from the area of the building resulting from these dimensions. The said building was also found to have been 'built with all its inclosing walls as 'external walls,' but it appeared that a house, which now stands against it on the west side thereof, has been built since the erection of the building in question, whereby the inclosing wall on that side of the said building has become a party-wall, as no separate wall has been built to form the east side of the said house independently of such other wall."

The district surveyor (Mr. Hiscocks) set forth that the materials were good,—"that the walls are 1½ brick in thickness throughout, except the top story, which is inconsiderable in height, 8 feet 6 inches, and is built in 1½ brick, except the north and east and west walls. It was considered, during the progress of the work, desirable to avoid any unnecessary weight upon the foundation, and also to avoid a disjointing of the plate or bond for the floor, by having recourse to piers and arches to form recesses in 14-inch work, and thereby lessen weight."

The referees determined that the building is a first-rate of the first or dwelling-house class; "and that, inasmuch as the external walls of the said building on the north and east sides, and the party wall on the west side thereof, from the level of the topmost floor up to the top of such walls, are 9 inches, and not 13 inches in thickness; and inasmuch as all the external walls and the said party wall of the said building, from the top of the footings up to the floor next below the topmost floor, are 13 inches, and not 17½ inches in thickness,—such walls have been built contrary to the rules and directions of schedule C, part 2, of the first-mentioned Act. And we do hereby further determine and award that, inasmuch as the said party wall has not been raised to the height of 1 foot and 6 inches above the part of the roof of the said building adjoining thereto, such party wall is also contrary to the rules of schedule D, part 3, of the said first-mentioned Act. And we do hereby further determine and award that, inasmuch as the south and east sides of the said building stand close to a public way, and a certain sign or notice board has been fixed against and upon the south-east rounded corner of the said building, so that the top of such board is more than 18 feet above the level of such public way, the same is also contrary to the rules of schedule E of the said first-mentioned Act."

Costs, 4*l*. 12*s*. 8*d*., to be paid by the district surveyor.

We have received some strong statements, ascribing motives on either side in this case, but confine ourselves to the facts of the award.

THE ROYAL ACADEMY EXHIBITION.

A pile of letters from architects are before us, complaining of the treatment they have received at the Academy: we have room for only one at this moment:—

Sir,—That there are but "very few men of standing" among the architectural exhibitors at the Academy this season, is true enough, and "pity 'tis 'tis true." It seems, however, to have been rather the Academy's own choice than its misfortune. How others have fared I know not; I can only speak for myself, and say that, after being for some time past a pretty constant exhibitor,—one whose productions have more than once been spoken of with commendation both by yourself and others, all my drawings have been this year neglected, although, not in my own opinion alone, but also that of others, they were superior—one of them very decidedly so in regard to importance and interest of subject,—to any before offered by me: wherefore I was reduced to the humiliating conclusion that those which have been admitted have been so merely because they were found by their sizes to be very convenient *gap-stoppers*, for filling-up blank spaces on the walls. With such not particularly cheering impression it was that I entered the so-called Architectural Room, but it was to quit it again with triumphant scorn, after taking survey of the things there hung up, some of the worst of which are in the very best places, and the best and most interesting thrust into the very worst.

Sir, you have been by very far too mild in your strictures on the Academy's treatment of architecture this season. It is only to your own and other architectural journals that we can look for its claims to be properly asserted, and its rights ably defended; and, believe me, the Academy is not so very thin-skinned as to care for a few flea-bites. Nothing less will do than a most hearty flagellation on its tough and crusty rhinoceros hide.

Sir, it is architecture at the Royal Academy, and not the Royal Academy itself, which it behoves you, as a public organ of the architectural profession, to encourage, to plead for, and to support. Is it, then, too much to hope that you will return to the subject, and protest, in the most unqualified terms, against the truly insulting manner—I can give it no other name—in which architecture is treated at a Royal Academy professedly established for its encouragement and advancement, as one of the fine arts? If it be unworthy of ranking with the other two, let it be expelled—and the sooner it be turned out the better: but so long as it continues to be there recognised as one of them, let it be treated with common decency, at least, which is more than can now, with any sort of truth, be asserted.

I might sign myself a quondam correspondent of The Builder, but on this occasion you must allow me to take the name of

Vindicator.

"The Ruined Spendthrift" (10), A. Rankley; a quiet unpretending embodiment of Goldsmith's text—

> "The ruined spendthrift, now no longer proud,
> Claimed kindred there, and had his claim allowed."

It wants but force to make it a good picture.

19. "The Greenwood Stream," one of those delicious shady nooks for which Mr. Creswick is so justly celebrated; the quietude and coolness that distinguish this picture will refresh the spectator, after the glare of positive colour naturally consequent to an exhibition. Other specimens of the artist's particular style are, "Summer Time" (57), "Early Spring" (159), and "Chequered Shade" (556): the latter positively invites one to walk into the picture and experience the grateful change of its influence, from the crowded and heated exhibition-rooms. 314. "Home, by the Sands" (reminding one of Collins), and 579. "A Squally Day," coast scenes, by the same artist, display as much perfection as those subjects in which he has been used to revel.

25. "Morning Prayers," W. Etty, R.A., a

beautiful bit of colour, with more attention to making out than customary. (73), "A Study of Still Life," 126. "La Fleur de Lis," and 188, "A Group of Captives," are beautiful blots of colour and effect; in the latter, particularly, the pearly hue of flesh is remarkable; and, 404, "John the Baptist," is powerful in colour, though ill drawn.

78. Is an oil copy of Mr. Maclise's "Chivalry," finely drawn, but scarcely consistent with rules of harmony, or chiaro-scuro: the armour in which the knight's legs are encased is truly marvellous, as far as regards imitation. A "Portrait of John Foster, Esq., in the Character of Kiteley" (111), by the same accomplished artist, is a charming specimen.

85. "Sketch of my Father," E. Landseer, R.A., a note of hand upon the artist's inexhaustible and versatile talent as valuable as more legitimate coin; the shortness of time in which this portrait is said to have been accomplished is almost as extraordinary as the likeness and its artistic excellence.

Besides the landscapes with cattle, painted by F. R. Lee, R.A., in conjunction with Sidney Cooper, A., there are some, unassisted by this valuable auxiliary, of Mr. Lee's usual standard of merit. 88, "The Broken Bridge," is one of these; it was purchased for an Art-Union prizeholder on the first day.

134. (J. Phillip.)

"As on the dandelion's downy wings,
Fond lovers bid their gentle wishes speed,
The swain, impatient, lending forceful breath,
To aid the damsel's sigh."

An exquisite, small, circular picture, of two rustic lovers, painted with great truth and refinement. The larger contribution of this artist is second to none in execution or diversity of incident; (1261), "A Scotch Fair," deserving a more favourable position. Another good picture is its neighbour (1249), "A Ball-room in the Year 1760," by A. Solomon.

"The Internal Economy of Dotheboy's Hall" (135), T. Webster, R.A., painted for the author of the admirable work from which it is taken; and "A Rubber" (178), are worthy of the combined efforts of Ostade and Teniers for effect and aptness of expression.

157. "Lady Jane Grey." C. R. Leslie, R.A.

—— "Most gentle, most unfortunate;
Crowned but to die."

A chaste impersonation of this unfortunate lady, particularly sweet in expression, and posed with graceful simplicity. (162), "The Shell," by the same, is a charming picture, though hardly up to the average mark.

160. "The Butt," W. Mulready, R.A. The *ne plus ultra* of finish, in conjunction with wonderful arrangement of colour. It has not escaped vulgarity, however; and a feeling of regret is excited that so much power should not be employed upon subjects with higher objects. We shall have something to say on the question here mooted before long.

130. "A Shepherd-Boy and Dog," W. Mulready, R.A. A sweet little bit of every-day life, poetically rendered.

173. "Country Cousins." R. Redgrave, A. Well thought of and full of character. The predominance of yellow and red tends to foxiness, but nevertheless it is superior to the pictures exhibited of late by the same artist.

191. "Henrietta Maria, Queen of England, and the Prince of Wales, assisting at the Toilette of Mademoiselle Montpensier;" C. Landseer, R.A.; exhibits some nice painting in parts, but is disfigured by common-place in arrangement.

201, "The Ruins of Hermonthes, Upper Egypt," D. Roberts, R.A., is a fine specimen of this excellent artist's Egyptian adaptations.

"Meditation," S. A. Hart, R.A. A well-painted half-length nude figure.

485. "Christ and the Sisters of Bethany," F. Stone. Mr. Stone has taken a decided step forward. Last appeals and cherry-lipped country belles he has deserted, and turned his thoughts to scriptural subjects, wherein, if it were not for his distinguishing prettiness, for which so many higher qualities are sacrificed, more renown awaits him: there is much that claims approbation in this picture.

"Trafalgar," 1805, (1545), G. Armitage. A painful subject. Curiously treated, and not likely to increase the reputation of the Westminster-hall exhibitor.

573. "A Stage Coach Adventure in 1750." W. P. Frith, A. Worthy of Hogarth: full of character and truth of expression.

607. "Harvey demonstrating to Charles I. the circulation of the blood, from the heart of a deer," R. Hannah. A noble subject worked out with extraordinary skill. The execution is decided without rigidity or disagreeable ostentation; and the head of Harvey, as indeed the figure generally, equal to anything in the exhibition.

The picture immediately under this (608), "Pointing out the Text," T. F. Marshall, is a most pleasing picture, displaying as much good taste in the selection of subject as happiness in its production: totaly unaffected, its merits are of sterling quality. A larger performance by this artist (671) "The Marriage Settlement" —time of the Restoration, — placed undeservingly in the Octagon Room, attracts considerable attention, evincing feeling for colour and forcible effect, with a great degree of elegance.

585. "The Battle for the Standard," R. Ansdell. A picture which every one must observe both from its large size and powerful painting. The horses are masterpieces, more especially the bay: drawn with great anatomical truth, and full of life. It is an admirable work, and will serve to enhance a reputation already well founded.

619. "The Right of Sanctuary," H. Pickersgill, Jun. The general fact is illustrated by this particular incident—"In the reign of Richard II., Lord John Holland, half-brother to the King, slew the Lord Stafford not far from York. The young lord took sanctuary at the monastery of St. John of Beverley." This picture is one of many instances of the wider range of view which the rising school of artists are taking, and, moreover, displays much careful painting.

620. "The Eve of the Deluge," J. Linnell. A picture abounding in gorgeous hues and extraordinary effects, which though undoubtedly clever in conception, in many parts beautiful, will have more critics than admirers.

HERALDRY IN DECORATION.

DECORATIVE-ART SOCIETY.

AT a meeting on the 12th ult., a paper "On the forms of Heraldic Shields" was read by Mr. Partridge. He introduced the subject by observing that heraldry may be appropriately applied to many other purposes in private life than decorating carriages, plate, and buttons, as from its peculiar significance and interesting picturesque effects, it might with advantage become an integral portion of every important embellishment. Heraldic shields, he said, should have relation to the style of architecture or decorations with which they are associated; but, nevertheless, they possess individual and periodic characters in form, which must frequently be borne in mind. The earliest form of shields, it was said, is circular, and which subsequently gave place to the oval. Both shapes were adopted by the Greeks, and consequently heraldic blazonings may be appropriately applied, he thought, within the Acanthus scroll-work and wreaths peculiar to the ornaments of their era. Instances supporting this statement were adduced, such as Medusa's, Jupiter's thunderbolt, &c. Various forms of shields were used by the Romans, and several were described. The Saxons carried the primitive circular shield, having a boss or spike in the centre; but an elongated shape, called the "kite" shield, became prevalent in the Norman period of our history. Reference was made to the Bayeaux tapestry. Shields, during the Crusades were reduced in length, and assumed the form now called "Heater," and sometimes "Gothic;" and this change afterwards gave place to various other shapes, and more particularly to the tilting shield, having scalloped edges, and a peculiar notch or opening to receive a strap-fastening. Both of the last-named shields may be seen placed alternately on the panelling in Henry VII.'s Chapel. During the Tudor and Elizabethan periods, the Gothic shape was more or less strictly adhered to in the practice of heraldic mountings; but a fanciful bordering or back-ground was added, partaking of the characteristic expression of those times in all matters of ornament. An oval shield, it was said, was usually met with in Italian palaces, and is mounted on a ground-work exhibiting a border of over and under-lapping enrichment, peculiar to that style of embellishment. Modern instances, on the gates to the Royal Exchange, and in the University Club-house, were described as properly characteristic; but the heraldry displayed upon the ceilings of the ambulatories in the Royal Exchange were alluded to as not being expressed with proper heraldic *gusto*, nor upon appropriate shields, for they, at least, should have had relation to the characteristic form of the arabesque embellishments with which they are associated. The manner of introducing shields upon cornices in lofty apartments was noticed, and the mode of placing two shields obliquely to the face of the wall was pointed out, as forming an effective enrichment—a variety being obtainable by adopting badges, crests, or coronets; in the intervals, labels and inscribed ribbons offer other vehicles for variety in such decorations. Some explanations were given respecting the heraldic embellishments of the Houses of Parliament. It was remarked that the Royal badges, such as the red or white rose, &c., ought to be used by private families only, as expressive of a period when particular honours were obtained by the ancestors of those adopting them. Mr. Partridge concluded with some observations on the absurd way in which crests are occasionally introduced upon furniture, such as chairs, &c. In the course of a discussion by the members, it was contended that, for the Houses of Parliament, it would have been more correct and picturesque to have varied the shields, in accordance with the period in which the cognizance had been respectively adopted.

RATING LITERARY AND ARTISTIC INSTITUTIONS.

ON the 5th inst. an appeal was heard at the Middlesex sessions, before the assistant-judge, against the certificate of Mr. Tidd Pratt, that the Russell Institution is entitled to the benefit of the Act 6 and 7 Vic., cap. 36, which exempts societies for the purposes of literature, science, or the fine arts, from parochial and other rates, and a decision was come to, which, if it hold good, will render the Act inoperative.

The following is the clause under which the exemption was claimed:—"Whereas it is expedient that societies established exclusively for the purposes of science, literature, or the fine arts, should be exempted from the charge of county, borough, parochial, and other local rates in respect of land and buildings occupied by them for the transaction of their business, and for carrying into effect their purposes; be it therefore enacted by the Queen's most excellent Majesty, by and with the advice and consent of the Lords, spiritual and temporal, and Commons, in this present Parliament assembled, and by the authority of the same, that from and after the 1st day of October, 1843, no person or persons shall be assessed or rated, or liable to be assessed or rated, or liable to pay any county, borough, parochial, or other local rates or cesses, in respect of any land, houses, or buildings, or parts of houses or buildings, belonging to any society instituted for the purposes of science, literature, or the fine arts exclusively, either as tenant or as owner, and occupied by it for the transaction of its business and for carrying into effect its purposes, provided that such society shall be supported wholly or in part by annual voluntary contributions, and shall not, and by its laws may not, make any dividend, gift, division, or bonus in money unto or between any of its members; and provided also that such society shall obtain the certificate of the barrister-at-law or Lord Advocate as hereinafter mentioned."

It was shewn that the institution was established for literary and scientific purposes; that it was supported by annual voluntary subscriptions, and that donations had been made to it.

On the other side, it was contended that the institution was a voluntary society of gentlemen, who met for their own amusement and gratification, to read the newspapers and get information—was not supported by voluntary contributions but by annual subscriptions, and was not exempt from rates.

The assistant judge, who gravely remarked

that newspapers had nothing to do with either literature or the fine arts! decided against the institution on all the points raised. It was not one for science, literature, or the fine arts; it was not supported by voluntary contributions, and therefore was not exempt from rates;—a decision which appears to us quite preposterous. The intention of the Act is to facilitate the association of persons for mutual instruction, the dissemination of knowledge, and the prosecution of literary, scientific, and artistic pursuits. Scores of institutions throughout the kingdom have been exempted from the payment of taxes, as it was intended they should be; and it is to be hoped, as much for the sake of these as their own, that the directors of the Russell Institution will carry the matter farther, and let a more competent authority decide.

HYDRO-ELECTRIC COMBUSTION IN LOCOMOTIVE AND OTHER ENGINES.

AN idea is said to have been broached by the surveyor of the Paris and Orleans Railway, Mr. Gaspard Cipri, which promises, if practical, to revolutionize the main principles of the locomotive. If we understand rightly what is rather ambiguously expressed, he proposes by means of electricity (whether as developed in Armstrong's hydro-electric steam-boiler, or how otherwise is not stated), to neutralize the chemical attraction of the oxygen and hydrogen in the vapour, or, as he calls it, the gas of water, and to employ the oxygen thus liberated in feeding the fuel in the furnace, by conducting the vapour or steam thus decomposed, in a close current (from the boiler it is presumed), along and under the grating, to the exclusion of the air altogether after the fire has been once lighted and the steam once generated and put into circulation; by which means he will be enabled, it is said, so to arrange the fire, that it shall be altogether surrounded by the boiler surfaces, and thus not only economise the heat generated, but also consume the smoke from the fuel, by using up its elastic force in the pistons, along with that of the steam, so that no chimney would be required, and the expense of tunnels and bridges would be thus also economised.

We hope the source, the measure, and the expense, of the galvanic or electric power requisite to decompose the vapour of water thus continuously into its constituent gases, have been maturely considered. Aqueous vapour is, in fact, neither more nor less than hydrogen *already burnt* by oxygen, or oxygen with its power of combustion already exhausted; and the combustion thus already completed must admittedly be *undone*, as it were, by the decompositive electrical agency, ere the oxygen which the vapour contains can be again used up in burning the fuel for the engine. To us this sounds very much like robbing Peter to pay Paul, or expending energies equivalent to those eliminated in combustion, for the purpose of undoing what was done in their elimination, or of decombusting the already combust (if we may be allowed to say so), merely in order to reproduce combustion, in a vicious circle, in which a power as great as the power 'economised' may ever be requisite to the acquisition. There may be something in the constitution of Armstrong's hydro-electric boiler, however, which, adapted to the boiler of the locomotive or other engine, may enable the engineer to economise heat, in the way suggested, without the expense of any other agency by which the economy would be neutralised.

THE DIORAMA.—The proprietors of this establishment have added a fine view of Mount Ætna to the Interior of St. Mark's at Venice, previously exhibited there, and which, like the latter, is painted by M. Diosse, a pupil of M. Daguerre. The mountain is shewn under three aspects—evening, sunrise, and during an eruption; the well-known remains of the theatre at Taormina are seen on the left. It is a charming picture, truthful and effective, and will well repay a visit; but the interior of St. Mark's, to those who have not already seen it, offers even greater attraction. The effect of this interior, as seen lighted up for service, is grand.

SURVEYOR OF PAVEMENTS, ST. PAUL'S, COVENT GARDEN.

ABOUT a fortnight ago we received information that the advertisement announcing a vacancy in the office of surveyor of pavements, in St. Paul's, Covent Garden, and inviting candidates, was a mere blind; that it was arranged that Mr. Beck, the churchwarden, a tailor by trade, was to have it, and that those who took any trouble in it would merely waste their time. Fearing to commit an injustice, we kept back the statements; but the result confirming the truth of them, we feel bound to condemn this illustration of a course which we have on more than one occasion strongly protested against.

It appears that there were twenty-two candidates. The farce of election was proceeded with, and the number reduced to five, who were, after due declaration, admitted to the contest. They consisted of—Mr. Beck, the present churchwarden; Mr. Hakewill, the district-surveyor; and Messrs. Bannister, Lakeman, and Pennington, surveyors; when it further appeared by the votes that 21 were recorded for Mr. Beck, and none for either of the other candidates.

Since the above was written we have received a letter, signed P. Skae, Hart-street, Covent Garden, the late surveyor, complaining of the way in which he has been treated. We insert the following portion of it without comment, as we know nothing of the circumstances of the discharge of the writer. Our complaint relates only to the appointment of the new *surveyor*.

"After my having performed the duties of surveyor of pavements for above fifteen years, I flatter myself to the satisfaction of the majority of the inhabitants, whose signatures I appealed to as testimonials, certainly so as never to have any charge of incompetency alleged against me,—a jobbing tailor, who was made a churchwarden last year, has procured my removal, and himself to be put in my place, in spite of all the feeling of, as I think, common justice, expressed in my behalf. Now, Sir, I beg to ask, whether such appointment—made during the time of his holding office, and as such an *ex-officio* member of the paving committee, against the express directions of a local Act, and after the time allowed in the Metropolitan Paving Act (Michael Angelo Taylor's) has expired for the election of a surveyor after a vacancy,—can be considered to be legal, or whether such election is null and void?"

RAILWAY JOTTINGS.

A NEW sort of carriage-spring, in which elasticity and strength are said to be obtained with light plates, and at about one-third less cost, has been recently registered by Messrs. Blake and Parkin, of Sheffield. It consists of three inverted curves, two of which unite and run into each other, so as to have a triple bearing, while the third curve below bears with its ends against the middle swell of each of the upper, to which it is attached by bolts. ——The *Worcester Journal* states that the bridge lately erected on the Oxford, Worcester, and Wolverhampton line, at Dudley, over the Birmingham turnpike-road, near the castle, has a second time given way. The workmen, it appears, had begun to build the side wings to the bridge, and had sunk about 18 feet below the foundation of it, whereby the foundation was exposed to the atmosphere, which so acted upon the stone which supported it, that it caused it to slack, and become otherwise greatly impoverished. Before the the work could be finished, a large portion of one end of the bridge, together with a considerable segment of the arch itself, came down, fortunately without accident to the workmen. Timber props have been put up, and the "unfortunate" bridge is undergoing such repairs as will, it is said, completely restore its strength and safety, though, we much fear, without a sufficient restoration of its doubly-damaged reputation.——The great iron cylinder which is to be planted in deep water in the Tamar, off Saltash, preparatory to the erection of the bridge there for the Cornwall line, was launched on the 26th ult., and safely floated off to the hulks moored for its deposit, in six hours. The purchase-blocks for the occasion were made, it is said, on Botheway's new principle of internal iron-binding, and although not above 24 inches, were equal to 30 or 36 inch Goverment-blocks.——The Stockport viaduct, erected in 1839-40, required 400,000 cubic feet of stone and 11,000,000 bricks. It is 1,783 feet long, with 26 arches, 22 of them 63 feet span each. It is 4 feet higher than the Menai bridge. The height of the parapet above the river is 111 feet, and that of the rails above the foundations of the arches 120 feet. Its cost was 70,000*l*.——The Manchester, Sheffield, and Lincolnshire line is progressing near Retford, where the tunnel of half a mile is being worked through the Clarbro' hill, and a bridge to the south of the town is nearly completed. A bridge of three arches over the Idle has given some trouble in piling, &c., from the peaty and insecure nature of the ground, which is also full of fir-trees, 7 feet below the surface, and soft as clay till exposed, when they shrink much, and become hard as stone. Six thousand bricks have been already used in the erection of this structure, which is nearly ready for the battlements.

INDUSTRIAL KNOWLEDGE.*

WE are sometimes told that education has very little to do with manual industry; that the one relates to the head and the heart, while the other deals only with muscle and sinew. "Look," it is said, "how many are there, who, having received an efficient education, start in trade, and fail. Look, again, how many succeed eminently in trade, who have received no education worthy of the name!" Yes: if education consist in making Greek and Latin an end, instead of means to an end—if a whole course of school instruction pass without one lesson relating to the physical world around us—then, indeed, may we well understand how an educated man may fail in trade or manufacture. But if education consist in the right development of all the faculties that God has given us; then is the man who steadily watches and studies the external world, and the power he has over it, acquiring industrial knowledge at every step. Nearly all industry consists in the transformation and adaptation, by human means, of materials abundantly scattered around us; and he who uses his external senses and his "common-sense" in studying the properties of these varied materials, is acquiring the elements of industrial knowledge, which, even if he had not the advantage of that more systematic education which expands the intellect and warms the heart, will one day be fruitful of good to him, though the mode and the moment may be equally beyond his ken. "A young man," says Sir Robert Kane, "wanting to sell spectacles in London, petitions the corporation to allow him to open a little shop, without paying the fees of freedom, and he is refused. He goes to Glasgow, and the corporation refuse him there. He makes acquaintance with some members of the University, who find him very intelligent, and permit him to open his shop within their walls. He does not sell spectacles and magic lanterns enough to occupy all his time; he occupies himself at intervals in taking asunder and remaking all the machines he can come at. He finds there are books on mechanics written in foreign languages; he borrows a dictionary, and learns those languages to read those books. The University people wonder at him, and are fond of dropping into his little room, in the evenings, to tell him what they are doing, and to look at the queer instruments he constructs. A machine in the University collection wants repairing, and he is employed. He makes it a new machine. The steam-engine is constructed; and the giant mind of Watt stands out before the world—the author of the industrial supremacy of his country, the herald of a new force of civilization. But was Watt educated? Where was he educated? At his own workshop, and in the best manner. Watt learned Latin, when he wanted it for his business. He learned French and German; but these things were tools not ends. He used them to promote his engineering plans, as he used lathes and levers."

* From "The Voice of the People, a supplement to all newspapers," a cheap weekly periodical, recently started by the indefatigable, clear-headed, and right-minded Charles Knight.

OPEN TIMBER ROOFS.

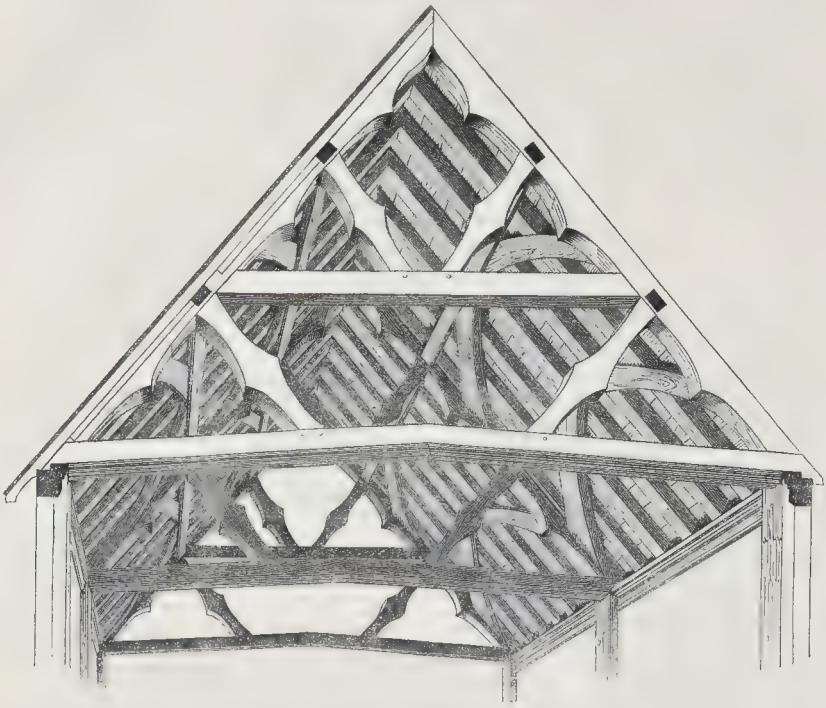


Fig. 3.—AT THE OLD DEANERY, WORCESTER.



Fig. 4.—WILSHAMSTEAD CHURCH, NEAR BEDFORD.

OPEN TIMBER ROOFS.

Continuing our examples of open timber roofs, we give to-day, fig. 3, the roof from the hall of the old deanery at Worcester, dating about 1350. It was simple, and had a very good effect. We say had, because three days after the sketches for our engraving were taken, the whole of this portion of the building was removed. The roof itself was ticketed "for sale," but we are not aware if there were any purchasers for it. The length of the hall was about 55 feet, its height, from floor to soffit of tie-beam, in the centre, 12 feet.

The first truss in our engraving is drawn to a scale of a quarter of an inch to the foot; but as the scantlings of the various timbers may be useful to our readers, we subjoin them:—

Tie beam, 12 in. by 11 in. deep; principal rafter, 7 in. thick; collar beam, 8 in. by 7 in. thick; struts, 6 in. by 6 in. in the narrowest part; purlins, 7 in. by 5 in.; braces, 11 in. by 2 in.; common rafters, 5 in. by 4 in. (5 in. being the width).

Of these latter there are five and two half ones, between each principal. A roof of similar construction, but exceedingly rich and beautiful, is still in existence at this same building: it belongs to what formerly was the "Guestin Hall," which has been for many years divided into different floors, for modern convenience. This building was some time ago carefully measured by Mr. Harvey Eginton, Architect, of Worcester, who at the same time published a view, showing how he proposed to restore this fine old hall to its ancient grandeur. We hope, before long, to hear that his designs are being carried into execution.

Fig. 4 is the nave roof of the church, dedicated to "All Saints," at Wilshamstead, a village about four miles south of Bedford. This belongs to the perpendicular period.

To the District Surveyor of South Kensington.—Mr. Editor, for the sake of her Majesty's lieges, do pray call the attention of the district-surveyor of South Kensington to some buildings now going up in the Kensington High-road, opposite Kensington-gardens. More than one fall has already occurred there! As an old inhabitant of Kensington, I grieve to see this charming neighbourhood disfigured by such structures; but for this I suppose there is no remedy. Sound construction, however, may surely be insisted on under the Buildings Act. A Magistrate.

STREET ARCHITECTURE, BELGIUM.

SHOP IN THE SHOE-MARKET, ANTWERP.

IN Belgium, as elsewhere, considerable improvement has been lately made in the appearance of structures built for the purposes of trade. The annexed engraving represents a shop recently completed in the *Marché aux Souliers*, at Antwerp, from the design of M. Dens, an architect of the town.*

It needs little description. The windows for the basement story are screened by ornamental open-work, and have above them panels decorated with flowers in enamel. The slender columns, which form the divisions of the shop-front, stand on corbels.

INTONACO,—A NEW CEMENT.

IN the science of building one of the most important points to be attended to is the quality of the cement used, either for forming the joints, for binding the materials together, or as a plaster for coating the exterior or interior parts of our work. The qualities of such a cement or composition should be, moderate price, quickness and hardness in setting, imperviousness to damp, freedom from exfoliation or destruction by exposure to changes in the atmosphere, and the capability of enduring a powerful heat without cracking or flying off from the surface on which it is spread. It has been reserved for a lady† to make the discovery of a composition for a cement which has many of these properties, and which she secured by a patent, about four years ago. This discovery has been made from long and patient reasoning and researeh, and from numberless experiments. The whole result of her investigation has been, that "if the constituents of any mineral body of which lime forms a part, be mixed in their true proportions (the lime being perfectly free from carbon), and these mixed with animal and vegetable remains, under circumstances of due moisture and heat, aggregation of their particles will take place at periods, varying with the substances under experiment, from a few minutes, to hours, weeks, and months." It were needless for us here to enter into a description of the several very useful experiments which the inventor instituted to perfect her discovery; suffice it to say, that upon the principle which she has laid down, a valuable and entirely new architectural cement has been composed. To this she has given the name of Intonâco, which is merely the Italian word for wall plaster.

It is of a pure white colour, and when mixed with Roman cement, forms an excellent stone colour. It is capable of receiving good polish, and of maintaining that polish when exposed to changes in the atmosphere. With it imitations of marbles and granites can be formed. It is said to have already proved itself, after a trial of years, to be a cure for damp arising from porosity, or from sea salt. Further, besides as a plaster for walls, it serves admirably for flooring. The flooring in the sunk story should be laid upon brick shivers or coarse gravel, filled in and beaten hard with sand or clay (never with rubbish) up to within an inch of the floor level: *that* inch of Intonâco of the coarsest and cheapest sort will make a floor as firm as sandstone, and it may be jointed or not, at pleasure, to represent tiles. It sets hard in a few hours, and in eight or ten days after finishing, an apartment done with it may be inhabited.

All our plasters shrink in drying; but the Intonâco, instead of shrinking, expands, so that it is necessary to leave a small space between architraves and linings to allow for this expansion. This prevents the lodging of vermin; and it is a curious fact that neither rats nor mice will ever venture to penetrate through this cement. Perhaps one of the most important branches of usefulness for this composition is for the coating of the interior walls of stables. It is well known that common lime used on the walls of stables, combining with the ammonia so copiously thrown off from horses and their litter, forms a compound gas which is totally unfit for respiration, and therefore destructive to the health and life of animals confined in it; and in time the process totally destroys the very substance of the lime itself, so that it crumbles from the surface, and from between the stones of the wall, thus rendering the stables unsightly and unsafe, besides subjecting them to incessant repairs. The experiments that have been made prove that the Intonâco remains unaltered under the action of the most powerfully concentrated ammonia, or any other gas evolved from animal bodies.

Its resistance to fire is not the least of its useful qualities. Half an inch depth of it has been known to protect lath from intense fire for two hours. Perhaps we may be pardoned if we here mention some of the marked peculiarities which are observable in most large conflagrations of houses. These are the constant and rapidly recurring sounds of sharp explosions, resembling those of artillery, which, from the peculiarity of sound, do not arise from the splitting or rending of wood or masons' work: and the effect of these explosions is invariably to accelerate and extend the progress of the conflagration. On close examination by one who has turned his attention to the cause of these explosions, it was found that in a case of a large fire in Manchester some years ago—"A side wall of a warehouse was pulled down, it is presumed with the intention of insulating the fire; a view was thus gained of the interior, where the fire raged fiercely among goods apparently piled in the middle of the floor; three or four

* Our engraving is reduced from an illustration in the *Belgique Communale*, an ably-conducted periodical, published weekly.

† Mrs. M. H. Marshall, of Edinburgh.

STREET ARCHITECTURE—BELGIUM.



SHOP, IN THE SHOE-MARKET, ANTWERP.

explosions took place in rapid succession; the lath and plaster were projected, as it were, *en masse*, from the opposite wall, and, at the same moment, there was a rush of whitish flame, outward and upward, where, finding nothing to fasten upon, it expired in the sky exactly in the manner of exhausted gas." Our observer—on experimenting—discovered that, "As soon as the heat rose to a certain pitch in the front of the lathed panels experimented upon, there was emitted from the back of them a dense smoke of a peculiarly pungent and disagreeable odour. The simple apparatus of a wine-glass, wrapped in a wet handkerchief, speedily demonstrated that this smoke in part consisted of *steam*, and, with the assistance of a friend, it was found that it owed its pungency to the presence of pyroligneous acid, and its offensive odour to that of carburetted hydrogen gas—the same gas that is burned in our streets." It is thus easy to account for the violent explosions when we know that this highly imflammable gas is generated behind the lath and plaster of a building on fire.

It is not in the province of this paper to explain how these gases are formed. It may merely be stated that the pyroligneous acid is produced from the heated wood-work; and that, in manufactories of pyroligneous acid, the quantity of carburetted hydrogen gas, which comes off along with the acid, is so great as to require an apparatus for its removal and consumption.

In respect of the price of the intonâco, this will, of course, rest with the manufacturers. It has been sold at the following rates:—the coarse, 2s. 8d. per cwt.; the fine, or pure white, 3s. 6d. G. S. D.

PARIS BY MOONLIGHT.

THE COLOSSEUM IN THE REGENT'S PARK.

The Colosseum, as arranged by Mr. William Bradwell, is the most extraordinary and striking exhibition in the kingdom; and in the new panorama which has just been produced there, under his direction, by Mr. Danson, another triumph has been achieved. "Paris by Moonlight" is a most effective and beautiful production. "London by Night" was a wondrous deception:—We once heard an old dame there, after searching out her own house in Fleet-street, exclaim, in full belief, to her daughter, who stood by her, "Why, Mary, there's that Tom shutting up the shop, and it isn't eight o'clock yet!"—but Paris is more artistical, and the disposition of the city, the whiteness of the public buildings, the fountains, gardens, boulevards, and thousand lamps, afford even greater opportunity to the artist than our own less glittering, though more wonderful city.

Those who have not seen Paris, and may not be willing to risk the journey just now, may get a perfect idea of it by a visit to the Colosseum; and those who do know it will have their recollections revived and associations awakened.

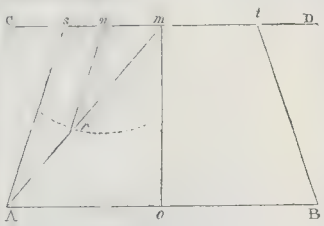
METALS.

The Iron Hardware and Metal Trades Pension Society held their fifth anniversary festival at the London Tavern, on 26th ult., the Lord Mayor in the chair, and the sheriffs of London and Middlesex, with about 150 gentlemen, present. The balance in hand at the close of the past year was 2,711*l.* odd, and several hundreds have since been added.——According to the Belgian papers, the furnaces lately out of blast about Liege and Charleroi are getting into activity again, but the iron and coal trades have been and still are greatly depressed.—— An accident occurred lately at the iron foundry of Chatillon-sur-Indre, where, in pouring molten metal for a large anvil into damp moulds, it was violently thrown out, and five men killed and fifteen severely burnt.——A correspondent of the *Mining Journal* forwards the results of four analyses of moulding sand, by Herr Kaupmann, of the laboratory of the Royal Institution at Berlin, from which it appears that, in widely different localities, the best article is remarkably alike in composition, and that it may be artificially produced, by mixing about 93 parts of silicious earth, or quartzose sand, with 2 parts of oxide of iron and 5 of clayey or argillaceous earth, as free as possible from lime. These proportions he particularly recommends for the casting of statues, &c.——Schafpautel's powder, used in Germany for rendering iron malleable and cleansing it from sulphur, phosphorus, and arsenic, consists of 1¾ lb. of peroxide of manganese, 3¾ lb. of common salt, and 10 ozs. of potter's clay. It has been proposed to employ sal-ammoniac instead of the salt, as the chlorine in sal-ammoniac is double the quantity of that contained in an equal weight of salt, and no clay is required: it does not increase the slags, and the quantity of hydrogen gas in sal-ammoniac (7 or 8 per cent.) contributes much to the cleansing of the iron. The expensive cost of the sal-ammoniac, however, has prevented its employment on a large scale.—— Messrs. J. and W. Dean, of Newcastle, in the *Mechanics' Magazine*, ask the following questions of practical men:—Can small articles be cast, of cast-steel, with any degree of sharpness, and by what means? Can these cast-steel articles, so cast, be made to receive any degree of hardness; and by what methods would such steel, when annealed, be capable of being turned? Which is the best mode of proceeding in making and melting cast-steel, as regards fluxes, heat, crucibles, &c.?——A rich mine of black lead has been opened in Jeffrey, N.H., United States, at the foot of the Monadnock mountain. It brings about seventy-five dollars per ton. The mine was purchased for the sum of fifty dollars.

C. B. R.'S QUERY.—TO SET OUT A CANT.

C. B. R. asked* for a rule to construct two lines on the ends of a given line, that would intersect a line so as to make it equal to them in length, the line being parallel to the given line, and also at a given distance from it.

In vol. iv., p. 93, a mode to effect this is given very fully, together with an algebraic solution. We insert, however, one other mode, from more than a dozen which have been forwarded to us.



Data—Line AB, indefinite line CD, parallel to AB. The distance *om* between both lines.

Bisect AB in *o*, draw *om* perpendicular to CD, join A*m*: take any distance *mn* on the line *mc*, then on the centre *n* with a radius double *mn* describe an arc cutting *m*A in *r*, join *nr* and draw A*s* parallel to *nr*. Make *mt* equal to *ms* and join B*t*; then will A*s*, *st*, and *t*B be all equal. J. B.

ACCIDENT ON THE GREAT WESTERN RAILWAY.

A frightful accident occurred at the Shrivenham station on Wednesday, to the express train, which left Bristol at two o'clock for London. The circumstances, as we learnt them on the line immediately after the melancholy occurrence, were these. The train was a few minutes after time, and the porter at the station, who had been away at dinner, concluded on his return that it had passed, and brought a horse-box and truck near to, if not on to, the rails, ready for the down train. The express train came on at a rate of fifty miles an hour, telegraphed, if we understood rightly, that all was clear. A collision was, of course, the result; the horse-box was swung round, and the carriage next the tender was dashed to pieces, killing four, if not more, and maiming all the other passengers, with the exception of one of the Company's servants, who happened to be seated in a corner, and marvellously escaped. The writer of this notice was hastening over Bristol-bridge, to proceed to town by this train, and was stayed against his will through a fire in the extensive warehouses of the Messrs. King, the well-known Bristol merchants, by which they were entirely destroyed. With some repining he took his seat in the train which went immediately after; and his feelings when he reached the scene of the disaster need not be described,—they shake him even at this moment, though thankfulness is predominant. If our readers, when matters appear to go crossly, chance to remember this occurrence, they may perhaps feel better able to say, "Everything is for the best," and pursue their way, if it be a right one, with renewed vigour and an assured heart.

* See p. 202 *ante*.

RENOVATION OF WELLESBOURNE CHURCH,

NEAR STRATFORD-ON-AVON.

Wellesbourne Church, an edifice of Norman foundation, standing between Stratford and Warwick, has been renovated under the direction of Mr. J. P. Harrison, of London. It had been greatly mutilated and disfigured. According to the *Worcester Journal*, the whole of the renovations have been made in the decorated style. The north aisle has been entirely rebuilt, the nave considerably lengthened, and a new chancel erected, it being found necessary to take down the old Norman arch, which has been replaced in the side of the chancel opening into the Mordaunt aisle. A very curious small quatrefoil window, which stood near the ground on the exterior of the east end of the original south aisle, has been re-inserted in a similar position in the new wall. The chancel seats are of oak, with broad poppy-head desks; the pulpit, which stands within the nave on the north side, is of carved oak, in compartments of an octagonal shape, and springing from a central stem; the prayer desks are low and open, and the bible-stand of carved oak, supported on a pedestal of the same wood. The floors of the chancel and Mordaunt aisles are laid with Minton's encaustic tiles, in patterns of red and yellow, with a border of plain black, with an ornamented tile at each corner; the walls around the altar and chancel are also finished with tiles.

The Mordaunt aisle is separated from the vestry by a stone screen, into which is worked, as a border, blue and yellow tiles. In the centre is to be inserted a full-length brass reclining figure in memory of the late very universally respected Sir John Mordaunt, over which is to be placed an appropriate legend.

The roof is open, shewing the timbers, stained dark, and plastered in the intervals. The windows, which have cost 400*l.*, are of a stained-glass. The chancel window has full-length figures, of St. Peter in the centre, with St. James and St. John on either side. Three lancet windows on the south side of the chancel contain subjects illustrative of the principal events in the life of St. Peter. These windows are by Holland, of Warwick.

The window in the Mordaunt aisle, executed by Ward and Nixon, London, has the figures of angels, St. Bartholomew and St. Thomas; in the two lower divisions are illustrations of our Saviour raising Lazarus from the dead, and of Mary in the garden.

The east window looking into the south aisle contains two subjects—Christ raising the daughter of Jairus, and Christ restoring to life the widow's son, and is by Willement.

The church has, with the exception of the tower, been almost entirely rebuilt of blue stone, with Guinton stone dressings; the roofs are covered with dark Broseley tiles, and surmounted with ornamented pinnacled tiles.

Bedford Gaol Tenders.—A correspondent has forwarded to us the following list of tenders, delivered for Bedford Gaol, with a somewhat mysterious statement, complaining of improper conduct on the part of some of the persons concerned. As the latter is not authenticated by the name of the writer, we are unable to insert it:—

Woodruff, Bedford	£19,850
Miller and Co., ditto.....	19,105
Cobb and Co., ditto	18,888
Jackson, London	18,300
Clarke, Feversham	17,800
Parker, Thrapston (accepted)	17,197

ON THE ART OF ENAMEL.

AT the Society of Arts on the 12th instant, Mr. Digby Wyatt read a paper on "The art of Enamel, ancient and modern." It commenced with some remarks on the necessity of increasing the resources of the designers of metal-work, by effecting changes in the process of manufactures, and by that act producing a novelty, which might possess all the charm of freshness, without any of that extravagance so constantly resorted to in the attempt to produce variety.

The speaker affirmed, that the art of enamel presented this so much wished for desideratum, and that by imitating the practice of the mediæval artists in this material, we might considerably enrich our industrial resources and facilitate the execution of beautiful works of utilitarian art.

After a hasty description of the composition of pure enamel and the nature of the pigments usually employed to colour it, Mr. Wyatt proceeded to enumerate the six leading varieties which had been adopted at various periods in the history of the art, to unite the vitreous paste with its metallic base, endeavouring, as far as possible, to describe each genus in the language of some contemporary authority. The first, or Byzantine process, which obtained throughout the eastern empire from probably the time of Justinian down to about the year 1300, was illustrated from the particulars furnished by Theophilus, the celebrated artist-monk of the eleventh or twelfth century, and its chief peculiarity appeared to have been the formation of casements, or cavities, for the reception of the enamel, by means of gold filigree. The second, or early Limoges style, which was so much practised in that city from probably the eleventh century, until the frightful siege and massacre by the Black Prince, was described from a comparison of the admirable notices of Mr. Albert Way with those of M. Vetit, Dussieux, Vother, and the Abbe Texier, and would seem to have substituted for the filigree compartments of the Byzantine mode, excisions formed in the thick copper-plate by the graver. The third, or early Italian mode, practised for probably some fifty years before the days of Ugolino Veris, the artist who executed the celebrated shrine in Oevieto Cathedral in the year 1338, and carried by subsequent goldsmiths and enamellers down to the end of the sixteenth century, was detailed from descriptions given by Vasari and Benvenuto Cellini, about the middle of that century. It appears to have held a midway position between the ancient "champ leve," or incised, and the painted enamels afterwards produced, consisting in engraving silver after the manner of medallic relief, and then floating over it with variously coloured transparent pastes. As contemporary with this variety, mello was slightly alluded to.

Benvenuto was said to have, if not invented, at least been the first to describe the improvement that took place, about the beginning of the sixteenth century, in the art, which constituted what the reader called jeweller's enamel. It consisted in using as a vehicle with the glass powder employed to cover small gold or silver objects in the round "or in the highest relief," water in which pips of pears had been steeped. This held the paste in its place until vitrifaction took place, and was so delicate a cement, as to in no degree interfere with the perfect purity of the enamel.

The fifth, or "late Limoges" variety was described as having sprung at once, fully armed, from the brain of that Jupiter of enamel workers, Leonard Limousin, under the auspices of Francis I., and differed from its predecessors chiefly in entirely covering the surface of the metal with an opaque paste, and then painting on that with transparent colours, regaining the effect of a translucent ground by applying silver leaf in particular situations, fastening it with a glaze of colourless enamel, and then tinting over it. These peculiarities, as well as the *peinture grisâtre* and touching with gold, were illustrated from the interesting manuscripts published by M. Maurice Ardent, of Limoges. This style appears to have dwindled into nonentity under the hands of the Nonailhers, a family who lived (they can scarcely be said to have flourished) during the latter part of the seventeenth century. In connection with the detail of the sixth and last process, the miniature style, honourable allusion was made to the labours of Sir Theodore de Mayerne (whose interesting manuscript we may shortly hope to see published, under the auspices of Mr. Hendrie), and his connection with Petitot, the principal and best known of this school of art. The improvements effected in this style would seem to have been a great enrichment of the pallette by the addition of new pigments, the power of multiplying the number of firings, and gradually the succession of tints, their hardness and fusibility by the addition of fluxes, &c. Unhappily, the mystery many selfish artists have thrown over their modes of procedure render them exceedingly difficult to analyse or describe.

The reader then, commencing with Egypt, gave a rapid sketch of the history of the art, noting the barbaric enamels existent in the north, probably previous to the Roman conquests, touching on the connection between the Limoges and Byzantine schools, and tracing, though necessarily very briefly, all the salient points in its existence, as both a manufacture and an art, in our own and other countries. He glanced at what had been recently done in the ateliers of Wagner and Rudolph at Paris, and the paintings of Messrs. Bone and Essex, and concluded by expressing an earnest hope, that the knowledge of art possessed by those gentlemen might soon be grafted on the skill of our workmen, and that we may ere long adopt and fully carry out the old practice of the middle ages, so ably characterised by the Abbé Texier, in his eloquent declaration that then art and manufactures were blended and identified; art gaining by the affinity great practical facility, and manufactures much original beauty.

METROPOLITAN COMMISSION OF SEWERS.

A GENERAL court was held on Thursday morning in last week; the Right Hon. Lord Morpeth in the chair.

Several payments having been ordered, a recommendation was received from the General Purposes Committee—"That the committee have power to appoint Mr. Joseph Calverly as collecting clerk, with emoluments not exceeding 150*l.* a year, and on such conditions as the committee shall think expedient."

In reference to this recommendation it was stated that the cost of collection for the Westminster division for the future would not be more than one-fourth its former expense. The recommendation was agreed to.

The following recommendations for new sewers were also adopted:—Suffolk Mews, Middlesex Hospital, 300 feet of sewer, estimate 45*l.*; Uxbridge-road, Bayswater (conditionally), 330 feet of sewer, estimate, 85*l.*; Marylebone and Finchley-road (conditionally) 78 feet of sewer, estimate, 35*l.*; Ovington-square, Brompton (conditionally), proper outlets to be made, 75*l.*

It was stated that for the Uxbridge-road work the whole expense would be repaid by the parties benefitted; and in the case of the work at Ovington-square, Brompton, two parties would contribute each 25*l.*, so that the cost to the district would not exceed 25*l.*

A report was read from the Committee of General Purposes on the proposed drainage of the new Prison at Holloway, which stated that an estimate had been given in by Mr. Roe, the surveyor, of the expense of putting down an efficient drainage for the prison, and, at the same time, relieving the whole district of Holloway, which was at present frequently flooded. As the city of London were interested particularly in this matter, it was proposed that that corporation should contribute 975*l.*, and this court the remainder, the total cost being 1,700*l.*

In answer to a question of the Hon. F. Byng, the surveyors said, that the same works, under the old system of drainage, would have cost between 4,000*l.* and 5,000*l.* The report was agreed to.

The surveyor (Mr. Phillips) reported that John Hooper, of West Wall, Poplar, had broken into a sewer without leave of the court, and that he had been summoned to shew cause why he had done so. Upon being called he did not appear, and the summons being proved, he was fined 5*l.* for the damage, such fine not to be enforced until after the next court.

A report was read from the surveyors on the progress of the cleansing and flushing of sewers, which stated that 4,330 cubic yards of deposit had been flushed away from 33,999 feet in length of sewers in the Westminster division; and in the Tower Hamlets and Surrey and Kent divisions, 24,283 cubic yards had been flushed. The total length cleansed since the commencement of the present commission amounted to 86 miles. It also appeared that Mr. Hodgson, a practical chemist, had been called in to assist them (the surveyors) in the trial of experiments with the various deodorising fluids, so that it might be determined which kind would be the most efficacious and the cheapest; and with the view of aiding the court in their exertions for the benefit of the poor by all the means in his power, Sir William Burnett had offered to reduce the price of his deodorising fluid from 1*s.* 8*d.* to 7½*d.* per quart. Mr. Hodgson's report on the different fluids gave the following results:—The statement and correspondence were ordered to be printed for discussion hereafter.

	Cubic yds.	ft.		Quarts.		Per cubic yard. Pints.
Ledoyen's	33 ..	18	required	197·	equal to	11·52
Ellerman's....	35 ..	5	,,	96·50	,,	5·48
Burnett's	19 ..	23	,,	11·75	,,	1·15

Mr. Stable said that, since the last court, upwards of 100 cesspools had been cleansed, and that, in every case, this had given the greatest satisfaction. The Hon. F. Byng wished to know whether their cleansing pump had been used by the corporation of London?—Mr. Roe said that one had been ordered by that body, and had since been seen in use in Paternoster-row.

The surveyors handed in certain estimates for the drainage of the East London Union Workhouse, in the Mile-end-road, from the surveyors to the city of London; and in answer to a question, the surveyor stated that a most efficient plan of drainage might be executed at two-thirds less expense than the present plan. Mr. Leslie thought that an amended plan should be prepared by their surveyors, and he had no doubt whatever that the city of London would be quite ready to adopt it.

Lord Morpeth said this court could not interfere with their jurisdiction. They must take care not to "poach" upon their manor. Mr. Leslie differed with the noble lord, as the locality was under their jurisdiction and control. Mr. Lambert Jones was of opinion that there was a misunderstanding on this subject. If their surveyors could offer any better plan than the one proposed, he was quite sure that the city of London would be but too happy to adopt it. The surveyor said the city plan would give a drainage four times larger than would ever be required; and a resolution was then carried that an amended plan be drawn up by their surveyors, and laid before the next court.

MISCELLANEA.

THE PARTHENON.—Notwithstanding that literature is at a stand-still in Paris, the correspondent of the *Literary Gazette* announces the approaching publication of a great work, *in folio*, the price of which will not be less than 400f., entitled *Le Parthenon;* the authors are MM. de Laborde, member of the Institute, and A. Paccart, architect. It will form two volumes, divided into twenty parts. "You are aware," he says, "that the excavations, ordered by the present King of Greece to be made in the Acropolis, were concluded in 1844. The object of M. Laborde is, above all, to bring into notice the numerous relics found in these excavations, which may conduce to the restoration of the Parthenon, viz., to the perfect appreciation of *the* model *par excellence*."

DEATH THROUGH WANT OF DRAINAGE.—An inquest was held last week on the body of George Sanders, who died in Gloucester-street, Hackney-road. The surgeon attributed it to the foul air of a cesspool outside the house, which had not been emptied for nine years, and shewed that the drainage of the district was very bad. Verdict—"That the deceased died from the effects of noxious vapours, and the insufficient drainage of the neighbourhood."

SALISBURY CATHEDRAL SPIRE.—It is intended to have the spire of Salisbury cathedral church newly pointed in the course of the ensuing summer. We are told that a period of 19 years has elapsed since any similar repairs were made.

IN THE ROUGH PLATE GLASS MANUFACTURE an improvement or simplification has been patented by Mr. James Hartley, of Sunderland, viz.—the transfer of the molten 'metal' by ladling directly from the melting-pot to the table, without the use of a cistern or a second heating. The plates so made are then annealed by piling, as for crown and sheet glass, and not with the usual costly furnaces.

GRIFFITH'S "ANCIENT GOTHIC CHURCHES."—Mr. Griffith has issued the second part of his work on the proportions of ancient churches. We shall take an early opportunity to review it.

Projected Works.—Advertisements have been issued for tenders, by 25th inst., for repairs and alterations of the church of St. Mary-at-Hill, Billingsgate; by 5th proximo, for the erection of a new workhouse at Canterbury; by 19th inst., for various works for the Birkbeck School at the London Mechanics' Institution; by 27th, for the erection of a parsonage-house at Appleby, Lincolnshire; by 17th, for the various works in the erection of a new union workhouse at Stokesley; by 9th proximo, for certain works at the county prison, Oxford; by 19th inst., for the erection of a lock-up house at Alcester; by 24th, for taking down and re-erecting the South Stoneham Union Workhouse; by 26th, for the erection of wards to the Woburn Union Workhouse; by 18th, for the erection of a house and offices at Houghton (St. Neot's); by 15th, for the erection of a dwelling-house, &c., at Sheffield; and, by 2nd proximo, for the erection of the Hull baths and washhouses.

Syracusan Architecture.—At a meeting of the Royal Society of Literature on the 13th, a paper, by Colonel Leake, on Syracuse, was read, in the course of which he mentioned that the remains of Hellenic Syracuse are distinguishable from the Roman constructions by, among other circumstances, their larger scale; and he described the most important of the former, the Castle of Euryelus, now Mongibellisi, on the summit of Epipolæ. This ancient work is interesting as one of the best examples extant of a Greek citadel, and of the modes adopted by the Greeks for protecting the entrance of a great city. Next to the temple of Minerva, the finest relic of autonomous Syracuse is the theatre, erected probably about B.C. 480, in the reign of Hiero I., but, perhaps, afterwards enlarged to the dimensions indicated by its existing ruins, which prove it to have been not inferior in capacity to some of the largest theatres in Greece. In mentioning, among the most remarkable extant antiquities of Syracuse, the quarries, and particularly that called *Il orecchio Dionysio*, he pointed out the absurdity of the name, the excavation having no resemblance to a human ear. The principal monument of Roman Syracuse is the amphitheatre. In conclusion, it was remarked by Colonel Leake, that "the ruins and vestiges of Syracuse are monumental confirmations of the truth of history, as to its magnitude and importance; and may even justify the belief that Diodorus and Cicero have justly described it as the greatest of all the cities of Greece; for although Athens, including the Long Walls, had a greater periphery by about twenty-six stades, its superficial measurement was not so great as that of Syracuse."

Egyptian Architecture.—Miss Martineau, in her recent interesting work on "Eastern Life,"* has the following note on first seeing Luxor:—"I find here in my journal the remark which occurs oftener than any other—that no preconception can be formed of these places. I know that it is useless to repeat it here; for I meet everywhere at home people who think, as I did before I went, that between books, plates, and the stiff and peculiar character of Egyptian architecture and sculpture, Egyptian art may be almost as well known and conceived of in England as on the spot. I can only testify, without hope of being believed, that it is not so; that instead of ugliness I found beauty; instead of the grotesque, I found the solemn; and where I looked for rudeness, from the primitive character of art, I found the sense of the soul more effectually reached than by works which are the result of centuries of experience and experiment. The mystery of this fact sets one thinking, laboriously—I may say painfully. Egypt is not the country to go to for the recreation of travel. It is too suggestive and too confounding to be met but in the spirit of study. One's powers of observation sink under the perpetual exercise of thought; and the lightest-hearted voyager, who sets forth from Cairo eager for new scenes and days of frolic, comes back an antique, a citizen of the world of six thousand years ago, kindred with the mummy. Nothing but large knowledge and sound habits of thought can save him from returning perplexed and borne down—unless, indeed, it be ignorance and levity."

* Published by Moxon.

Oak and Larch.—No doubt many individuals, without ample experience with respect to the durability of oak and larch timber, commit errors by using oak instead of larch. I think there are but few of the pinus tribe the timber of which will not endure longer than the oak. I now write from experience. Some pine pits were erected here twenty years past; one with an oak sill the other with a deal one. The result is, the oaken sill is quite decayed, while the deal would apparently wear out another of oak. Inferring from this, I shall not perhaps be accused of presumption in recommending the pinus order of plants to the attention of noblemen and gentlemen, as equal, and in some instances superior to the oak. Railway directors generally prefer these resinous woods. I am credibly informed, that on the London and North-Western line, where oak sleepers were used, they have been replaced with larch—making manifest at once the superiority of that wood to oak on the score of durability. For embellishing the interior of a mansion, the latter cannot be too earnestly recommended; handsome twisted grain bids defiance to any artist,

"Who can paint like nature—
Can imagination boast."

That larch and Scotch fir sooner produce timber fit for use than oak is not a question. Their upright habit of growth makes every part valuable. I have just been thinning plantations that have been planted twelve years, and I find that the larches would each make two excellent rails, whilst the oaks are no thicker than a waggon rope. Thou, brave old oak, must give way to larch for profit. We have some fine straight oaks here, which scarcely can be surpassed for size and straightness; no axe or hook has done this, but nature's own pruning, namely, thick planting.—*W. Brown, in Gardener's Chronicle.*

Picture Galleries should be the workman's paradise and garden of pleasure, to which he goes to refresh his eyes and heart with beautiful shapes and sweet colouring, when they are wearied with dull bricks and mortar, and the ugly colourless things which fill the workshop and the factory. For believe me, there is many a road into our hearts besides our ears and brains; many a sight, and sound, and scent, even, of which we have never *thought* at all, sinks into our memory, and helps to shape our characters; and thus children brought up among beautiful sights and sweet sounds will most likely shew the fruits of their nursing, by thoughtfulness, and affection, and nobleness of mind, even by the expression of the countenance. Those who live in towns should carefully remember this, for their own sakes, for their wives' sakes, for their children's sakes—*Never lose an opportunity of seeing anything beautiful.* Beauty is God's hand-writing—a way-side sacrament; welcome it in every fair face, every fair sky, every fair flower, and thank for it *Him*, the fountain of all loveliness, and drink it in, simply and earnestly, with all your eyes; it is a charmed draught, a cup of blessing. Therefore I said that picture galleries should be the townsman's paradise of refreshment. Of course, if he can get the real air, the real trees, even for an hour, let him take it, in God's name; but how many a man who cannot spare time for a daily country walk, may well slip into the National Gallery, or any other collection of pictures, for ten minutes. *That* garden, at least, flowers as gaily in winter as in summer. Those noble faces on the wall are never disfigured by grief or passion. It is delightful to watch in a picture gallery some street-boy enjoying himself; how first wonder creeps over his rough face, and then a sweeter, more earnest, awe-struck look, till his countenance seems to grow handsomer and nobler on the spot, and drink in and reflect unknowingly the beauty of the picture he is studying. See how some labourer's face will light up before the painting which tells him a noble story of bygone days. And why? because he feels as if he himself had a share in the story at which he looks. They may be noble and glorious men who are painted there, but they are still *men* of like passions with himself, and his man's heart understands them and glories in them; and he begins, and rightly, to respect himself the more when he finds that he, too, has a fellow-feeling with noble men and noble deeds.—*Politics for the People.*

Pictures bought by the Art-Union of London.—The following is a list of the principal pictures purchased up to this date. By Mr. Meade, "The Broken Bridge," F. R. Lee, 150*l.*, from R. A.; Mrs. Hosking, "A Summer Afternoon on the Lido, near Venice," R. M'Innes, 100*l.*, R. A.; Mr. Varden, "Mill on the Ogivier, North Wales," F. R. Lee, 100*l.*, R. A.; Mr. Davis, "Setters on the Moors," T. Woodward, 80*l.*, B. I.; Mr. Field, "Meal Time," J. Bateman, 80*l.*, R. A.; Mr. Jones, "Dutch Yachting on the Zuyder Zee," E. W. Cooke, 80*l.*, R. A.; Rev. W. H. Vernon, "The Grecian Mother," W. Bowness, 80*l.*, R. A.; Mr. Allen, "Preparing for May-day," W. Gill, 63*l.*, S. B. A.; Mr. Brook, "Scotch Peasants Washing," &c., T. M. Richardson, W. C. S., 68*l.* 5*s.*; Mr. Burcham, "Shades of Evening," H. J. Boddington, 100*l.*, S. B. A.; Rev. W. Leigh, "A Scene from Peveril of the Peak," E. Corbould, 70*l.*, N. W. C. S.; Mr. Dennet, "Lake of Pergusa," A. J. Woolmer, 60*l.*, S. B. A.; Mr. Jewitt, "A Scene from Kenilworth," G. P. Manley, 52*l.* 10*s.*, Free Exhibition.

Sale of the Buckingham Estates.—On Wednesday a large portion of the Chandos and Buckingham estates, situate within the counties of Buckingham, Oxford, and Northampton, were sold by public auction by Alderman Farebrother, at Garraway's, Cornhill. The estate of Finmore, Oxfordshire, upwards of 1,200 acres, the rental 1,226*l.* 14*s.* per annum, 3 miles from Buckingham and Brackley, 7 from Bicester, and 12 from Banbury, was put up at 35,000*l.*: the first offer was 24,000*l.*; it was knocked down at 31,300*l.* The Syresham, Falcott, and Astwell estate, Northamptonshire, comprising 2,000 acres, with a rental of 2,300*l.* (subject to an annuity of 500*l.* to the Hon. Lady Grenville, now in her 76th year), 5 miles from Towcester, 4 from Brackley, and 8 from Buckingham, was put up at 70,000*l.*: the first offer was 53,000*l.*; it was knocked down at 65,300*l.* The Hillesden estate, Buckinghamshire, 2 miles from Buckingham, 8 from Bicester, and 16 from Aylesbury, containing 2,890 acres, with a rent-roll of 4,763*l.* per annum, was put up at 150,000*l.*: the first offer was 97,000*l.*; it was knocked down at 130,500*l.* The Thornhill estate, in the borough of Buckingham, consisting of 440 acres, rental 665*l.*, sold for 22,800*l.* The Stockhill farm, 2 miles from Buckingham, consisting of 189 acres, sold for 8,300*l.*

Bexley and Crayford Athenæum.—With all the revolutions and changes of states and empires, England stands as firm as ever; her arts and sciences, her manufacture and commerce, still proceed; her national, public and private buildings remain untouched monuments of reason and truth, and it gives us much pleasure to observe the increase of literary and scientific institutions, not in the metropolis and large towns only, but in small towns, and indeed in rural villages. A spirited tradesman at Bexley Heath, a village 12 miles from London, on the high road to Dover, is now erecting a large building, to be called as above, the Bexley and Crayford Athenæum, and we sincerely hope that he will meet with as much encouragement as his laudable undertaking deserves; and by the success that has attended the Dartford Literary Institute and the reading and lecture rooms at St. Mary Cray, both in the same locality, we doubt not but that he will have it. Bexley Heath, or Bexley New Town, less than half a century since, was dangerous to cross, except in broad daylight; and some of the old people around can tell of the dreadful occurrences that took place on "the heath" about the time that Lord Eardley's plate-chest was cut from the back of his carriage, when he was going on a visit to Belvidere House, Erith; but now it is a beautiful village, and being on a fine elevation, commands most delightful views around, with gentlemen's seats, shooting-boxes, streams for the lovers of Isaac Walton, and good shops. We view with pleasure the addition of the above building.

Titchmarsh Church, Northamptonshire.—In reply to an inquiry, the drawing of this tower, which we engraved, was not made to scale, but by means of the *camera lucida*. Mr. Donaldson has kindly obtained for us the following dimensions:—The square of the tower externally is 28 feet; the total height to the summit of the pinnacle, 103 feet.

[ADVERTISEMENT.]

Chartered Gas-office, Bridge-street,
May 9, 1848.

To the Editor of The Builder.

SIR,—A letter having appeared in your paper, on the 22nd ultimo, whereby the public might be led to think that the gas manufactured at the Westminster station of this Company *required purification after being sent out to the public*, I request the insertion of the inclosed report of Professors Brande and Cooper, upon the real condition and purity of the gas *on the works*, and before it is furnished to consumers, as the best correction of that statement.

I am, Sir, your obedient Servant,
C. BURLS, Secretary to the Company.

(COPY.)

82, Blackfriars-road, 17th April, 1848.

GENTLEMEN,—In compliance with your request, communicated to us through Mr. Lowe, we have examined the gas as issued from the works in the Horseferry-road, Westminster, with a view of determining the quantity of ammonia contained in it. For this purpose we operated upon eleven hundred and fifty cubic feet of the gas, which we had previously ascertained to be free from sulphuretted hydrogen, and which was transmitted in a small stream through three successive liquors, calculated to absorb the whole of the ammonia which it might contain, the whole process occupying a period of somewhat more than three weeks. Those liquors we then subjected to a careful analysis, and have obtained from them a quantity of ammonia equivalent to 34 and 3-10 cubic inches of that gas, shewing, therefore, that the coal gas produced at your works at Westminster contains about 2 cubic inches and 9-10ths of ammoniacal gas in each *hundred cubic feet*, a quantity so infinitesmal, that it cannot have the smallest influence upon its illuminating power, or be in any other way practically inconvenient or prejudicial.

We have the honour to remain, Gentlemen,
Your faithful Servants,
(Signed) WM. THOS. BRANDE,
JOHN THOMAS COOPER.

To the Governor, Deputy-Governor, and Directors of the Chartered Gas Light and Coke Company.

TENDERS

For buildings at Waltham-on-Thames; Mr. R. Cunningham, architect:—

Hugo	£1,097
Knight	872
Fathens and Lowe	861
Watts	840
Roome	715
Pudney	595
Trehaine	687

Delivered at the Shepton-Mallet Gaol, Somerset, on Friday, the 28th ult., for building a chapel, female prisoners' cells, &c.:—

Foster, Bristol	£5,650
Wilcox, ditto	5,579
Davis, Frome	5,326
Hutchings, Bridgewater	4,794
Pollard, Taunton	4,739
Wainwright, Bridgewater	4,252
Shewbrooks, Taunton	3,833
Reed, Wells	3,560
Fudge and Gould, Shepton-Mallet (accepted)	3,440

Delivered for house and premises, Bowling-street, Marylebone; Messrs. Cordeay, architects; quantities furnished:—

Armstrong and Smith	£2,289
P'Anson	2,196
Simpson	2,141
Lawrence	2,090
W. Scantlebury	1,994
Young and Tougal	1,969
W. Higgs	1,944
J. Higgs and Son	1,801
Rudkin, Paddington-st. (accepted)	1,457

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, MAY 15.—Institute of Architects, 8 P.M.
TUESDAY, 16.—Institution of Civil Engineers, 8 P.M.
WEDNESDAY, 17.—Society of Arts, 8 P.M.
THURSDAY, 18.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

TO CORRESPONDENTS.

"*R. J. M.,*" who wrote in reply to advertisement to A. M., gave no address.

"*Lists of Tenders*" should give the name of the architect and of the writer, in confidence.

Received.—"R. G.," "W. S.," "Old M. P.," "G. L.," C. H. W." (shall appear), "G. J.," "A Constant Reader," "W. B." (Knaresborough), "J. C." (Winchester), "C. H.," "A Subscriber" does not say where it was seen, "R. B. K.," "M. W.," "Mr. M." (we have not time), "Subscriber and Admirer," "An R. A.," "E. A.," "X. Y. Z.," "E. A.," "Young Architect."—"An Account of the Skerryvore Lighthouse, with Notes on the Illumination of Lighthouses," by Alan Stevenson, LL.B., &c. (Blackwood, Edinburgh; Longman and Co., London; 1848); "On the Warming and Ventilation of Public Buildings, by Hazard's Patent;" "A Word or Two on Port Wine," by J. J. Forrester (Richardson, Cornhill).

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Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



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TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle, Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

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WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SAMUELSON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment, for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and leaves them in the finest possible state for working. For terms, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

ROOFING SLATES.—Present Cash Prices for the best BANGOR BLUE SLATES on the Wharf, viz.:

Duchesses, per M of 1,500 slates	£10	0	0
Marchionesses, ditto	8	10	0
Countesses, ditto	6	10	0
Viscountesses, ditto	4	17	6

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WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern. Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington butts.
N.B. Cowley and Kent Bricks of every description, and Kentish Rag stone direct from the Quarries.

FIRE BRICKS.—WARD and HART, Hoxton Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to patterns at a short notice. Patent corn drying malting Tiles. Lime, sand, gravel, bricks and tiles of every description; Dutch clinkers, hearths, and all kinds of paving, in addition, &c. &c. Fire Bricks continually unloading in the river, and a considerable saving to purchasers waiting large quantities taking them from the ships.

JACKSON'S PAPIER MACHE and CARTON PIERRE. Enrichments executed in the first style, at their Establishment, 19 and 20, Rathbone place. Just published, a New Book of Designs for SHOP FRONTS—Elizabethan, French, and Italian. Price 7s. 6d.
Desirous previously to examining Flowers, Mouldings, Wall dressings, and general interior decorations in every style

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TO ARCHITECTS, BUILDERS, AND OTHERS

ROBINSON and GAMBLE, GOTHIC CARVERS in STONE and WOOD, 13, John-street, Smith-square, Westminster.
Estimates given for every description of Carving, in town or country.

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70, York-road, Lambeth; and 93, Cross-street, Blackfriars-road.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c. &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature but are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber gas tubes fitted with brass tops, copper bunch and roses complete, ready to be attached to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints of hot water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Casts of Arms finished in a superior manner, all at half the usual price. 23, Pont Street-row, Pimlico-square, from Allport Wharf, Blackfriars bridge.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained to great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge, and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Civil Engineer, County Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 18th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per lineal yard, per rood, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address 4, Wharf, Macclesfield-street South, City-road Basin.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 103a, Piccadilly, from 7 a.m. to 5 p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 103a, Piccadilly (March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 153, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pendrich, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

THOSE SPLENDID FRONTS, known as Lambeth House, Westminster-bridge road, have just been secured with JENNINGS'S SHOP-SHUTTER SHOE and FASTENER; as have also those extensive range of Fronts known as Atkinson's Warehouses, and being Nos. 70, 71, 72, 73, 74, 75, Westminster-bridge-road. This invention has been before the public about fifteen months, and at this time upwards of 2,000 fronts can be referred to. The fronts in New Oxford-street, secured by Jennings's Patent Fasteners, look much neater, and are more secure, than if secured with the Cumas Bar.
They can be had in Brass, by the Trade, at 4s., and in Malleable Iron at 3s. per shutter. The cost, even in Brass, is one-third less than the cost of the Bar and Iron Hoop Shoe.
JENNINGS'S other Patented Inventions, such as the India-Rubber Tube Cock, &c. &c., &c., can be seen or had at the Manufactory, 29, Great Charlotte-street, Blackfriars-road.
JENNINGS'S PATENT VALVES can now be had of WARNER and SONS, Brassfounders, Jewin Crescent, they being duly licensed to manufacture and sell the same.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, with or without Machinery, and Two Plans how to use Fish Bars through the Edges of Wood Laths with Iron.—The Patentee having fixed up one hundred, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., deceased.
HARCOURT QUINCEY, Patentee.
CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection of the same at their Manufactory, 238, Wapping, or at their Agents, 356, New Oxford-street, from the great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twice as much times stronger than the or inary flat laths, to insure their general adoption.
CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw and wheel, cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes street, Bank.
CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ACTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.
Steam Engines always on hand. Sawing and Planing Machinery of every description made to order. Wrought-iron Bars, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 356, New Oxford-street, London.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
Beg respectfully to solicit a comparison with the Revolving Shutters either iron or wood of any other Makers, whatever their pretensions. The extraordinary demand, arising from the universal satisfaction given, for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS (of which some thousands have been fixed in all parts of the Kingdom), having induced other parties to attempt the introduction, by the most absurd representations, of sundry and discarded inventions as improvements, B. and C. assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.
The price of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded sashing plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.
SKYLIGHTS manufactured to any design or extent in Wrought or Cast and Copper, or Zinc.
B. and C. are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and balcony floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS,
Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.
Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.
Estimates given, and Contracts taken, in town or country.
Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

TO BUILDERS, ARCHITECTS, &c.

NAILS, and every description of Builders' IRONMONGERY, supplied at the lowest Birmingham Prices, by FREDERICK BLYTH, Patent Cut-Nail Manufacturer and General Factor, Edmond-street, Birmingham.

*** Lists of Prices forwarded upon application.

CAST IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings, Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1½ inch. to 12 in. in diameter, with Bends, Branches, Syphons, and Long Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES's Iron Bridge Wharf, No. 6, Bankside, Southwark.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers. [illegible] Martin's Lane and 18, Argyll street, Glasgow, having proved by eight years' experience his DRY METERS to be [illegible] begs to say, that [illegible] and are never affected by [illegible] tained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

J. MEACOCK, GAS FITTER, LANTERN MAKER, and METER MANUFACTURER, No. 7, Snow-hill, London, late of No. 71, Snow-hill, begs respectfully to inform Carpenters and Builders, and the Public [illegible] above extensive premises and having purchased [illegible] considerable cost for [illegible] Board Plates, is enabled to offer them a considerable reduction of the present prices.—Estimates given to any amount [illegible] in Town and Country.

SMITH and ENGLISH,
ENGINEERS, BUILDERS' MACHINISTS,
IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,
PRINCES STREET, LEICESTER SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Copings, Balconies, Window Guards, Verandahs, Ornamental Staircases, [illegible] Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY LANE, and CHARLES STREET, DRURY LANE.
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every [illegible]

Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c.

A very superior description of Soot Door, particularly suitable for [illegible]

ESTIMATES [illegible] of Ironwork, complete [illegible] every attention to quality and dispatch.

GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, [illegible] Conductors, Hanging Pictures, [illegible] purposes for which hemp [illegible] new and valuable Patent [illegible] cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord [illegible] wholesale, and specimens seen at the office of the Patentees, No. 1[illegible], Fenchurch-street, W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street, and E. PARKS, 140, Fleet-street; also of all respectable Ironmongers.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above [illegible] of different strengths fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from [illegible] at very moderate prices. FIRE PROOF SAFES of every size, and Patent Detector Locks and Latches [illegible] C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,
WITH S[illegible] AND [illegible] FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent [illegible] which [illegible] attained. Also HOT WATER APPARATUS, [illegible] and scientific [illegible] safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangement, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO BUILDERS and CARPENTERS.— Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 42s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, Best Wrought Bars and Bright Fittings.

3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d. per 1,000.
3d.	4d	6d.	8d.	1[illegible]d.	2[illegible]d.

Best Sheet Floor Brads 14s. per cwt.
Best Town Glue 38s. Do Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	1[illegible]s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

TEN TON LANDING CRANE, for IRON-CASTINGS, BOILERS, TIMBER, and STONE. A[illegible] Weighing [illegible] the London Vulcan Iron Company's Wharf 14, Earl-street, Blackfriars. Also, COAL LANDING on same Wharf.

TO ARCHITECTS, BUILDERS AND BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, [illegible], Dorset-street, Fleet-street.

PROTOXIDE PAINT, for Stucco Fronts. for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence. Orders to be addressed to Mr. B. TODD, [illegible], [illegible]-street, Soho, London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney Shafts, Soffits, Bed-moulds, Paterns, &c., &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of S[illegible] [illegible] JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and [illegible] Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, sole Consignee for Atkinson's Cement [illegible] Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it [illegible] the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials [illegible] from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be considered [illegible] Baths, [illegible] &c. For External Plastering and Ornamental Castings it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufac-tured by W. ASPDIN, Son of the Patentee. This Cement has [illegible] to resist the action of water; it is stronger in its cementitious [illegible] other description of cement; it does not vegetate, oxydate, or turn green; nor is it [illegible] from five to sixty minutes. For all purposes that Cement is applicable [illegible] Messrs. ROBINS, ASPDIN and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM [illegible] TO 22, STEEL YARD, UPPER THAMES STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public [illegible]

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet—does not discolour by Damp—wants no [illegible] that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been [illegible] other cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds [illegible] exposed marine situations. Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel yard; or the Manufactory, [illegible]

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against [illegible] erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the [illegible] properties which it exclusively possesses:—

1. [illegible] the hardness of stone.
2. [illegible] uniform throughout its entire thickness.
3. Its surface [illegible] may be made equal to that of the finest marble. NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted [illegible] walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has [illegible] applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, [illegible] resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. [illegible] Plaster of Paris and Cement Manufacturers, 186, DRURY LANE. [illegible] Mr. R. HART, 28, Canning-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT. —This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent over all other [illegible] the appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and [illegible] in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at [illegible]

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence [illegible] no preparation, and will dry in a few hours. Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

ELDRED'S ART EXPOSITION,
FOR THE PROMOTION OF
ARTS, MANUFACTURES, &c.
Under the Distinguished Patronage of
HER MAJESTY THE QUEEN, and H.R.H. PRINCE ALBERT.

The Works in PORCELAIN, STATUARY, PARIAN, CHINA, &c., now on view at the SOCIETY OF ARTS, John-street, Adelphi, may be had at this Establishment.

*** Tickets of Admission to this Exhibition Gratis.

London: H. ELDRED, Printseller and Publisher to her Majesty and the Royal Family.

(ADJOINING THE CLARENDON).

ARCHITECTURAL CARVING COM-PANY, Eccleston-place (late Sir F. CHANTREY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

WOOD PAVING.—The Directors of the Metropolitan Patent Wood Paving Company are prepared to execute orders on the shortest notice, for paving Railway Stations, Sheds, Wharfs, Yards, Schoolrooms, Gateways, Forges, Workshops, Breweries, Stables, and Barns. Their system of Wood Paving is admirably adapted for the above purposes, and is much in use [illegible] Belgrave Works, Thames Bank, Pimlico.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed. Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for [illegible] and arches.

MARBLE.—L. BOZZONI having again received large SHIPMENTS of MARBLE from Carrara, begs particularly to call the attention of Sculptors, Stainers, &c., to the same. The whole having been selected with great care, will be found unequalled in quality, and of useful sizes for Statues, Tablets, Chimney Pieces, &c.—For prices apply to J. ROGERSON, Victoria Wharf, Pimlico.

MARBLE CHIMNEY-PIECES.—From the new method of working marble by Patent Machinery, the cost of every variety of Marble Chimney-pieces is now reduced to [illegible] half the price which will enable the builder to get a good vein Marble Chimney-piece for 2*l*., and completed in a superior manner, at the Westminster Marble Company's Works, Earl street, Millbank.

Masons and [illegible] Agents are allowed a liberal Commission.

CAEN STONE.—Contractors requiring supplies in whole cargoes to London or any part of the Coast may obtain every information as to Price and present rate of freight, on application to Messrs. W. and J. FREEMAN, Millbank-street, Westminster. [illegible] there is considerable Stock at their Sufferance Wharf, Deptford, as usual. None but the best [illegible] stone is always [illegible] exportations from Caen.

CAEN STONE.—LUARD, BEEDHAM, and Co. beg to inform Architects, Surveyors, Merchants, Builders, and others, they are importing, by large and frequent [illegible] CAEN STONE of the BEST QUALITY, from their Quarries [illegible] season.

L. B., and C. invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

[illegible] with dispatch to all parts of the United Kingdom.

Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most [illegible] manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the [illegible]

FONTS [illegible]

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from .... 12s.
Vein-Marble „ „ .... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

Goods Landed, Housed, and [illegible]

MAGNUS'S ENAMELLED SLATE.— Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c. &c. This beautiful material has been introduced into Buckingham Palace, the drawing-rooms at Osborne, Apsley House, Strathfieldsaye, &c. &c., and it is now taking the place of marble in the mansions of the nobility generally. It is also [illegible] Government offices, the principal railway stations, and other public buildings. It can only be [illegible] marble by its superior brilliancy of polish, [illegible] less liable to chip at the edge, than marble. The choicest [illegible] black and gold, sienna, jasper, verd antique, jet black, &c. are not more than one-third of the price of marble. Among the articles manufactured at the Pimlico Slate Works are chimney pieces, consoles, billiard and table tops of all descriptions, pedestals, pilasters, columns, plinths, [illegible] tablets, baths, washstand tops, &c. &c. Cisterns, dairies, shelves, flooring and paneling, work in general executed on exceedingly moderate terms. Welsh slate slabs, of the finest description, at very reduced prices. N.B. The trade supplied with whole cargoes, self-faced, or planed on one or both sides, direct from the quarries.—A book of prices will be forwarded on application to Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

THE BUILDERS' BENEVOLENT INSTITUTION.

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TREASURER.—Mr. George Bird, 33, Edgware-road.

SECRETARY.—Mr. William Grubb, Hawley-road, Kentish-town.

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Mr. Charles Jackson, 3, Paradise-terrace, Holloway.

[illegible] Samuel Scott [illegible] Cavendish square.

[illegible] Messrs. Jaques, Edward, Jaques, and Layton, 8, Ely-place, Holborn.

The Committee for carrying into effect this laudable charity, earnestly solicit the aid of all those connected with the trade to enable them to commence granting relief to the decayed and [illegible]. The Charity, although in its infancy, bids fair to be one of the noblest institutions in London, and purposes to be extensive in its operations, perhaps more so than any institution of a similar description in the kingdom; for, although the first principle is to assist decayed Masters, their Widows, and Children, it will also afford relief to Workmen in case of accidents, without the necessity of [illegible] members of the institution, and thereby save them destitution and misery their families during the period of affliction. The Committee have pleasure in stating, that the fund for raising the "Builders' Alms-Houses" is satisfactorily progressing, [illegible] as soon as the required sum is subscribed, a meeting will be called to decide upon the expediency of carrying out the intention.

The first Anniversary Dinner in aid of the funds of the Institution will take place in July next, particulars of which will shortly be advertised: Gentlemen kindly accepting the office of Steward will not in any way be liable for the expenses of the Dinner.

Subscriptions and Donations will be thankfully received by the Bankers, the Treasurer, and the Collectors.

The Rules and Regulations of the Charity, and other information, may be readily obtained of the Secretary, at the Office, Poland House, Broad street, Golden-square, on Mondays and Thursdays, from Ten to Four.

The Builder.

No. CCLXXVI.

SATURDAY, MAY 20, 1848.

ON all sides of us accumulate pamphlets, reports, speeches, letters, and suggestions, respecting the great and pressing question of sanitary improvement. We should half fill our journal every week with communications on the subject of drainage alone, were we to insert all the readable letters upon it which we receive. Large drains *versus* small drains; new materials for drain pipes; construction of *double* sewers, one for the surface drainage, the other for the house; drainage of Westminster, and impeachment of the very rev. and sanitarial Dean for fever-giving; and abuse and defence of the City Commissioners of Sewers, are some of the especial matters treated of by our latest correspondents. As to the general subject, an allusion even to all that is said upon it throughout the kingdom is quite out of the question. And most gratifying it is to find this has taken such hold of the public mind that, midst the thrillingly exciting events of the day, revolutions more numerous, important, and wide-spreading than the world has before witnessed, it still holds its place, retains attention, and will, it may be reasonably hoped, be now properly dealt with. Every writer or speaker against the Ministerial Health Bill now before the legislature, begins his opposition by declaring his anxiety to obtain sanitarial improvement by *proper* means, — the necessity of rescuing large bodies of fellow-creatures from pestilence and filth. All say that some legislative interference is necessary, and all are beginning to admit the connection between dirt and immorality,—want of light and air and the prevalence of crime. It startles us now-a-days to hear any deny it, at least one in the educated classes. As, for example, Mr. Henry Drummond, who said the other night in the House it was *idle* to connect the moral condition of the people with the place in which they lived. What had malaria to do with education? and as to the connection of dirt and disease with ignorance and crime, "*Credat Judæus non ego,*" exclaimed the learned and eloquent member. Whether he does or does not, however, not merely the Jew but the Christian also does believe it,—they cannot disbelieve it if they have looked at all into the matter,—it is a certain and established fact: as certain as that prejudice is the spider of the mind, and weaves its tangled and obstructing web over every opening through which light should enter.

The Bill has been opposed, in its details, in every stage, but is nevertheless making way, and will probably pass the Commons within a few days. There is a general unaffected sympathy, as Lord Morpeth has remarked, on the part of the majority of the House, with the real objects of the Bill, and this has enabled him to overcome the few objectors, who, taking advantage of the difficulties which manifestly beset the right disposal of the question, have endeavoured, by all the means in their power, to prevent its progress. Mr. Bright, in the course of the debate, justly remarked, "It must be clear to every one that such a Bill on its first introduction must necessarily be very incomplete. If her Majesty's Ministers possessed the wisdom of a Solomon, it would be impossible for them to bring in a Bill consisting of upwards of 150 clauses, that would not require many amendments. All he asked was, that hon. gentlemen would come to the consideration of the Bill in the same spirit in which it was proposed. It was quite clear that there existed no wish on the part of the Government to force any objectionable clauses on the country. He believed that with care they might be able to produce an acceptable measure, but if hon. members pertinaciously adhered to points of no material importance, they would not only retard the measure, but add considerably to the difficulties which belonged inherently to the subject." This willingness on the part of Government to accept suggestions, was shewn by the abandonment of the paid commission, and the adoption of some alterations proposed by Mr. Henley, which materially lessen the objections urged against the Bill, on the ground of *centralization*,—a cry which has been raised against it, and is always, with good reason, strong with Englishmen. Lord Morpeth has said more than once, that his only desire is to promote some good practical measure, and that he cared for this a thousandfold more than for any credit that might be supposed to attach to a positive adherence to an original proposition;—honour to him for the feeling.

As to taking away the power from the hands of local boards, he stated there were no less than 300 towns without any local act: and that where there was an act it was not intended to interfere with it by this Bill, without an order of council, coming under the knowledge of the House, and an Act of Parliament applying to the place in question. Where there was no such local act, the Queen, in council, was enabled to apply this Bill. The central board would not interfere with their acts, but simply give the inhabitants the power of appeal against any violent exercise of power by these boards.*

The exclusion of the metropolis, the ground of another attack, is certainly a weakness, but tells its own tale. London was not willingly excepted, and once get the present Bill passed, and the omission will speedily be remedied.

The proceedings of the City in respect of sanitary arrangements, form the subject of several communications to us, as we mentioned at starting. Some of our readers have seen in the daily papers, a copy of a letter addressed to Lord Ashley by the City Remembrancer, denying, as false and unfounded, certain charges made in a "Report of the Sub-Committee (Health of Towns' Association), on the answers returned to questions addressed to the principal towns of England and Wales." The sub-committee have issued a slashing reply to this letter, which, taking up the statement made by the corporation in 1847, that "the healthfulness of the city is not to be surpassed," puts together some startling evidence to the contrary. In conclusion, it asks this question of Lord Ashley, to whom it is also addressed:—

"But after all, my lord, the great issue which should be placed before you, on which this corporation should be tried, is their deliberate and constantly repeated and recent statement, that 'the City of London, for health, cleanliness, effective drainage, lighting, and the supply of water to the inhabitants, cannot be surpassed.' Are these allegations true, or are they false? You yourself have visited the courts and alleys of the City of London, in which the poorer classes reside, and which are included in these unqualified assertions. Are these places provided with sewers and drains which do not emit offensive odours? Are they provided with an ample supply of water fit for the use of human beings? Are the lanes and alleys which you visited cleanly, or is cleanliness possible with the arrangements which you witnessed? Did the people whom you saw, the children and the adults, appear to you to be healthy, and did they express to you their satisfaction with the comforts afforded them by the city authorities? We beg leave to call upon your lordship as a witness to state the facts as you found them; and to take respecting them the course which, as a member of the Legislature, and with your sense of the duties belonging to that high office, you think the truth and the public interests, and especially the interests of our poorer brethren, require."

To which Lord Ashley gives the following decisive reply:—

"I have perambulated not a few of them in company with a medical gentleman, and I must unhesitatingly offer my emphatic and deliberate testimony, that the language and description of the letter you have just addressed to me, fall short of the real abominations which are hourly endured by the wretched inhabitants of those courts and alleys.

It is affirmed, you say, by some of your opponents, that 'the City of London, for health, cleanliness, effective drainage, and the supply of water, cannot be surpassed.' It may be so: science may, possibly, have done its best in the metropolis of the British empire. Unlearned as I am in these matters, I do not presume to give an opinion on that head. But, if such be the case—if knowledge and zeal can do no more for the physical benefit of these masses of living beings, why, then it is evident that thousands upon thousands are inevitably doomed to a disgusting and hopeless degradation."

In the reply made by the sub-committee there are some personal observations in a bad tone, which disfigure the pamphlet, and might well have been omitted. We should not have alluded to it in the present instance, but that we observe a growing tendency amongst those whose views are now becoming predominant to indulge in this vein.

We have the same fault to find with a report by Mr. John Phillips on the "Report of the Committee of the Marylebone Vestry on the sanitary condition of the Parish;" the tone of which must be peculiarly unpleasant to the gentlemen forming that committee, who conscientiously and laboriously executed the duty which was confided to them. Some of the gentlemen who hold the now received opinions, for the early setting forth of which we could justify a claim to part of the merit, entertained different views on the same subjects only a few years ago, and should therefore view with forbearance, if not consideration, the conscientious opinions of others, even if erroneous.

In some cases, indeed, the comments are really unjust. For example, when we read in Mr. Phillips' observations,—"In regard to house drainage, they simply recognise the cleansing and emptying of foul and overflowing cesspools, and a more equable and better supply and application of water. The general and entire abolition of those noxious and pestiferous receptacles is not deemed essential; and all reference to the important subject, of a complete arrangement and construction of a drain from every house, with an efficient water-closet, and a well-regulated, copious, and continuous supply of water thereto, as well as for the use of the inhabitants, is omitted, showing how little even the Sanitary Com-

* A provincial paper, the *Hamephire Advertiser*, in an article objecting to interference with the local boards, mentions a fact which in no way strengthens the view taken by it, namely, that "the Southampton Improvement Board has borrowed the whole of the twenty-five thousand pounds it was empowered to raise, and it has not accomplished more than half of the work—that of the sewers—which a high authority, now in the town, Dr. Knox, has this week told them are, so far as they have gone—*a failure*."

mittee are alive to the subject of sanitary reform,"—we should scarcely expect to find that the parish committee say:—"Every person who has at all considered the subject, must be aware that the formation of cesspools underneath and contiguous to inhabited houses, is a fearful source of sickness and disease, and yet the formation of these noxious depositories of filth has been for a long series of years absolutely forced upon the public by the mistaken practice, on the part of the Sewers' Commissioners, of preventing any drain from a privy being laid into a sewer;—of late, however, and since public attention has been drawn to the evil of a frightful accumulation of soil, the Commissioners themselves have become loud in their condemnation of cesspools, and willingly allow that the drains may be laid into the sewer."

Further, that the committee dwell strongly on the importance of obtaining a constant supply of water; point out that the want of it is an "evil of the most fearful character;" that there is no water in the parish to cleanse the drains, which they consider so essential to health that they cannot too strongly urge such an alteration in the law as shall give control over it.

Enough, however, on this head: we hope what we have said will not be without effect. Mr. Phillips' report contains many good remarks: take, for instance, the following on road-making:—

"The essential requisites of good paving consist in having a perfectly substantial foundation to bed it upon, with a hard and even surface, which shall be free from mud, dirt, dust, damp, hollows, and stagnant pools, and in its being laid so that the rain may flow off quite freely and as fast as it falls. Upon examination, however, of the streets of the metropolis, it will be found that the paving of but few of them in any way meets these conditions.

"The chemical and mechanical properties of stones are of much importance as affecting the durability and economy of roads. Those roads which have been made under strict engineering direction are decidedly the soundest and the best. The keeping of roads dry and in good condition is a matter of the utmost importance to the public. The houses on the sides of the streets of a town throw a shade on to the roads, and thus prevent the sun and wind from exercising their drying influence upon the paving. Roads formed of hard paving, laid on a solid foundation, are not nearly so much affected by atmospheric changes as they are when the paving is placed on a wet, yielding bottom—as of clay, or of soft-made earth. Weak-bottomed roads yield to pressure, and are injured, by carriage traffic passing over them, to a much greater extent than those roads which are laid on solid and firm bottoms. The wear on a weak wet road is considerably greater than on a solid dry one; therefore the drier and cleaner a road can be kept, the less will be the wear upon it. Wet adds to the grinding power of a road the same as to a grindstone, which, when dry, has but little grinding effect: hence the necessity of a sound, solid, compact foundation, with hard and even stones for the surface, which should be laid so as to be kept dry and clean, and free from mud."

The following comment on a very common error may be useful:—

"Hitherto no control has been exercised, either by parish or other authorities, over the laying out of plots of ground for building purposes, nor over the formation of streets and roads; consequently, their directions, widths, levels, and inclinations one with another, have been usually arranged and formed according to the caprice, and to suit the conveniences of the respective freeholders and builders, the public accommodation being seldom or never considered. These evil results are in a great measure, however, brought about by a regulation of parish boards not to take to any road, street, or place, without it be first paved or gravelled, and in good condition in either of these respects. The knowledge, among many of the freeholders and builders, that so soon as a street is paved or gravelled it will pass into the hands of the Parish Paving Board, causes them to pay little or no regard either to the nature and quality of the materials of the substrata, or to the labour necessary to the production of a good and substantial street."

Another report from the same officer is now before us,—on the improvement of the drainage of Westminster; but we cannot now enter upon an examination of it. The levels of Westminster are such that the sewage can only pass off when the tide is below the level of the outlets; it is, therefore, pounded in them during the time the tide is above the level of the water within them. The chief point of the report is the recommendation of the use of water-wheels to raise the sewage, so that it may be discharged at any hour of the tide, or carried away for the purpose of manuring land.

The miserable condition of Westminster in respect of drainage is well known: there are many houses there wherein it is physically impossible that the inhabitants can have good health, and something should unquestionably be done to remedy it. The fever which has broken up the Westminster School, and laid in bed the families of some of the prebendaries, will probably aid the movement. On what ground we know not, the evil has been ascribed to an attempt of the Dean to deodorize the drains,—Mr. Frewen, a member of the House of Commons, said so during the late debate on the Health of Towns Bill, and added gravely, that a medical man of very great experience had informed him only that morning, that if these sanitary improvements were persevered in the doctors would soon make their fortunes!

Let the immediate cause of the sad occurrence be whom or what it may, it cannot fail to strengthen the already impregnable position of those who are fighting for good drainage, and other sanitarial arrangements.

THE ROYAL ACADEMY.*

564. "Departure of the Emigrants," F. Goodall, a poetical subject, but scarcely equal to former works by the artist. The sizes of the figures are too large for his style of painting. 580. "Corfe Castle, Dorsetshire," W. Linton, painted with the accustomed power, judgment, and knowledge of light and shade of the artist. 648. "Blowing Bubbles—the past and the present," G. Harvey. The incident of children blowing bubbles in a cemetery is exquisitely beautiful, though perhaps not novel. The artless grace of the little girl who essays to catch one of the types of worldly uncertainty in her apron, half timidly expecting it to burst ere caught; the eagerness of the two urchins grappling for the possession of one invitingly floating in mid air; and the disappointment of him who, grasping at the deceitful reality—certain of its possession, finds it explode, leaving naught to account for its evanescence or previous existence, are beautifully characteristic. This fine picture ought to have had a more prominent position assigned to it. We are glad to hear it is purchased by the London Art-Union.

681. "The Soldier's Return," an incident in the life of Burns. An agreeable picture of a popular class, painted by T. Brooks, too high up in the Miniature-room to be seen to the best advantage.

The portrait painters scarcely hold so prominent a position this year as usual.

The veteran Pickersgill exhibits seven ably-painted portraits, in addition to his picture already noticed, including the Hon. R. H. Clive (156), Dr. Moore, of Lincoln (209), Sir James Ross (366)—the man himself,—and Henry Beaufoy, Esq.

Watson Gordon's "Sir William Newbegging, M.D.," (71), is one of the best male portraits exhibited: the head is like that of the Gevartius.

Grant's female portraits are always beautiful. 67, "The Ladies Mary Fitzalan and Adeliza Fitzalan Howard;" and 223, "Mrs. Charles Lamb," are charming specimens.

Knight's powerful painting is exhibited in (218) "Portrait of James Bentley, Esq.;" "Portrait of John Moore Stevens; the Venerable Archdeacon of Exeter," &c.

321. "The Peninsular Heroes," by the same, is well known, through the engraving, for the likeness to the respective distinguished individuals represented.

56. "Portrait of R. B. Ward, Esq., of Bristol," and (353) "Portrait of I. K. Brunel, Esq.," by J. C. Horsley, are fine likenesses, and good works of art.

A "Portrait of Lady Holland" (307), by G. F. Watts, is remarkable for its peculiar tone and elaboration.

172. "Portrait of H. A. Layard, Esq.," the Persian traveller, by H. W. Phillips; "My Mother" (167), T. F. Dicksee; 298, "Lady Ashley," J. Lucas; (462), "The Son of Mrs. Ireland Jones," J. Sant; (582), "M. Guizot," G. F. Watts; with others, attract attention, either by their likeness to the originals, or artistic quality.

In the Miniature Room there are some performances equal to anything exhibited, considered as works of art. What can be more beautiful than the "Viscountess Downe and her Family," by Thorburn, arranged with so much simple elegance, and coloured with a truth to reality almost wonderful; or "Miss FitzGibbon" (755), wherein the depth and richness of colour obtained amazes one; or the classic representation of our Gracious Sovereign; or the powerful effect, conjoined with so much purity of colour, exemplified in 878, "Viscount Downe?"

The contributions of Sir W. C. Ross are no less admirable, although differing so widely from those of Thorburn. 810, "Mrs. Durant;" 819, "H. R. H. the Duchess of Saxe Coburg;" 820, "Monk W. V. Milbank, Esq.;" 828, "Child of Alfred Montgomery, Esq.;" 838, "The Countess of March," &c., are first-rate miniatures.

Sir W. J. Newton exhibits eight of average excellence; Frederick Cruickshank four water colour portraits, in his usual vigorous and effective style.

The masterly ease with which Richmond produces such charming results has never been more advantageously apparent than in 1,060, "Three Daughters of Thomas Gladstone, Esq.," a picture, independent of its being a portrait; or in 1,048, "Two Daughters of the Bishop of London."

T. Carrick exhibits the complement (eight) of his peculiarly grey miniatures; amongst them is an astonishing likeness of "Samuel Rogers, Esq.," (890), and another of "William Wordsworth" (856).

A sweet little sketch of "l'Allegro and Penseroso" (967), by J. C. Horsley, from its unobtrusive appearance, does not attract the attention of a casual observer, but deserves it.——In 976, a nice "portrait in crayons," by a young Scotch artist, J. L. Brodie, we recognize the new wife of our clever friend "Mr. Newleafe."

985. "A Sketch for a Picture"—one of those charming little drawings for which Mr. Mulready is so pre-eminently celebrated; executed in pen and ink.

990. "Shakspeare's Seven Ages," a design to form the border and centre of a plateau, to be executed in porcelain. D. Maclise, R.A. Drawn with the accuracy, precision, and usual german feeling of the artist; the compartments of the Schoolboy, Justice, and the Slippered Pantaloon, seem the superior three.

Amongst the names prominent in the Sculpture *hold*, that of W. C. Marshall is con-

* See p. 217, and p. 231. Some of the gentlemen whose works in the architectural room were mentioned, have addressed letters to us discussing the criticism, but we cannot print them. One architect complains, good naturedly, that a portico which we said was a copy of that of the Agora at Athens, is not so, but "an accurate representation of that of the Temple of Diana—Propylæa at Eleusis. "We *may* have mistaken ante for columns; but the difference is, in reality, of no importance for the inference which was intended, namely, that architects now-a-days are not ashamed to exhibit as *designs*, what have no claim whatever to that title. They trace off a portico from the "Unedited Antiquities;" and thus "coldly correct and regularly low,"

"That shunning faults, one even tenor keep,"

the art loses all vitality, and all zest. We mean no particular reproach to the individual: the objection is to the system.

spicuous. The charming statue of "A Dancing Girl reposing" (1,320), an Art-Union of London commission, has turned out most satisfactorily in marble. "Cupid Captive" (1,332), and "The Last Drop—a Young Satyr Drinking" (1,361), are life-like, and happily conceived.

1,326. "Statue of Aurora stepping upon the earth, scattering dew," by J. Gibson, R.A. An exquisite impersonation of the morning deity—chiselled with the perfection of a modern Phidias. The use of a colouring matter as used here would, in most hands, produce an effect at once garish, out of keeping, and *infra dig.*

1,325. "Eucharis and Cupid," R. J. Wyatt. A graceful group in marble. 1,328. "A Charming embodiment of Thomson's Lavinia," by J. M. Spence. 1,330. "Innocence," J. H. Foley. "Statue of Clorinda Wounded by her Lover, from Tasso" (1,338), J. Bell, are amongst the chief attractions of the collection.

1,340. "Una and the Lion," sketch for a statue, J. Hancock. 1,362. "An Elf of the Stream," a sketch, and "Spring" (1,364), "Summer" (1,365), "Autumn" (1,366), and "Winter" (1,367), by F. M. Muller, demand and will repay examination.

The names of Bailey, R.A., Macdowell, R.A., Westmacott, A., are appended to some fine busts. F. Thrupp, Behnes, Kirk, Jones, Wyon, Haydon, &c., severally contribute.

ON THE RISE, PROGRESS, AND DECLINE OF ART IN ITALY, AND ITS REVIVAL IN ENGLAND IN THE PRESENT DAY.*

THE meridian glory of art was of comparatively short duration. Art fell at once almost from its highest elevation to its lowest degradation. The sun of Italian art set, like the sun in the tropics, almost without a twilight; and the careful and contemplative examiner of its history feels as if the sudden change was meant to impress him with the sublime lesson, that there is a limit to all human attainments, and that the tide of art having risen to so high a pitch of excellence, its waves, rolled back upon their native bed, should leave us only the emanations of genius,—the works of those men who had before no precursors, and have since had no peers, and which should remain to all succeeding ages, objects of wonder, admiration, and delight!

Various causes contributed to effect this sudden change in the condition of art, and all writers express different views on the subject. On one hand, a fierce and destructive plague visited Italy, swept like a deadly blight from the Adriatic to the Mediterranean, and laid low the fairest flowers of her genius. Prince and peasant, patron and painter, alike fell before its baneful breath. The aged Titian and his aspiring son were among its earliest victims, and no doubt it had a withering effect upon the prosperity of art.

On the other hand it has been asserted by many authors, that the great moral revolution which ushered in the sixteenth century, which shook Europe to its centre, and changed the aspect of Christendom, exercised an influence prejudicial to the well-being of art; and that in its whirlwind course it bore down the spirit that was most conducive to its growth. With this assertion I am bold to differ; and I cannot but feel that those who hold this opinion, either wilfully mistake, or strangely misapprehend, the nature of the Reformation; for it is to that great event that I refer. It was a leading object of that mighty movement to effect the emancipation of the human mind from the thraldom of superstition, to dispel the clouds which had for nine successive centuries enveloped Christendom; it had for its object, liberty of thought, of conscience, of inquiry: it had for its object, the "bursting of the bands that had so long confined Christianity, that it might return full of life into a world that had forgotten its former influence." These objects it gloriously accomplished, and with a giant hand opened up fountains of infinite knowledge to the thirsting millions of mankind! We must hold it as a universal axiom that what is morally right cannot be intellectually, or if you please, artistically wrong; and as it was right that the moral atmosphere of Europe should be cleared of the unhealthy vapours with which it was charged, it could not be that in its accomplishment the *real* interests of art were damaged, or its course impeded, so that we must seek for some other explanation of the cause of its decline. It is true, indeed, that the Reformation closed with an imperative hand, and flung aside those books of legendary fiction from which so many of the painters had selected their subjects; but did it not lift the veil that overhung society, and bid men look for incident in the moving pageantry of life; and did it not at the same time open wide the pages of divine inspiration, and bid them seek from thence themes for contemplation which should not only be capable of pictorial adaptation, but should carry with them the impress of eternal truth.

No doubt the real cause of the decline of art in Italy was the capriciousness and depravity of the general taste, ever fluctuating and uncertain. But it has been always so with human achievements and human distinctions. It is on the same principle that empires have risen, flourished, faded, and passed away; nations and men alike arrive at maturity, alike perish, alike are forgotten! Can you tell me of any thing in the wide circumference of this world's existence, or in the long list of man's achievements, that has for any great length of time maintained an equality of excellence? Change and decay are the most uniform in their action of all the laws of nature; and universal history is in this respect one vast elucidation of a principle that is embodied to perfection in a single blade of grass; there has always been the springing,—the growth,—the full development,—and then, the withering and decay; and with this philosophic view of the subject we must rest satisfied as the only explanation that can be given of the rapid decline of art in the sixteenth century.

Without staying, however, to decide this question, upon which I may be thought to have dwelt already longer than it was needful, it is clear that art *did* decline, and that suddenly, at least in all that constitutes its essential excellence. It is true, that for some years later schools existed in Italy, but they were of the worst possible class, for they generated a host of imitators who were worse than useless, and from the baneful influence of which Italy to this day has not recovered. It is true, also, that some of the best pictures that have ever been executed were produced after this period, but they were exceptions to the general rule: and even they were based upon the works of those painters who had raised the standard of excellence to its height in the age we have just been considering. Originality seemed everywhere to be extinguished.

Thus, the stream of art seemed arrested in its course, or, at least, it was turned into a very different channel; not, indeed, that it was ever lost:—no, gentlemen! as it is often said, "art never was really lost;" but it seems to remind one of that remarkable phenomenon which occurs in the course of a beautiful river of southern Europe, of which travellers relate, that, after it has gathered its rapid and abundant waters from the mountain heights, and poured them in graceful windings through the valleys of Carniola, on the confines of Austria, spreading beauty and fertility on every side,—it suddenly,—and without any apparent cause, takes an abrupt turn, and plunging precipitately into a cavern that yawns to receive it, disappears at once in the profound abyss. After being traced to some distance within the grotto of Adelsburg, it is altogether lost to view; but, wonderful to relate, though lost to sight, it still exists, for, at a few leagues distance, *it reappears*, suddenly bursting from the earth, not an infant stream, but a full-grown river, and, rejoicing in its recovered freedom, flows on without interruption till it reaches the sea.

Gentlemen, it was just so with the *stream of art*, and shall I say that it has been reserved for the present age to witness its emancipation, and that, after three centuries of obscurity, it emerges once more to light, and life, and liberty?

If you are not disposed to assent to the idea that such is the case, and that the position of England in the nineteenth century is as favourable to the growth of art as Italy was in the sixteenth, you will at least agree that there is a striking and healthful change in the public mind in this respect. Men are no longer in the habit of regarding art as a mere luxury, and the study of art as a mere accomplishment; they are beginning to assign to it its proper place in the scale of intellectual pursuits, and to acknowledge that it is capable, when rightly employed, of stimulating the best reflections, and implanting the soundest morals; that its tendency is to refine the taste, to mature the judgment, to extend the powers of observation, and in every way to improve the mind! The public are beginning to manifest a greater interest in the *mental* excellencies of the works that are submitted to them, and to care *less* for the straws of mechanical dexterity which float only upon the surface, than for those pearls of sentiment and truth which always lie deep. But without employing longer time in considering the manner in which this improvement shews itself among the masses of the community, we come to consider the question of Government patronage, and the influence it may be expected to exert on the arts, as it is now a leading feature in its existence amongst us.

And here let us observe, that up to the Medician days of art, no Government had taken up its cause, and given to it a special protection and support. The assistance it had received from the papal heads of the church was mostly confined to the production of mosaics; but in the middle of the fifteenth century, the Medician family, who then exercised the powers of sovereignty in Florence, adopted the arts as objects worthy of their especial protection; and to their high example and influence painting is mainly indebted for those brilliant productions of which we have already spoken. From that time the progress of art was a triumph till it reached its height. Beginning under the government of Cosmo de Medici, we trace a steady progressive advancement up to the time of Leo X.; so that, if we are right in arriving at conclusions from the experience of past ages, we must feel that it is desirable to have the protection and countenance of the legislative power. So far we may congratulate ourselves that England has at length been induced to take into consideration the claims of art, and to recognise it as a national benefit. What may be the results of the measures proposed, or with what spirit they may be carried out, remains to be seen. At present we cannot think the result at all satisfactory or encouraging. The experiments which have been made, though in some respects successful, have not been such as to give the country a correct idea of the state of British art and the power of her artists on the one hand, or to give the painters and sculptors full confidence in the Government arrangements on the other hand. The *competitions* have been conducted in a manner involving so much uncertainty, that scarcely any of our greatest painters have been induced to enter the arena; nor has the liberality of the Commission been sufficient to enable those who have the struggle of existence to maintain, to depart from the beaten track in which they have been seeking the means of livelihood. When we examine the spirit and manner in which public competitions were conducted in the days of Florentine prosperity, from the beginning of the fifteenth century, and compare it with the competitions of our own times, we find it difficult to sustain any great hope of steady assistance from such a quarter for the present. When, for instance, we read the account given by Vasari of the competition for the gates of San Giovanni (which may be justly considered an epoch in the history of art, and which rendered Ghiberti so illustrious), and compare the munificence of the Florentine republic with the parsimonious character of our own Government, we find a difference which tells sadly against us. It may be interesting to give a brief account of the competition referred to.

The signori, or members of the chief government of Florence, acting in concert with the consoli, or representatives of the guild, were desirous in the year 1401 of erecting a second gate to the baptistry of St. John, as a companion to the first gate, which was erected in 1330, and had been for half a century the admiration of all Italy; they made known this munificent intention to all the Italian States, and consequently the best artists of the day assembled from Florence, Sienna, and Bologna, to enter into the competition. From among a great number seven, were selected as

* See p. 229 *ante*.

worthy to compete for this great work, on the following liberal terms:—each competitor received, besides his expenses, a fair indemnity for his labour for one year; the subject proposed was the sacrifice of Isaac, and at the end of the year each artist was required to give in a design, executed in bronze, of the same size as one of the compartments of the old gate, *i.e.*, about 2 feet square.

"There were thirty-four judges, principally artists, some natives of Florence, and some strangers; each was obliged to give his vote in public, and to state at the same time the reasons by which his vote was justified." Vasari gives the names of the seven competitors: the successful one was Lorenzo Ghiberti. "When the works were compared in public, it was found that only three of them combined the various merits of composition, design, and delicacy of workmanship; these three were Brunelleschi, Donatella, and Ghiberti. The suffrages seemed to be divided; but after a short pause, and the exchange of a few whispered words, Donatella and Brunelleschi withdrew, generously agreeing and proclaiming aloud that Lorenzo had excelled them all, and that to him belonged the prize; and this judgment, as honourable to themselves as to their rival, was confirmed amid the acclamations of the assembly. This gate was twenty-one years in completing, and was said by Michaelangelo, in his own emphatic, and perhaps extravagant language, to be "worthy to be the gate of Paradise." * * *

After recent proceedings, all overtures will be received with great caution from our Government. We have still, however, a wide field open for the exercise of professional skill among the intelligent ranks of our trading fellow-countrymen. It is to the *country in general* we must turn our attention; and happily for the position of art in England the task at present will be that of directing and assisting to maturity taste which already exists to a considerable extent. In this respect the present day is as promising as any which has preceded it, for among the wealthy merchants of our land I am happy to know that a feeling of the most favourable kind exists, and that the vapid knowledge which shewed itself till lately among the collectors of works of art in this country, is fast disappearing: for it consisted only in the acquisition of a few technical phrases by which they could descant upon the gloomy mysteries with which they had covered their walls, and while they talked of "silvery tones," and "melting distances," and all the other cant of connoisseurship, knew nothing of the real excellence of art, nor felt any sympathy with those who laboured to give it an intellectual and moral bias.

We are in the habit of referring to the Medici as the best examples of enlightened and judicious patrons, but let us bear in mind that the Medici were merchantmen, and if they were the merchant princes of *their* times, England has her merchant princes too, men as liberal in their views, as elevated in their tastes, as noble in their sentiments—many of whom have already expressed an intelligent interest in the welfare of art, and seek its permanent success, while others are waiting only the talismanic touch that is to awaken them to a clear appreciation of its high claims. Let us, however, rightly understand the Medician patronage. It was a patronage like that which Pericles offered to the Grecian artists, and which acted in sympathy with the public feeling, for it was in the height of their citizen power, when they felt *with* the people, *like* the people, *as* the people, that the Medici commissioned Raphael, and allotted the walls of the Florentine council chamber to the pencils of Buonarotti and Da Vinci. I do not for a moment use these terms in the modern political sense; I mean only that the safest and most lasting patronage will be that which arises from an intelligent knowledge of art, and an acquaintance with the artists.

Before closing this part of my subject, it may be expected that, having spoken of Government assistance, I should make some observations on that peculiar patronage and aid art has derived from the combined efforts of the community in general—I mean the ART-UNIONS, the operations of which are altogether peculiar to our own times. The consideration of this subject, to do it justice, would require of itself a whole paper,—I will therefore only attempt an allusion to the subject, as the council of the Institute are about to invite attention to the present position of these societies. They have been, I do not hesitate to say, more instrumental in communicating a knowledge and love of art among the mixed masses of the community than any other means that have ever been employed; and I feel sure that the benefits that have already arisen from their operation are much more extensive than the profession themselves are generally aware.

It is so difficult a thing in a country as commercial in its spirit, as England has ever been, to draw public attention to the subject of the arts, and keep it there,—that if the promulgators and committees of these associations had effected no other benefits, this would have been sufficient to entitle them to the lasting gratitude of every member of the profession. How much more then when we consider the variety and extent of the benefits to which they have given rise; for by the periodical and accidental distribution of works of art throughout the country, they have deposited in many a rural district and in many a provincial town so many silent witnesses for art, which have, in numerous instances, aroused a taste that has resulted in the formation of some of the very best private collections. They have thus considerably increased *private patronage*. To this I will only add, that the direct assistance they have given to the artists, themselves has not only been to the *young*, who have to struggle with the first difficulties of their precarious profession, nor to the *advanced*, who have not yet overcome those difficulties,—but it is a peculiarly gratifying feature of their usefulness, that they offer their help to those who have, it may be, outlived their reputation, and who, having toiled through the long summer day of life, have found that, when their popularity was on the wane, and the favours of fashion were being withdrawn from them, they might have been left to pass their last few years in privation and want, but for the opportunity thus afforded them of disposing of the works they are still able to produce. All honour, then, to those who introduced them among us, who commenced and have continued their arduous and disinterested labours in the face of continued difficulty and annoyance, sustained, throughout, by no other motives than a desire to promote the prosperity of British artists, and the wide diffusion of British art!

It becomes, then, the important question, how we can arouse and extend that feeling throughout the empire which is necessary to maintain the steady growth and full development of British art. We want the patronage and support of those who feel that it is capable of exercising a beneficial influence over all classes of society, and over every department of trade and manufacture; we do not care for that interest in its welfare which ebbs and flows with the fluctuation of commercial prosperity on the one hand, or political power on the other. I do not attempt to draw any definite conclusions, or even to suggest any positive line of action; I merely throw before you these few remarks, with a view to ascertain the position we occupy in the great chain of art, and that we may not lose sight of its high purpose and aim. If I were to attempt a practical application of my remarks, I would ask if you do not discover, in this view of a subject in which we are all so deeply interested, the great necessity that exists for a unity of feeling and action among the great body of artists; if you do not feel how desirable it is that we should have in full and vigorous existence a society—such as, it is hoped, our own institute will become—which shall stand prepared to take cognisance of all questions bearing upon art, and to ward off every danger with which it may be threatened. It must occur, indeed, to every contemplative mind, that the aspect of the times, the unsettled condition of public affairs, and the uncertainty that everywhere prevails, are by no means favourable to the advancement of art. The nations of the world heave and swell like the billows of some stormy sea, and the minds of all thinking men are filled with apprehensions, which they can neither dispel nor define. What would become of art in the midst of long-continued political commotion I cannot pretend to say. It is a plant of tender growth, and flourishes best when nations are at peace; and though it might bend before the blast, and still retain its hold upon the soil, yet for a time its fruitfulness would be impaired, and its leaves and blossoms would be scattered and dispersed; while those who, like ourselves, have clustered under its shadow, would be left exposed to all the fury of the storm. We must wait in patience, however, the tide of public events, and hope, that as the prosperity of art is bound up in the prosperity of our country, both may remain uninjured and unscathed by the political whirlwind that is sweeping round us. In the meantime we must endeavour, each in our particular department, to invest our works with more than a superficial value, so that whether we tread the higher walks of religion, poetry, and history; whether we embody the events which belong to the progress of nations, or whether we confine ourselves to the humbler walks of familiar and domestic life, and the happy incidents of the cottage homes of our country, let it be the effort of each and all not only to *please* the eye, but to *impress* the mind; not only to "point a moral or adorn a tale," but to stamp religious and intellectual worth upon our productions, that they may tend "to mend the manners and improve the heart." It will then not be too much to hope, that as England has ever been the foremost in literature and science, the foremost in legislature in commerce and in war, the foremost in diffusing Christianity throughout the world, so she may also, as the patroness and protectress of the arts, maintain her triumphant position,—the foremost among the kingdoms of the earth!

T. F. MARSHALL.

UNWISE PROCEEDING OF THE GOVERNMENT IN RESPECT OF WORKS.

THE conduct of the ministers, particularly of the Board of Works, at this period, appears to us the most dangerous and unstatesmanlike that can be well conceived. At a time when private enterprise in building is effectually suspended, and both public and private works are rare, at this critical period, when tens of thousands of operatives are out of employ and their families are suffering every possible privation, the Board of Works also suspends the works of the Crown, and adds hundreds to the numbers of suffering workmen. The works at Buckingham Palace are, we believe, stopped; those at the Houses of Parliament considerably curtailed, and crowds of able, active, industrious, and worthy workmen turned adrift to starve. Can it, therefore, be matter of surprise if some discontent do exist? Men cannot starve, and see their wives and children struggling with all the privations of destitution, and not feel that their existence ought to be one of the cares of the Government. Here are works of necessity, of utility; works which bring into play the productions and skill of the country and hardy artisans; ought they to be discontinued, and the latter left to starve? If economy must be practised, let those who are receiving for nothing their thousands a year, be called upon to forego, in part, the increase to their riches. The Government, at all events, ought not to suspend active operations; they should set the example of executing useful works, and not thus paralyse the nerves upon which the happiness, nay the existence of the empire depends.

LEEDS SCHOOL OF DESIGN.—The exhibition of pupils' drawings has been highly spoken of in the local papers, and by crowds of visitors. There were 400 drawings. The school was opened little more than a year since, and it is said to be in a fair way to the accomplishment of its objects, namely, "the cultivation of the arts of designing, so as to make them applicable to the various manufactures of the town and neighbourhood; to improve and beautify the productions of the fancy clothier, the carpet-maker, the paper-stainer, the glass-manufacturer, the potter, the carver, the plasterer, &c., by raising the standard of taste amongst the consumers and purchasers of all such articles of use and decoration, and to cause an increased demand for the best productions of skill and industry."

DE LA FONS' PATENT ROTARY LOCKS.

WE have recently examined with much care, and considerable pleasure, an ingenious and elegant rotary lock, invented by Mr. De la Fons, and manufactured for sale by Barlow, of Long Acre. The principle of the rotary bolt is applied not only to locks, but also to latches, fasteners for carriage doors, casements, and, indeed, to almost every description of fastening.

Amongst the advantages which Mr. De la Fons' lock appears to possess are, first, the impossibility of ever reaching the defences of the lock by any of the usual means, as all access to the interior is closed before the action of the key commences; secondly, whereas access to drawers, in particular, is frequently gained *without* the aid of a key, by springing the wood, without unlocking, or by forcing back the bolt with a knife or other instrument, this is most effectually prevented, the bolt being linked into the opposite frame of the drawer, and can only be separated by unlocking; thirdly, in all locks hitherto constructed, the bolt seldom has more than a quarter of an inch to move, while the patent bolt in traversing has to pass through several times that distance before it is released; and, fourthly, the usual means resorted to for defeating intricate and expensive locks, is by forcing away all impediments with a solid powerful key. This hitherto great defect is rendered impracticable by means of a peculiarly novel contrivance, so that if any attempt of the kind be made, the interior of the lock yields to extra force, and suffers the key to pass completely round without damaging or deranging the lock in the slightest degree.

In the best of the locks, the means of making several thousand changes in the wards are ingeniously provided, and of altering the key to accord with them; so that if a key be lost, others being in hand, the possibility of its passing may be immediately prevented, and the lock become, to all intents and purposes, a new one.

The sash-fastening has the advantage of securing sashes against rattling; and the casement latch appears to us a particularly nice arrangement.

FULHAM UNION WORKHOUSE COMPETITION.

WE have received a letter from Mr. A. Gilbert, of Blackheath, claiming the authorship of the prize plan, and begging "*to contradict the whole of the statement*" which appeared in our paper of the 6th inst., with reference to this competition. We are sufficiently alive to the importance of giving correct information, and would not risk the character of this journal by the insertion of anything of the verity of which we are not well assured. In this case we have made further inquiries; and the result, we regret to say, not only confirms the truth of our previous remarks *in every respect*, but adds facts further proving the confusion of the attempted adaptation. Our observations were definite and distinct, and the accuracy of most of them may be easily proved by any member of the Board who doubts it and will bestow the requisite trouble. Our authority for the statement that the design was made by the master of the Greenwich Union is that person himself, who states it publicly to strangers: if it be *untrue*, the sooner he is made to unsay it the better; if *true*, the architect of the building copied should bestir himself, to prevent a repetition of the circumstance: this is a proceeding which really concerns all architects.

We are sorry for Mr. A. Gilbert's unqualified contradiction, because it compels us to remind him of his recorded admission at the board, that he had not prepared any *sections*, or a *block plan*; and he knows he has *increased* (by figuring) many of his *main walls*, at the suggestion of the surveyor of the Poor Law Commission (from one brick), and has now *again* to do so, at the instance of the official referees; the want of the necessary specified accommodations, and the wrong drainage, are notorious, while the copyism has been proved before the board, by comparison with the published plans of Greenwich. The guardians still say, that they have made no decision, and yet the author has been permitted extensively to alter his plans, to send them to the authorities, and to profit largely by the hints of others. We could add other startling facts, shewing the serious error committed by the guardians, but abstain, because we believe them to be very honourable men, and that the error is the result of the want of proper advice alone. It seems our article helped to open their eyes at the last meeting of the board, and led to an attempt to elicit the truth, by appointing an independent architect to report on the plans. On this point, however, the board were equally divided, and it stands adjourned.

ILLUSTRATIONS OF THE EARLY HISTORY OF ARCHITECTURE — FROM ANCIENT MANUSCRIPTS.

THE study of ancient MSS., in their pictorial and decorative remains, has gradually established for itself an importance often higher than that which belongs to an attentive consideration of objects far better known, and of much greater pretension. Besides Strutt, a host of modern writers of less celebrity, have proved to what an extent the development of historical costume is indebted to the preservation of these dazzling records, while the recent publication of innumerable fac-similes from various examples elicits the fact that they are of no ordinary value to the decorator, who, in the composition of his designs, may thus turn to the borders of illuminated books for assistance, finding there the most perfect harmony of colour, the purest combination of ornamental forms, and a choice of subjects both from the animal and vegetable kingdoms of the greatest propriety for the purposes of his art. The habits, ceremonies, and progress of civilization among our ancestors they also serve beautifully to explain; and, in a department peculiarly interesting to the readers of THE BUILDER, Mr. Wright has strung together a series of copies, shewing the modes of building which were practised at particular intervals during the middle ages.* But no collection has hitherto been made presenting such architectural details, chronologically arranged, as frequently form the backgrounds of miniatures in ancient MSS. This deficiency it is the object of the accompanying engravings partly to fill up. They have been carefully selected, generally from those books preserved in the library of the British Museum, which may be regarded as favourable specimens of the art of each epoch which they serve to elucidate, and it will be noticed that nearly all of them exhibit features somewhat different from those possessed by cotemporary architectural remains. When we consider the accuracy which characterised the mediæval pencil in depicting events, costumes, &c., it may at first sight appear difficult to account for this circumstance. It may therefore be necessary to remark that, as in the middle ages, that propriety which regulated the designs for every species of decoration was never intruded upon,—as the glass-stainer never executed ornaments which would be entirely suitable for the purposes of sculpture,—nor the aurificer subjects which might be copied for monumental brasses,—so the borders, majuscules, and paintings which tended to make volumes from the 7th to the 15th century so exquisitely beautiful, were of a style peculiar to themselves; and even when architectural details were introduced into a miniature, they assumed a character which approached only to a certain extent, that of the edifices which at the same period inexhausted enthusiasm succeeded in constructing. But with all the peculiarity and isolation of MS. architecture, we are certainly able to perceive in every example of it the influence of cotemporary taste, to trace the lingering remains of Roman feeling in many Anglo-Saxon productions merge into a style of which disproportionate capitals and a multiplicity of arches were the chief characteristics; the bold Norman gradually give place to the elegant Early English; and the latter as soon followed by the crocketed pinnacles of the decorated, and the elaborate tracery of the perpendicular.

The first example (fig. 1) we have represented in elucidation is taken from one of the capitals supporting arches, which surmount the Eusebian canons at the beginning of the famous volume known as the Durham book. It is one of the few MSS. preserved, exhibiting native talent, uninfluenced in any degree by Roman intercourse: for it is a remarkable fact that the Romans, though possessing the entire domination of our island for several centuries, regarded its humble occupants in so distant a light, that the latter, for a considerable time, practised their own arts and habits with very little adulteration. This horizontal square-edged capital is not unfrequently met with in churches which there is good authority for believing to be in part Anglo-Saxon, those of Brixworth and Repton especially presenting it, but of course without any attempt at sculptured enrichment. The artist, in the instance before us, has taken a form not unusual in the architecture of his time, and decorated it according to his fancy and the requirements of his art.

Our second example (fig. 2) represents three capitals from the Gospels of Athelstan, a book written about A.D. 930, and upon which the Kings of England were wont formerly to take the coronation oath. These capitals are in the original richly decorated with gold, silver, black, lilac, and vermilion, a mode of embellishment which may possibly have been adopted in the interiors of Anglo-Saxon churches and dwellings. The principal feature in the design of the present specimens is the introduction of foliage which had not made its appearance in the illumination of MSS. when the Durham book was executed. This may be attributed to the increase of refinement, and consequent study of Roman, art about the 8th or 9th century.

(Fig 3) is taken from a beautiful Greek manuscript of the 10th century, in the Burney collection. The chair occupied by St. Matthew, and the tower at the back of St. Luke, executed partly in body colour upon gold grounds, have been selected as pleasing instances of the singular architectural taste of an age and country but little understood.

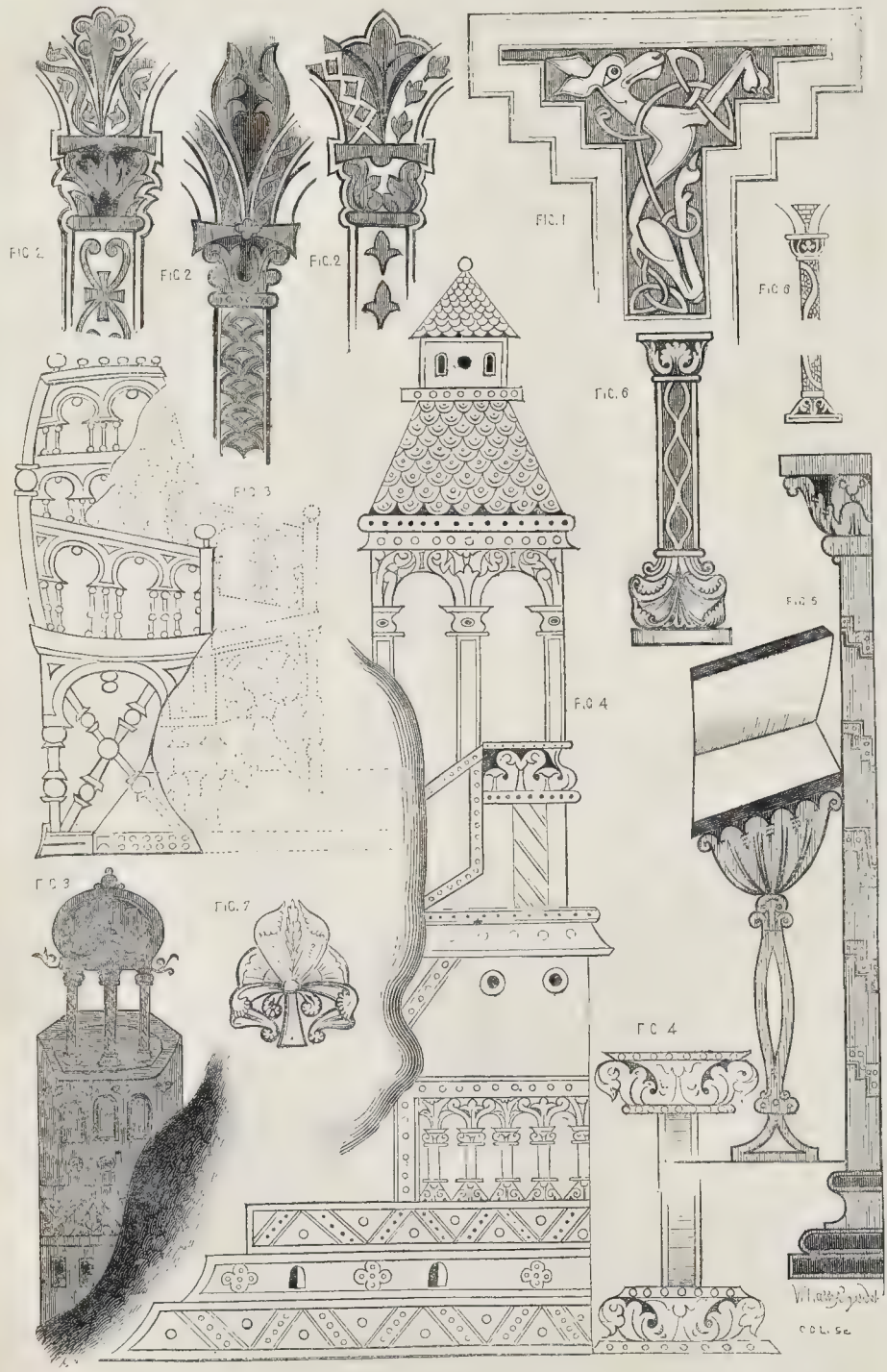
At the end of the same or the beginning of the following century, a work emanated from Hyde Abbey, which may be regarded as a rich store-house of information respecting Anglo-Saxon manners and customs. Its architectural illustrations are worthy of minute investigation. Two of them we have engraved (fig. 3) as more than ordinarily interesting. The first represents, in all probability, the gate of Paradise, and is an elaborate composition, combining nearly all the peculiarities of style in its mouldings and ornamentation. The pyramidal tiled roof, with overhanging eaves depicted in this drawing and many others coeval in point of date, shews the incipient longing after a spire which only much later may be said to have attained perfection. The foliage, wherever introduced, is eminently classical in character and borrowed from the Romans, while the mouldings offer the pellet, the zigzag and others, explaining the source whence the Normans derived their subsequent adaptations of these ideas. In the tall shafts supporting the roof we recognise (excepting that they are more enriched) the narrow pilaster ribs, so intimately associated with Anglo-Saxon masonry, and so well defined on the tower of Barnack Church, Northamptonshire. Our second illustration from the same volume, represents a column, with disproportionately large capital and base. The height of the shaft alone is 18 diameters. The capital itself in the form of its mouldings, however remarkable, may be compared with the Anglo-Saxon impost at St. Bennet's, Cambridge, while the disproportion between capital and shaft, displays itself more strikingly at Barnack and Corhampton. Thus we have good evidence for believing that these early drawings are in their broad masses to be depended upon, as correct types of Anglo-Saxon architecture, but that in all instances an ideal enrichment has been imparted to the details consistent with the taste of the period, but beyond what it was competent to effect.* In the

* See vol. 3, p. 246.

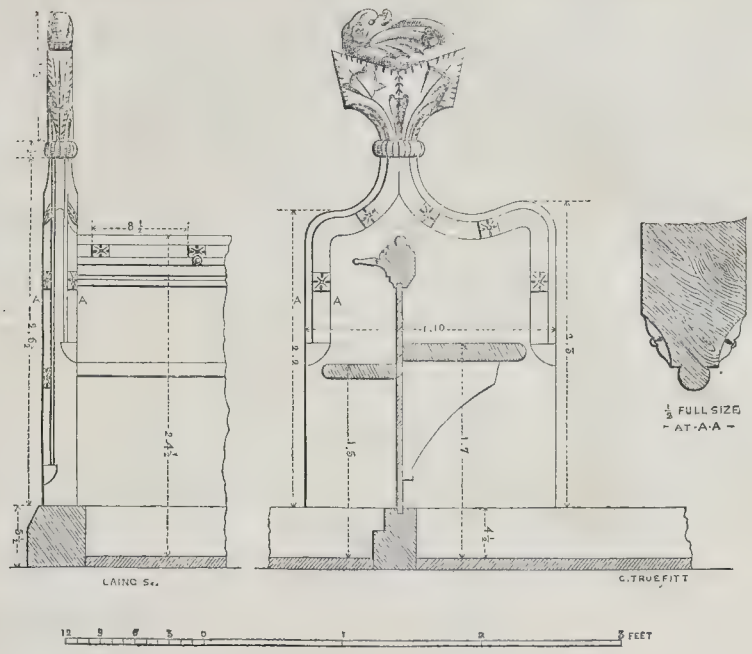
* In "Bloxam's principles of Gothic Ecclesiastical Architecture," (a valuable compendium, in which will be found engravings of several existing Anglo-Saxon details, to which we have referred in the course of our observations), occurs an acknowledgment of the extreme value of illustrated MSS. as throwing abundant light upon the study of ancient architecture. The author appears sensibly alive to their importance, particularly with regard to the Anglo-Saxon period, remarking that "of the illustrated MSS. of a date prior to the middle of the eleventh century, preserved in our various colleges and cathedrals, as well as our public libraries, a valid be carefully examined and the schemes of the architectural details taken from the drawings they contain, much light might be thrown on this interesting branch of research."

ILLUSTRATIONS FOR THE EARLY HISTORY OF ARCHITECTURE:

FROM ANCIENT MANUSCRIPTS.



BENCH END, ICKLETON CHURCH, CAMBRIDGESHIRE.



enormous length of the columns represented in these beautiful memorials, we may recognise the germ of that desire for attenuated form which struggled even through the Norman era, but only boldly confessed itself under early English supremacy.

Fig. 5 is an engraving of a lectern and column, from a magnificent MS. of the Vulgate (Harl: 2803), executed in Germany during the twelfth century. The work is of enormous size and full of head letters, formed partly of figures and partly of Romanesque foliage, ingeniously arranged. The lectern is very remarkable in form, and seems, with other similar designs of excessive lightness, to go far in showing that, during the Norman times, this was a desideratum, and would have been adopted in architecture had it been thought consistent with strength and durability, and with the peculiar mode of construction, which was then in vogue.

It is in the MS. architecture of this period, that we principally find the shafts of columns ornamented with patterns sometimes drawn as if to represent sculpture, and at other times merely as chromatic decoration. The bases of columns also begin to assume greater importance, both in size and character of enrichments than at any previous or subsequent period.

Fig. 6 from a curious book (Reg. I. c. vii.) of nearly the same period, evinces the applicability of the remark to two columns, one of which has a base of most preponderating dimensions, enriched with foliage of easy and happy composition.

Our last engraving, a species of finial, of the beginning of the 13th century, belongs more properly to the article which will follow the present essay.

New Water Colour Society. — On Wednesday evening this society lighted their gallery, and opened it to their patrons and many eminent persons. The various works, of which we have already spoken, were seen to good advantage.

CARVED BENCH ENDS.

We add to the examples of carved bench ends already given, a very nice specimen from Ickleton Church, Cambridgeshire. It is well adapted for modern use.

THE GAS MOVEMENT.

CURSORY COMMENTS.

In our recent endeavour to prove to the satisfaction of the Gas Companies, and from the official records of their own experience as a class, that immense reductions in the price of gas to the public have heretofore yielded, and would yet yield, no less large and increasing harvests of profit to themselves, besides co-ordinate benefit to the public, and more especially to the humbler and more numerous order,—we adduced so many strikingly curious and convincing facts, out of a still more numerous host, in support of our position, that our limits compelled us to postpone, till now, the following more or less obvious comments on the argument and the evidence in its favour.

As for the general conclusion itself, so clearly arrived at and established, that the greater the price the smaller the dividend, and the smaller the price the greater the dividend, —that, in short, the sure way at least to double the dividend is to halve the price, and that, although the higher charge may barely pay, or fail at all to pay, the reduction of that very price will not only soon redeem the previous loss, but, like a small yet fruitful seed in a fertile soil, yield double, triple, yea, even occasionally tenfold increase,—that is a conclusion which curiously exposes the anomaly, the gross and strange absurdity, of the basis on which the whole scheme of the economics of gas in general, in the hands of its 'directors,' has hitherto stood and struggled into dire experience, in spite of the suicidal opposition of its 'friends.' And certainly such a conclusion ought forthwith to lead to serious deliberation, and a change of counsel, on the part of those who have so uniformly and so stubbornly stood in the way of their own self-interests and the truest and highest interests of their constituents, the shareholders, till compelled by others to 'move on' towards that very goal, to attain to which alone with all possible haste they have themselves exclusively but blindly and erroneously aimed. If we have been fortunate enough to untie the bandage of blind fortune, by which their eyelids have plainly been hitherto bound, and to point them out the clear and open way to their own much longed-for destination, it will be gratifying to us, and well for all. But, lest some feasible stumbling-blocks even yet in the way may prove an obstruction, still, to so desirable a consummation—desirable to the public and to us, no less than to the more immediate profiters, since the interests are mutual and identical—we shall now endeavour to obviate the most obvious of these, as far as our brief limits in the meantime will permit.

One very likely objection, then, to the propriety of even now turning over to that new leaf which lies in the reverse direction to the old, may be that now it is 'too late' to do so—that, even though unwillingly, the work is done —the race, the 'sack race,' with head and feet in the bread bag, is already run, the flounder-ing o'er,—that prices *once* enormous are now not only moderate, but already at the minimum, and that they therefore cannot now be any further diminished consistently with even the sustainment of old profit, far less with an accumulation of new. But this is just the question still,—a begging of the question; and we not only do not admit the premises, but we appeal to the record of all we have written, in defence of our most earnest assurance that prices are at no such minimum—profits at no such maximum. We cannot at this moment recapitulate the extraordinary and anomalous facts to which we refer, but we have left the record itself in the hands of our readers and the public, and we refer the gas directors likewise, *and their constituents*, to its facts and inferences, for their serious consideration. Why, even a little further attention to the official record itself, already so fully

discussed, may shew the doubtfulness at least of such an objection. Let us suppose that *midway* in the forced descent of prices, and in the *unanticipated*, but the not less real ascent of profits, that very record had been called for by the Commons. Would it not even then have been maintained,—and more especially then, indeed, when profits were so much smaller than they now are,—that prices had already reached their minimum, and that it was *therefore* "utterly impossible" to reduce them further without converting them into "losing prices," "ruinous" to the shareholders? [This, by the way, is no mere hypothetical case. It *has* again and again occurred, and that, too, *midway* in the forced descent of prices and ascent of profits.] And would it not then as now have been stoutly maintained,—and with far greater seeming reason then than now,—that the most "close cutting" and "shaving" calculation had already been resorted to in the unwilling and "perilous" endeavour to lower the previous prices to their *ultimatum*, and that in fact they *could not* then be made any lower? And yet what a wondrous teacher is Old Time! For that which would have then been *confidently* regarded as a ruinously low price, yielding a pitiful profit on account of its very lowness of amount, has now been *proved*, and that too over and over again, to have been to the shareholders a ruinously high price, yielding a pitifully low profit on account of its very highness of charge! In short, we have again and again demonstrated that the mere bareness or poverty of the profit on any one price for gas is no criterion, no rule, why that price may not be immensely reduced, with commensurate increase of profit in place of equivalent loss.

We sincerely trust, then, that none of our legislators will fallaciously conclude that, *since* a certain present average price produces only a certain average and apparently, or really, moderate profit on the full amount of fixed or authorized capital, or even merely on the capital paid up, it will therefore be unadvisable,—"hard upon the shareholders," or against their best interests, to insist on, or assist in, lowering that price any further. Let any one inclined to argue thus just put the case to himself, now put by us to the common sense of all, and follow it out to its legitimate issue. Let him suppose that the "Abstract of Return" had been called for by and made to the Commons ten years ago, when the prices charged for gas were a vast deal higher, and the profits resulting therefrom hence far lower on the average than they now are, though these same prices were a great deal lower than they had previously been, and the profits, it may be, as much higher than *they* had previously been. He surely now must see that a moderate or even a paltry dividend on such a price was no rule nor reason why that price should not be steadily *and most unmercifully*, though gradually, cut down, not only for the public good, but for the best and highest pecuniary interests of those very shareholders who have since been proved to have been the more immediate and immense pecuniary profiters by such wholesome prunings of superfluous and by no means fruit-yielding charges.

What use our legislators may be now induced to make of these returns remains to be seen; but in the midst of so enormous a mockery and a delusion, as we have proved them to be on their *absolute* merits, relatively instructive though they also be, there is no one conclusion so obvious as that which speaks with trumpet tongue in favour of further reductions in price, to almost an indefinite extent, in order to lead to that universal use, not a tithe of which gas, either for light or for heat, has yet attained, although it is an article, the prime cost of which, when the compensatory value of the products of its manufacture is deducted, has again and again been proved to be, in many instances, comparatively not much higher than that of water, which, in fact, is *next to* NOTHING.

BRIGHTON COLLEGE COMPETITION.—A correspondent informs us that the first design selected by the committee of the proposed Brighton College, is by Mr. G. G. Scott; and the second by Mr. G. S. Clarke.

NOTES IN THE PROVINCES.

THE following tenders were lodged for the erection of the Albion Chapel, in St. Mary's-street, Southampton:—

W. Gambling, Southampton..	£3,500 0
Nicholson, London	3,495 0
G. Brown, Southampton	3,445 0
T. A. Gates, ditto.....	3,141 10
A. Hillier, ditto.....	2,938 0

After much consideration, the committee accepted Mr. Gates' tender. The works will be begun forthwith. According to the *Hampshire Independent*, the amount of funds now raised is about one-half the requisite sum, and the members of committee were all to sign the contract.——It has been resolved to erect a market-house by subscription at Botley, from plans submitted by Mr. Charles Pink, of Hambleton, and on a site given, with 100*l.* and old materials on the site, by Mr. James Warner. ——On the 10th inst. a new church was opened at Woolhampton, near Newbury, Berks, by the Roman Catholic Bishop, Dr. Wiseman. The church, which adjoins a large boarding-school, is of the late perpendicular style, studied from the remains of the old palace and chapel of the Archbishops of Canterbury at Croydon. It is built of brick made on the spot, with Bath stone dressings. The internal dimensions are 82 ft. by 40 ft. The parts of the church are a chancel, 22 ft. by 18 ft., with two side chapels; a nave, 60 ft. by 18 ft., side aisles and organ-galleries, baptistery, and penitentiary at the western end. The chief decoration of the whole is an altar-window of stained-glass, by Mr. Wailes, of Newcastle, representing the Crucifixion. The building is from the designs of Mr. G. J. Wigley.—The foundation-stone of a new church has been laid at Leverstock-green, Hemel Hempstead, by the Countess of Bridgewater, who, it is said, handled the silver trowel 'in true masonic style.' We begin to have great misgivings about the integrity of the grand secret in the insidious face of so profound a plot as this, by which the ladies now seem bent on circumventing the tip-top object, ground, and basis of their curiosity: if its very foundations and its ceremonial strongholds are to be thus undermined, what is to become of the grand superstructure?—it will all go to 'Jachin and Boaz,' when the ladies 'harmonize in the light.'——The *Lincolnshire Times* describes a large house, of the Elizabethan school, erected on the site of the late City Arms, at Lincoln, from plans by Mr. Bellamy, a young local architect. It is said to be in good keeping with the Guildhall, Old Stonebow, and other works of 'the sages of old.'——The new church of Holy Trinity, Horncastle, was consecrated on 27th ult. It will accommodate 400, seats free, and was built by subscription.——Tuesday week the foundation stone of the new Dissenting Chapel in Hope-street, Liverpool, was laid in the site adjoining the Philharmonic Concert-hall. It is to be occupied by the Rev. James Martineau, and his congregation, from Paradise-street Chapel, and is to be in the early Gothic style. Messrs. Barry and Brown, of Liverpool, are the architects.——The receipts of the public baths and washhouses, at Manchester, during the first year of their existence, were 402*l.* 15s. 10½d.; the expenditure, 376*l.* 8s. 9d., including a bill of 30*l.* 13s. for water.——The new National School, Minster parish, Beverley, is now in course of erection. The committee of the St. Mary's and St. Nicholas' schools have purchased the old National School, conditional on the approval of Government. It is proposed to take down the present building, and erect a new school-room and master's house, at a cost of about 800*l.*——The Poor-law Board, in approving of a plan, 'forwarded to them,' for certain alterations of the Bradford Workhouse, suggested a wrought-iron tie-beam for the roof. In the proceedings of the local authorities, Mr. J. Wilson said he thought it would be as well if the Poor-law Board would mind their own business, and let other people's alone. Mr. Tetley said that the Poor-law Board had better send their own architect from London. ——The foundation stone of a new church was laid in the village of Follifoot, near Knaresborough, on Monday week.——St. John's Church, Upper Thong, Holmfirth, consecrated on Thursday week before last, is in the perpendicular style: nave, 78 ft by 27 ft. 4 in.; chancel, 26 ft. by 18 ft.; north transept, 24 ft. by 18 ft. 6 in.; south transept, 12 ft. square. The church accommodates 800 persons—about 300 free. Mr. E. H. Shellard, of Manchester, is the architect. Estimated cost, 4,000*l.* A parsonage-house is to be added.——Saint Matthew's Church, West Town, Dewsbury, was consecrated by the Bishop of Ripon on Saturday week. It is built from a design of Messrs. Bonomi and Cory, architects, Durham, and consists of a tower, a nave, north and south aisles, with chancel and south porch. There are 527 sittings (all free). The north and south side walls of the chancel, and the east end walls of the aisles, have arches built in them to allow of future enlargement of the church, by the addition of chancel aisles, whereby about 150 more free sittings can be made, when required. The style is that of a parish church at the close of fifteenth century—perpendicular Gothic. The cost, including an expensive site, and repair fund, is about 2,800*l.*, partly raised by local subscriptions and by grants from Church Building Societies. The painted windows, wood-work in chancel, pulpit, reading desk, and lectern, &c., in oak, carved, were gifts.

ROYAL INSTITUTE OF ARCHITECTS.

ON the 8th instant, a special meeting of the Institute was held, to take into consideration a memorial submitted to the council in April, 1847, urging the formation by the Institute, of a benevolent fund for the less fortunate members of the profession, a copy of which will be found in the last volume of THE BUILDER. It was signed by thirty-four architects. Mr. Bellamy, Vice-President, who was in the chair, laid before the meeting a summary of the proceedings which had been taken upon it, the result of which was, that the council had adopted the report of a joint committee (part memorialists, part members of council), advising the formation of such a fund, and recommended it to the consideration of the members at large. The rule of the Artists' Benevolent Fund, that recipients must be authors of "works known and esteemed by the public," would shut out many deserving members of the profession, and those connected with it. Communication had been opened with the officers of that fund, by some who thought that the desired end might be better attained by an arrangement with them than by a fresh fund.—Mr. C. Fowler stated what had been done in that respect.—Mr. Pownal supported at considerable length the desire of the memorialists, and moved a resolution confirming the recommendation contained in the report of the joint committee.—A long discussion followed as to the mode of carrying out the views of the memorialists, and as to the necessity for the fund.* An opinion was generally expressed, that if raised at all, it was quite unnecessary to give the administration of it to another society. Ultimately, on the motion of Mr. Angell, a resolution was passed, declaring the importance of establishing such a fund, and appointing a committee of nine, to consider in what way it could best be effected, and to report hereafter.

At an ordinary meeting held on the 15th, Mr. J. W. Papworth read a paper in illustration of some drawings of Prœneste, ancient and modern; and Mr. J. Thomson read some observations on the ancient village church of Leigh-de-la-Mere, Wilts.

ENDOWMENT OF SHAKSPEARE'S HOUSE. —The amateur performances on Monday and Wednesday, at the Haymarket Theatre, for the endowment of Shakspeare's house, went off well. Mr. John Forster, Mr. Charles Dickens, Mr. Mark Lemon, and others, played admirably, and well sustained the reputation which they have acquired in this new line of art. The house was filled with writers and artists; and the Chief Commissioner of Woods and Works was one of the heartiest laughers, on the second night, at the personation of *Flexible*, in "Love, Law, and Physic," by the genial author of "Pickwick," and "Dombey."

* In the course of the discussion reference was made to the manner in which architects and architecture had been treated in the Royal Academy on the present occasion, and was loudly responded to by the meeting.

RATING LITERARY AND ARTISTIC INSTITUTIONS.

WE mentioned last week the decision of the assistant judge in respect of the Russell Institution and parochial rates. To set at rest the doubts which have been raised as to the extent of the exemption given by the Act 6th and 7th of Vict., c. 36, a Bill has been brought in by the Attorney-General to amend the same.

The Bill provides—"That from and after the passing of this Act, the said Act of the seventh year of the reign of her present Majesty shall be deemed and taken to exempt all persons from liability to be rated or assessed to any county, borough, parochial, or other local rates or cesses, in respect of any land, houses, or buildings, or parts of houses or buildings, belonging to any society or institution, founded or existing exclusively for purposes of religion, education, charity, science, literature, the useful arts, or the fine arts, or for more than one of such purposes jointly, provided that such society or institution shall be supported wholly or in part by annual contributions, and shall not make, and shall not by any of its laws, rules, or regulations, contemplate, or provide for the making, any dividend, gift, division, or bonus in money unto or between any of its members; and provided also that such society shall obtain the certificate of the barrister-at-law or Lord Advocate, as in the said recited Act mentioned."

When it is remembered that there are nearly 300 mechanics' institutions in active operation, besides 400 in abeyance on account of the state of trade, this is seen to be an important matter.

ST. PAUL'S CHURCH, ARMITAGE-BRIDGE, YORKSHIRE.

THE new church at Armitage-bridge, built in the decorated or second pointed style, by Mr. Chantrell, contains a nave 63 feet by 18 broad, north and south aisles of 9 feet each, and a chancel 28 feet by 16; a robing room 9½ feet by 8, with a species of tribune above it, opening into the chancel and south aisle by treble arches. The nave is divided from the aisles on each side by four pillars and two halves, supporting five arches. There is no clerestory. All the windows have two lights, excepting the east window of the chancel, which has five, and the western one in the tower, which has three lights. The tower walls increase the external square to 19 feet, and the buttresses, in three stages, are subdivided so as to produce five offsets. Between the four main pinnacles are four subordinate ones, rising from carved figured brackets, below a carved cornice, and open wave and trefoil parapets. The roofs are all open and boarded, the nave and chancel being cradled, and those of the side aisles arch trussed and all boarded; the boards painted blue, the timbers stained as oak. The walls are covered internally with "Martin's cement." The east end of the chancel is decorated with tracery, and has a painted window, by Mr. Willement.

The seats are all open, with oak elbows, and there are ten oak stalls in the chancel, with carved ends and finials, misereres, &c. The reading desk is an open frame work, and the pulpit is an elaborate oak hexagonal construction, supported by six columns, arches, and canopies. The western screen in the tower, and the stairs and fronts to the organ gallery are very elaborately carved. The churchyard has a low wall, covered with a plain double-shelved coping, and the stone lich gate is opposite the principal entrance, and a small wicket door leads to the priest's entrance to the chancel and to the sacristy, from the nearest point to the parsonage house. The total cost we are told was 5,000*l.*

BATTERSEA PARK.—Mr. Budge, an owner of property required for the proposed park, and for which he had received notice long ago, finding that the Commissioners of Woods and Forests did not intend to proceed, applied on Tuesday, at the Bail Court, through counsel, for a rule to shew cause why a *mandamus* should not issue commanding the Commissioners to issue their precept for summoning a jury to assess compensation. The application was granted.

TREATMENT OF ARCHITECTS.

SIR,—Knowing that your pages are open to all communications that may benefit the profession, I beg the insertion of the following instance of an architect's endeavours to accommodate his employer being abused and taken advantage of. In one of the principal streets of one of the principal cities of the west of England, a few months since, a house was burnt down; the owner called on an architect, and asked him what his charges were for planning and superintending buildings. Being answered 5 per cent. on the outlay, he pleaded poverty, and asked him to take less, naming the locality, and as an inducement holding out that he had much other property in the city which might need the services of a professional person. The architect said that 5 per cent. on small amounts hardly remunerated a man for his labour; however, as the other seemed anxious to employ him, he at length agreed to his terms, which were about one-third below the per-centage. The employer immediately drew out an agreement, purporting that the building was to be planned and superintended for the sum named, and it was signed by both parties. The architect then received full instructions on the site, and answers were readily given to all the needful questions by the employer. Acting precisely upon those instructions, plans and an elevation were prepared in pencil. When the owner saw them he was not satisfied, and in opposition to his directions, ordered the architect to alter the heights of floors, &c., to correspond with an adjoining house, not ranging architecturally with it. The drawings were altered to measurements of this house. The next day a new crotchet had entered the employer's head. These heights would not do, and he ordered him to measure another house (but not with any intention of its ranging) adjoining the premises on the other side, and alter the plans to that. Yielding again to his caprice, the architect complied, cautioning him, before deciding on the staircase, to ascertain if there was any foundation for a hint given by the adjoining proprietor that his light would be infringed on by the proposed staircase. He was ordered to go on, which he did, yielding to farther whims.

Two or three days afterwards quoins for a window were observed carrying up in a party wall by the owner of the adjoining property, looking into the staircase area. Matters having now broken out into open hostility, the intending trespasser found that he must place his staircase somewhere else, and plan the whole house over again.

He had not the grace to regret, even in polite acknowledgments, the contrary directions he had troubled the architect with, but charged him vehemently with not having observed his instructions, and wrote him a letter to that effect. The other replied that he had extended his courtesy to the utmost, and that if there must be fresh plans there must be a fresh agreement. The employer brought an attorney to try and persuade him there must not be. His defence was, that he had been so impeded in performing his part of the agreement that he could not give into the owner's caprice any longer, and he put himself under the protection of a legal adviser, who counselled that he had done enough under his agreement, and could not be called upon to make new plans. The architect brought an action against the employer for a sum which he estimated as the value of his work. The case was heard in the County Court. The plaintiff gave his evidence as above. The defendant, in his, charged the architect with incapacity—declared he had been compelled to procure a sketch from another surveyor—made out that no decisive answer had been given by the plaintiff or his solicitor, as to his making fresh plans without payment.

The judge, in summing up, observed that the defendant had not shewn such an unreasonable degree of caprice—such an unreasonable requiring of plan after plan, as to justify the architect in throwing overboard the agreement and not proceeding with it, and then turning round and charging him for the mere plan a sum not very much less than he was to receive for carrying out the agreement. The verdict was for the defendant.—I am, Sir, &c., JUSTIFICUS.

METROPOLITAN COMMISSION OF SEWERS.

A GENERAL court was held on Thursday morning last, in Committee Room, No. 31, new Houses of Parliament; the Right Hon. Lord Morpeth, M.P., in the chair.—The clerk (Mr. Hertslet) said he had received a letter from Sir John Hall, superintendant of the St. Katharine's Dock Company, stating that the Company were willing to accede to the terms offered by the Commissioners of Sewers at a former court, as to the drainage and management of their property.

The next business was to consider the case of John Hooper, who was fined 5*l.* for breaking into a sewer in the Poplar district, without having previously obtained the consent of the commissioners. The fine was ordered to stand over till this court, to give Mr. Hooper an opportunity of offering any explanation he might think necessary. Upon the case being called on—Mr. Hooper said that he was not aware of the jurisdiction of the commissioners, or that he was in any way doing wrong. He would not for a moment dispute their jurisdiction.—Several commissioners having expressed their opinion upon the question—Lord Morpeth said, after the statement they had heard from Mr. Hooper, under all the circumstances of the case, they had no wish to inflict a large fine, and he should propose that the former sum of penalty be reduced to the nominal fine of one shilling.—Agreed to.

Mr. Hertslet reported that he had received papers from Mr. Ellerman, Mr. Hodgson, the chemist, and other parties, on the subject of a report presented at the last court on the results arrived at in Mr. Hodgson's experiments with the various kinds of deodorising fluids. It will be remembered that Mr. Hodgson gave a decided answer in favour of that description of fluid submitted by Sir William Burnett.—Lord Morpeth said, by a statement transmitted to him it appeared that Mr. Ellerman was aggrieved at the report that had been printed on this subject, without his (Mr. Ellerman's) statement accompanying it. He thought the whole papers should be referred to Mr. Hodgson to report thereon.—Mr. Leslie thought, in that case, the court would recognise Mr. Hodgson, who, it seemed, was only employed by Mr. Roe, the surveyor, for his own satisfaction.—The Rev. W. Stone said it would be as well that Mr. Ellerman should know that the report in question had not been issued by the court, but had found its way before the public through the newspapers.

Lord Morpeth said that whatever currency the report had obtained was by its being laid before the court, but at the same time no decision had been come to by the court upon it.—The whole subject was then referred to Mr. Roe, and the particular part of the complaint of Mr. Ellerman to Mr. Hodgson.

Henry Church was summoned to show cause why he should not be fined for irregular drainage in Catherine-street, Lambeth. In this case it appeared that the parties had obtained permission of the surveyors of highways, thinking that that body were jointly with the management of highways also Commissioners of Sewers, and stated that that had been the practice in that district. It also appeared that the sewers at each end of Catherine-street had been built by the surveyors of highways, and not by the Commissioners of Sewers.—The surveyor stated that in other parts of the district parties were still proceeding in a similar manner, who would be reported to the court.

The clerk said that he had given notice in THE BUILDER and the newspapers, warning parties not to proceed with the construction of sewers and drains, especially in this district and that of the Tower Hamlets, without first obtaining the permission of the Commissioners of Sewers.

Lord Morpeth said it was quite clear that no sewers could be built without permission being first obtained from the surveyors, and the court were determined to levy fines on all persons who might transgress their regulations in future.—It was finally arranged that John Hunt, the surveyor of highways, should be summoned to appear at the next court; and that Church should be re-summoned to attend.—The court will meet again on Thursday, the 25th.

ECCLESIOLOGICAL SOCIETY, LATE CAMBRIDGE CAMDEN.—On Tuesday in last week the ninth anniversary meeting of this society was held in the school-room of Christ Church, Albany-street, London, Archdeacon Thorp in the chair. The report, which was read by the hon. secretary, shewed that rooms had been engaged for the society's meetings in Bond-street. A donation of 10*l.* was granted to the Fredericton Cathedral. The Rev. J. M. Neale read a paper on "The Narthex, considered with a view to its restoration in Colonial Churches."

Miscellanea.

COVENT GARDEN PARISH SURVEYOR OF PAVEMENTS.—Sir,—In connection with the unwarrantable proceedings of the parochial authorities in respect of the recent election, I beg to communicate that in the town of Hull a similar fraud was practised on candidates, of whom I was one. The matter was detected, but not quite so palpably as in the present instance, when the 19 competitors each, on assembling, subscribed to cover expenses, and selected the case of one (the next highest in rotation of election) and constituted him plaintiff on our joint behalf. We took out a summons in the County Court for 2*l.* 2s. loss of time against the vestry clerk, and on the hearing, 1*l.* 5s. was awarded with costs. This case formed a precedent for all, and in due course each claimant was satisfied. To the unsuccessful candidates in this instance I say go and do likewise, and may a similar result attend you.—A SURVEYOR. We have five other letters on this subject, but cannot find room for them. One of them says—"Is it not preposterous that any committee (after persons of various pretensions, called together by public advertisement, have laid their testimonials before them) can elect one of themselves, who is, and who must be unqualified, according to their own printed particulars, which says he 'must be practically acquainted with the nature and properties of stone,' and in the face of the present carping against the idea of Government taking the superintendence of such appointments into their own hands?"

ELECTRO-TELEGRAPHIC PROGRESS.—Mr. George Petrie has recently specified a patent for an apparatus that shall enable the telegraphist, or any public person who employs the telegraph, situated at any station, in a line of telegraphs, or system of telegraphs, to operate upon any distant part or parts of the general telegraphic apparatus, so as to connect, into one long circuit, any number of consecutive circuits, or branch circuits, so as to divide any circuit, or circuits, into any number of smaller circuits; also, so as to cut off from, and introduce into, any of the main, or branch circuits, any number of conversing telegraphs, recording telegraphs, alarums, or any other kind of telegraphic apparatus, in order that intelligence may be transmitted privately from one place to any other place or places; and, in order that the intelligence may be signalised, or recorded, at the distant place or places, or signalised at some places, and recorded at others, as may be required; also, in order that different kinds of intelligence may be transmitted from any place to any other place or places, or to all places simultaneously, throughout the whole system of main lines and branches. This invention, it appears, can be advantageously applied either to Morse's, Davy's, or Bain's telegraphic apparatus.

ART UNION OF LONDON.—The following is a list of the principal pictures purchased by prizeholders since our last: — By Mrs. Taylor, "Blowing Bubbles — Past and Present," G. Harvey, 300*l.*, from R.A.; Mr. J. A. Hatfield, "Catherine of Arragon appealing to Henry VIII., H. N. O'Neil, 200*l.*, from R.A.; Mr. F. Allen, "Meditation," S. A. Hart, 120*l.*, from R.A.; Mr. Charles Stewart, "A Shady River in Summer," F. R. Lee, 60*l.*, from B.I.; Mr. R. Twentyman, "The Soldier's Return," T. Brooks, 105*l.*, from R.A.; Mr. J. Maurice, "Love in a Village," E. Prentis, 50*l.*, from S.B.A.; Mr. J. Meggy, "Returning from the Beach," J. H. Mole, 50*l.*, from N.W.C.S.; Mr. D. Roberts, "Mysie Happer in attendance upon Sir P. Shafton," G. Wells, 50*l.*, from R.A.; Mr. Edward Hawkins, "Othello and Desdemona," John Gilbert, 75*l.*, from B.I.

SCENERY AT THE ITALIAN OPERA HOUSE.—The ball-room scene, painted in the style of the Renaissance, for the *Cenerentola*, recently revived at the Covent Garden Opera House, in a very fine manner, deserves warm commendation; and the same may be said of an Alhambra-ish "alcove in the palace of Nirène," painted for the new ballet of *Nirène, ou les Sens*. Messrs. Grieve and Telbin have been spurred on by the successes of younger artists elsewhere. The musical arrangements at this house are perfect.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 3rd June, for the erection of a county court-house at Belfast; by 24th inst., for the enlargement of St. Pancras Workhouse Infirmary; by 30th, for additions and alterations at St. Faith's Workhouse, Norfolk; by 23rd, for certain works at the Dunmow Union Workhouse; by a time not specified, for pulling down, rebuilding, and enlarging two houses at the Westend; and for building and finishing houses at Southampton; by 22nd inst., for enlargement and alteration of St. Mary's Schools, Leeds; by 29th, for building a parsonage-house at Tanfield, Chester-le-street; by 27th, for building a parsonage-house at Appleby, Lincolnshire; by 24th, for building a police station and lock-up-house at Gateshead; by 9th June, for executing certain building works at the county prison, Oxford; by 23rd inst., for the erection in timber of various station-houses on the Lancashire and Yorkshire and other railways; by 7th June, for the erection of booking-offices at Wellington station, Leeds; also, by 29th inst., for a supply of 20,000 sleepers for the Brighton Railway: and by 31st, for a supply of paint, &c. for the East-India House.

IMPROVEMENTS AT SLOUGH.—A correspondent informs us that the foundation-stone of the new building for the Slough Mechanics' Institute was laid on the 27th ult. by Mr. J. T. Bedborough, of Upton Park, Bucks, in the presence of a great number of the inhabitants of Slough and its neighbourhood. The new edifice, from the design of Mr. Wigginton, jun., architect, of Slough, is to be erected in Church-street. It is Italian, with a campanile at the south-east corner, in which are the entrance-hall, staircase, and rooms for a person in charge of the premises. The body comprises a lecture-room, which may be extended, 36 × 21 × 19 high, reading-room, 17 × 14 (passage 4 ft. wide); committee and discussion class-room, 21 ft. × 14 ft. The reading-room can be thrown into the lecture-room, giving a length of 50 ft. 6 in. The committee-room can also be made a gallery in a few minutes, thus giving accommodation, in case of emergency, to about 350 persons. The president, Sir John Herschel, was prevented from attending. The Institute is in a flourishing condition, notwithstanding it has been established only fourteen months.——The gas-works are to be commenced immediately. The following is the list of tenders sent in for the brickwork and tank;

Stacey (Eton)	£900
Bedborough (Windsor)	840
Snowball (Slough)	784

The last having withdrawn his tender the second was accepted.——The extensive alterations at the Royal Hotel are nearly completed: when finished, it will be second to few in the metropolis.——The foundation-stone of Colnbrook New Church was laid on Tuesday, April 25th, by Col. Clinton, proxy for Lady Montagu. Mr. Ferrey is the architect; Mr. Taylor, of Chertsey, the builder.——The drainage at Windsor Castle is in a very forward state. The whole will be ready for her Majesty by the 1st of June.

LAMP-LIGHTING BY ELECTRICITY was one of our own little fleet of pioneering skiffs of suggestion, cast adrift upon the broad sheet of the press, to visit many mental sources of originative discovery, and to return to us, "after many days," laden with practical fruits. And accordingly, we find that this light little bark has been visiting Leeds, where it has shipped something practical, or definite at least, in a plan proposed to the Leeds Town Council by a Mr. Joseph Southwood, who confidently asserts, according to the *Leeds Intelligencer*, that by this practical plan of his, "all the public lamps of the town may be simultaneously lighted and extinguished, without the intervention of lamp-lighters traversing the streets with their ladders,"—and that "by electricity, conveyed by a single continuous wire to every lamp; and moreover, by the same agent and by means of the same wire, the lamps are to be cleaned. Thus the work that now fully employs a number of men may be performed by one person, occupying him only a few minutes daily." And moreover, that by this said plan, "any number of towns, or all the towns of the kingdom, might be embraced and illuminated simultaneously by the same galvanic battery."

STATIONARY STATE OF METROPOLITAN IMPROVEMENTS.—In reply to a question put by Sir R. H. Inglis, in the House of Commons, in which he reminded the House that the embankment of the river from Vauxhall to Chelsea, the Pimlico and Westminster improvements, and the sewerage and drainage in the vicinity of the Palace, were recommended in five different reports of Commissioners, and approved by Government, but not carried out, to the serious loss and injury of many proprietors,—Lord Morpeth candidly pleaded the want of money as the simple but conclusive reason. All that could be fairly relied on had been anticipated, his lordship said, for the four main lines from the docks to Spitalfields, Coventry-street, Oxford-street East, and Endell-street. Some detail was then entered into respecting Chelsea and Battersea-park, and the proposed improvements between Spitalfields Church and Shoreditch, but unfortunately the noise of the House, not unusual when art or improvements are talked of, drowned the statement.

INSTITUTION OF CIVIL ENGINEERS.—On the 9th inst. the paper read was "Observations on the causes that are in constant operation tending to alter the outline of the coasts of Great Britain, to affect the entrances of rivers and harbours, and to form shoals and deeps in the bed of the sea," by Mr. J. T. Harrison. After noticing the gradual deterioration which the harbours of Great Britain are undergoing, the paper gave, as the causes of these effects—The action of fresh water—of the tidal wave—the wind waves and springs, and atmospheric changes, dwelling principally upon the tidal and wind waves. The summary of the arguments was, that the observed changes in our coasts and the mouths of the rivers, were the result of the combined action of the wind waves and of the tidal waves, and the attention of engineers was particularly directed to these actions in different localities, in order that by presenting to the institution the result of their observations, an invaluable collection of recorded facts might be assembled, which would be of great benefit to the profession and to the scientific world.

A SANITARY ALDERMAN.—A series of questions and answers on the subject of sanitary reform have lately been published. The following is from the list belonging to a certain town in Warwickshire.—"Q. Is there in the town any person who would be considered an authority with reference to sanitary works, and whom the townspeople would trust with the immediate expenditure of their own money on such works.—A. Yes, one of the aldermen, a cheesemonger; but he is opposed to the appointment of a town surveyor, on the score of economy, and to all improvements that require increased expenditure; and, particularly, 'he does not see no use in baths and washhouses, inasmuch as a friend of his never washed for twenty years, and was never none the worse.'"

GOUT.—This term is generally explained *a drain*, and Ray gives it as a Somersetshire word, "Gowts, *canales*, cloacæ, *seu sentinæ subterraneæ*."—"English Words;" 1674, p. 67. It is still retained in use in Lincolnshire, not merely in that sense, but also applied to a sliding door at the extremity of a drain, by means of which the water is retained in the drain in a dry season, and let off in a time of flood. "*Goutes*, sinks, vaults: Bristol is eminent for these *goutes* or subterraneous vaults, by reason of which they draw all things on sledges, for fear the shaking of cart-wheels should loosen these arches."—"Kennet's MS. Glossary." Kennet also informs us that a "wide ditch or water-course that empties itself into the sea, is called in Romney Marsh a *gut*." These terms are doubtlessly connected with each other, and with the word as it occurs in the *Prompt. Parv.*, "Gote or water schetelys, *aquagium*." Dugdale, in his "History of Imbanking," 1662, p. 243, mentions "the erecting of two new *gotes* at Skirbek and Laugare, for drayning the waters out of South Holland and the fens."*

* From "Contributions to English Philology," by Mr. Halliwell, in the May number of the Journal of the Archæological Association. The number contains, among other papers, some interesting details of the Roman buildings found in Thames-street.

TENDERS

For erecting a new church at Alderwasley, in the county of Derby; architect, Mr. H. J. Stevens, Derby. The quantities were taken out by Mr. James Wale, surveyor.

Elliott and Lilley, Sheasham	£3,881
John Wood, Derby	2,800
Geo. Thompson, Derby	2,795
Edwin Thompson, Derby	2,620
Jas. E. Hall, Nottingham (accepted)	2,249

For a house at Penshurst, Kent (for Mr. F. R. Leek); Mr. Donaldson, architect. Quantities taken out by Mr. Gritten:—

Willicombe	£2,135	14	6
Haward and Nixon	2,057	0	0
Locke and Nesham	2,040	0	0
Barrett	2,037	0	0
Barber	2,033	0	0
Lawrence and Sons	1,840	0	0
Jay	1,820	0	0
Hicks	1,740	0	0

For alteration and addition at Sadler's Wells Theatre; Mr. R. Tress, architect:—

Strachan	£2,049	0	0
Patience	1,931	10	0
Pollock and Co.	1,878	0	0
Glenn	1,854	0	0
Hill	1,797	0	0
Willson	1,597	0	0
Wallburton	1,469	0	0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, MAY 22.—Institution of Civil Engineers, 8 P.M.

WEDNESDAY, 24.—Society of Arts, 8 P.M.

THURSDAY, 25.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 26.—Archæological Association, 8½ P.M.; Architectural Association.

SATURDAY, 27.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"*Metropolitan Benefit Societies' Asylum.*"—In compliance with a request, we sent a properly qualified reporter to the dinner on Tuesday, but he finding a marked difference made between himself and the reporters of some of the daily papers, a difference which he viewed as a slight offered to the paper he represented, forthwith very properly left the room.

"*Compo Moulds.*"—A correspondent asks what wood is most suitable for moulds for cement, and what will prevent the cement from sticking to them.

Received.—"C. B. E." (a solution has appeared); "Old M.P.," "E. L. T.," "H. O.," "D. C.," "Archi," "H. and N." (shall hear); "D. C.," "J. G." (we sanll be glad to receive the description); "D. W. Y.," "W. B." (we do not know); "E. W. and Son" (we cannot speak of our own knowledge); "A Real Surveyor," "A. Z." (declined with thanks); "C. V." (next week); "G. W.," "Subscriber," "Four Years' Subscriber" (we have not time); "E. A." (the church in question has been mentioned more than once); "M. W.," "J. C." (thanks,—the drawings shall be returned); "C. H." "Booke of Sundry Draughtes, Principally Serving for Glasiers;" by H. Shaw, F.S.A. (Pickering).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £1,000, or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N.B. To expedite the preparation, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Ornamental Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, and at the usual prices. 23, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars bridge.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79 King William-street, City.

The CHISHOLM, Erchless Castle, Inverness-shire, and Chapel-street, Grosvenor place, London, Chairman.

RICHARD HARTLEY KENNEDY, Esq. late Physician-General, Bombay, Deputy-Chairman of the Oriental Bank, Resington Lodge, Notting Hill, Deputy Chairman.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

This Society is established upon the most approved principles of the mutual system, dividing the whole of the profits among the members; and allows credit for half the amount of the first five annual premiums.

The last division of profits will be in the year 1849.

Policies of every description entertained, involving the contingency of human life

INDIA AND LONDON LIFE ASSURANCE COMPANY

CAPITAL, 250,000, IN 5,000 SHARES OF £50 EACH.

This Company assures the lives of healthy persons in any part of the world, at such rates of premium as can be taken consistently with perfect security; whilst, for the accommodation of the assured, a half premium table No. 2 has been constructed on a plan peculiar to this office, and affording great advantages to parties assuring for short periods, with the option of continuing for the remainder of life

Also invalid lives, whether afflicted with mental or bodily infirmities.

And lives of naval and military officers and civilians in India, many of the Colonies, or other parts of the world.

Annuities granted, and endowments for widows and children.

London, 14, Waterloo-place. A. R. IRVINE, Manager.

The following examples show how small a weekly sum will secure the benefit of Life Assurance for 100:

WITH PROFITS.				WITHOUT PROFITS.			
At age of 21	about	10d.	per week.	At age of 25,	about	8d.	per week.
,, 30	,,	1s.	,,	,, 30	,,	10d.	,,
,, 40	,,	1s. 8d.	,,	,, 40	,,	1s. 1d.	,,

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 98, Cross-street, Blackfriars-road.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet Glass on hand, which he will supply in 2-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.

THOS. MILLINGTON, 87, Bishopsgate street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s per piece upwards, of very superior description.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.

ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

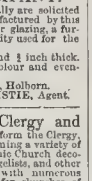
STAINED GLASS.—To the Clergy and Architects.—Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other saints, some having canopies and pedestals, with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tablets.

Mr WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 13, Foley-place, Langham-place.

CHAS. WM. WATERLOW,



MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

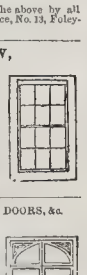


SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK, 1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices



forwarded by return of post, to any part of the country.

IMPORTANT TO THE BUILDING WORLD.—G. HILL, No. 8, Queen's-row, Pentonville-hill, MANUFACTURER of SASHES and FRAMES and DOORS for the TRADE; 14-inch Ovlo Sashes and Frame, with oak sunk Sills, prepared to hang double, at 8d. per foot; super 2-inch ditto, at 10d.; 14-inch 1 panel doors, at 6½; 2-inch ditto, at 7½d. The materials and workmanship warranted; if not approved of the money returned.—Country orders punctually attended to.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Grate maker to her Majesty, 29, Poland street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

By Her Majesty's — Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for ornamental and ventilated windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's park, London, where specimens are to be seen.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater inducements for its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough, but at the same agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining-rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.

Orders received by FAIRS and Co., No. 139, New Bond-street; BUNNETT and CORPE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham street, Pimlico.

N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

PREPARED FLOORING BOARDS.

AT REDUCED PRICES.

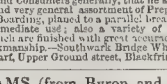
ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING PITCH PINE MADE FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panelle, Oak, and Fir Lining; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



MUIR'S PATENT — PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

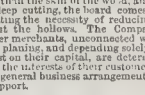
Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



TIMBER AND DEAL SAWING AND PLANING MILLS, Belvidere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In sawing, or grooving and tonguing a board (although curved), the machine follows the edge, removing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both by systematic workmanship and general business arrangements, to merit a continuance of their support.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the fibre, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TAUNTON, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

NORWAY DEALS, with Cuts in, 120 Deals of 12 feet long 3 inches thick.—9 cuts in White, 22s.; White, with 3 cuts, 24s.; Yellow, with 2 cuts, 22s.; 2 cuts in Yellow, 20s. To be inspected where the deals are landed, ex "Pimlo Christian Augusta," in New Yard, West India Export Dock.—Apply by letter, to H. J. ALSING, 3, Printers'-place, near St. James's Church, Bermondsey.

N.B.—Terms, CASH PAYMENT.

ROOFING SLATES.—Present Cash Prices for the best BANGOR BLUE SLATES on the Wharf, viz.:

Duchesses, per M of 1,200 slates	£10	0	0
Marchionesses, ditto	8	10	0
Countesses, ditto	7	10	0
Viscountesses, ditto	6	17	6
Wide Ladies, Ladies, &c. &c.			

JAMES KAYE, Slate Merchant, Pimlico.

N.B. Bricks, Tiles, Chimney-pots, Cement, Lime, Stone, &c. &c.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to MR. BENJAMIN GOUGH, 37, Newington-crescent, Newington butts.

N.B. Cowley and Kent Bricks of every descr ption, and Kentish Rag-stone direct from the Quarries.

TO all CONSUMERS of FIRE BRICKS, FIRE CLAY, &c.—HARPERS and MOORE, of the Delph Fire Clay and Brick Works, Stourbridge, beg to inform all consumers of Fire Bricks, that they have always on hand a general assortment of Fire Bricks, Lumps, Burrs, Quarries, &c., &c., at their Depôt, No. 8, Wharf, City-basin, City-road. Also, Clay Retorts for Gas Work, made of every size and form, with a general stock of Crucibles or Casting Pots, for Brass Founders, Metal Refiners, &c., &c.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above, and made to pattern at a short notice. Patent corn-drying malting tiles. Lime, sand, gravel, bricks and tiles of every description; Dutch clinkers, Louse and red and white malm grit, &c. &c. Fire Bricks continually unloading in the river, and a considerable saving to purchasers wanting large quantities taking them from the ships.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHÉ, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

BY BRITISH and FOREIGN LETTERS PATENT. To Builders, Masons, and Others.—LICENCES GRANTED for the use of HUTCHISON'S PATENT, for Indurating Stone, Chalk, Plaster of Paris Works, Cartons, Roof Sheeting, &c.; also for Hutchison's Marble and Stone Sawing Frame.—For further particulars apply to Messrs. HUTCHISON, WILFORD, and Co., East Temple Chambers, 2, Whitefriars-street, London.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence.—Orders to be addressed to Mr. B. TODD, 23, Dean-street, Soho, London.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, and Coal-yard, near Regent's Canal, Grove Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of setting freely and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory Northfleet, Kent, and at their Wharf, Great's otherwise Whitehall Stairs.

REMOVED FROM 5, MAIDEN LANE, TO 22, STEEL-YARD UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering perfectly resembles Stone—utterly resists Wet—does not discolour by Damp wants no Paint—never cracks or blisters—adheres to any substance without previous preparation—is protected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, producable by no other Paint whatever. It is cheap, and may be used by any chemist, is even in the most intricate or exposed marine situations.—Specimens may be seen, and a Prospectus fully describing the Cement and the mode of application, may be had of Johns and Co., at 22, Steel yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. declare themselves that MARTIN'S CEMENT totally differs in composition and manufacture from every other, and being a neutral compound, it not only free from corrosion, but is in every instance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other artificial cements, its hardness is uniform throughout, in entire thickness.

3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted for internal stucco to walls, ceilings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and non-conducting power is an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufactory, 189, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT. —This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only SIXTH the cost of paint for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of PINE CUT PORTLAND OR OTHER STONE; it can be used of any shade or colour required, is applicable to iron and is particularly calculated for ornamental houses, villas, or other erections that have become dull and dingy, which can be rendered beautiful in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or for application to flat roofs, parapets, spouts, and gutters, decks, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, it will preserve their surfaces from atmospheric influence and decay,—requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT

A large supply of the best quality, direct from the Manufactory, at low prices, for shipping and exportation.

GEORGE LEADBETTER and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

EXTRACT FROM THE "MAGAZINE OF INVENTIONS."

MR. JENNINGS, the Patentee of the present undoubted Improvement in Cocks, is already favourably known to the Public as the inventor of a very ingenious method of SHUTTING and FASTENING DOWN SHUTTERS WITHOUT THE USE OF THE SHUTTER BAR, and of an equally clever plan of connecting Lead and other Pipes WITHOUT THE AID OF SOLDER.

Skilfully designed however, as these and subtlely are, and popular as they have become, both in the Provinces, in point of simplicity and economy, they must yield the palm to the INDIA-RUBBER TUBE COCK, and which we submit to our Readers as the most perfect and easy and effectual remedy for the innumerable evils and annoyances hopelessly connected with the OLD PLUG COCK.

JENNINGS'S Inventions may be had, and Testimonials from Government and other Works, and Gentlemen at the Manufactory, 29, Great Charlotte-street, Blackfriars-road.

JENNINGS'S PATENT VALVES can now be had of Messrs. WARNERS and SONS, Jewin crescent, they being duly licensed to Manufacture and Sell the same

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

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JOHN PEPPER, Secretary.

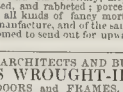
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JOHN H. RUDDICK, Secretary.

TO ARCHITECTS, BUILDERS, &c.

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The Builder.

No. CCLXXVII.

SATURDAY, MAY 27, 1848.

WE have again before us a number of books, connected with architecture, engineering, and construction, concerning which our readers should know something. When we last put together a few general remarks on works then in our hands, it happened that those works were collections of examples, and we found it necessary, without undervaluing the class of books alluded to, or withholding the praise which was justly due to those particular specimens themselves, to comment on the great and absorbing rage for *imitation* which prevails, the rapidity with which books of examples are multiplied, and the danger which environs those, if such there be, who would deviate from precedent, and endeavour to make the past benefit the present, rather than the present conform and yield to the past. "The artist, essentially a creator," it was said, "is turned into a measurer and caster: seeking vainly in the past what the present requires and the future will expect."

The books now before us chiefly relate, by coincidence, rather to principles, and some of them will call hereafter for more lengthened examination than we can give in the course of this running commentary. Foremost amongst them, as the result of long and patient inquiry, stands the second part of "Ancient Gothic Churches, their Proportions and Chromatics," by Mr. W. P. Griffith,* In the first part of this curious work, which our readers will remember we noticed some time since,† the author stated his intention of issuing "from time to time, similar parts, agitating, defending, and promulgating the deeply interesting subject of architectural construction by geometry." This is the first fulfilment of the pledge, and those who examine it will be obliged to admit that in it, Mr. Griffith has very greatly advanced the subject. Our own opinion that the architectural productions of the middle ages were erected on set principles,—that caprice had no share in the general arrangement, and little, if any, even in the ornamentation of Gothic structures,—and that Geometry was the foundation of mediæval art,—has been long known to our readers, and is now becoming generally received as an established fact.

"In the early periods," says Mr. Griffith, "the geometry of squares and circles was undisguised; but when it was applied to the distribution of foliage, its apparent harshness was cloaked by the leaves and flowers; and although its utility in equally distributing the parts was the same, yet a greater elegance was effected by the introduction of foliage. In Brandon's Analysis (Examples?) of Gothic Architecture, Section 1, *Norman*, plate 2, the label to the doorway is composed of an ornament formed of a *circle with a square inscribed*: the diagonals and diameters having been inserted, small circular ornaments are struck from points produced by the diameters on the sides of the square. In this may be traced the germ of the future tetrafoil."

Although regular geometrical figures proportioned the spaces for flowers, foliage, and other decorations, when these were filled in, the external lines were removed, no straight lines remain, and to the investigator alone is it known that they have been thus proportioned. "All the beauty," says our author, "for which Greek and Gothic architecture, and all pure architecture, is famed, we attribute to the pure geometry of the Greeks. Modern mathematics will not do much towards improving the architecture of the ancients. It may confuse it; it will not surpass it. But the ancient geometry of regular figures is not worn out, neither has it been superseded; and whilst we possess it, and use it, we may yet realize many beautiful buildings. There seems to be an innate feeling in man to dislike that which is simple. He would much sooner waste years in searching in the dark, even if he never found any thing, than acknowledge that any beauty can be created by simple means."

Of the general arrangement of ancient churches on a geometrical system, several extraordinary examples are given, in addition to those which have preceded; thus Preston Church, near Faversham, is shewn to be founded on an equilateral triangle, and regulated by the subdivisions of this to a remarkable extent. This structure, like many other small country churches, has but one aisle, and in this case the primary line or base of the equilateral triangle must be set out the same as if there were two aisles,—the perfect church being the object to be ultimately attained, although built with but one aisle in the first instance. In the case of Faversham Church, this line is found to be 50 feet, and by this the several portions of the church are proportioned. The mode of proceeding, so well as we can explain it without a diagram, he shews to have been this. A circle was inscribed around the first equilateral triangle, which had the west wall for base, and a reversed triangle was then drawn within the circle, forming the conjoint equilateral triangle so well known in masonry. The extremities of the circle, at the sides, are found to give the projection of the buttresses, and a line drawn parallel to the west wall at the eastern extremity of the circle, gives the termination of the south aisle, and one side of the tower. The altitude of the triangle which has a base of 50 feet, is 43·9: adding to this one foot, in consequence of the west wall of aisle being one foot less in thickness than the west wall of nave, makes 44 feet 9 inches, which is exactly what the length of the aisle is found to be. Inserting two conjoint equilateral triangles in the hexagon, produced by the first formed triangles, divides the figure into what our author terms units or numbers, of which the base of the triangle has six, each 8 feet 4 inches by 7 feet 3½ inches in height. A repetition eastward of the conjoint triangles within a circle, marks, by the eastern extremity of the circle, the end of the chancel, and by the base of one of the triangles, the chancel arch. The length of the nave is 8 of the units before mentioned; and the length of the chancel 6 units, or 43 feet 9 inches. The triangles, according to our author, also decide the width of the opening of the chancel arch, the width of the windows, &c.

In Tong Church, Salop, which has two aisles, a similar proceeding gives similar results: in this the base is 52 feet. The extremity of the circumscribing circle gives the termination of the nave and one side of the tower, which here stands between the nave and the chancel; and a repetition of the triangles and circle gives the eastern termination of the chancel, and the line of the chancel arch very nearly. The position of the columns which separate the nave from the aisles is also marked out by the intersections of the triangles.

The system may have been simpler than is here supposed, and may not have been carried so far, but that the proportions of these churches were arranged on *some* geometrical system, is as certain as that a watch must have had a maker. Nor is it at all destructive of the theory to point out that, in some cases, the determining lines come in the middle of the walls, and at others outside them; such slight deviations may be only apparently such (explainable when the matter is more fully comprehended), or may be owing to the operatives.

In Croydon Church, where the given line, or width of the church, is 80 feet, it is divided into units, each having for its base 8 feet, and its altitude 7 feet, and our author states, that from centre to centre of the columns dividing nave from aisles, are four units, equal to 32 feet; three units give the width of the chancel, equal to 24 feet; the south porch is contained in four units, the north porch in eight. The altitude of eleven units gives the length of the nave and aisles; the length of the chancel is marked out by eight units, and the length of the chapels, or chancel aisles, including the east wall, by five units;—sufficiently curious, the most sceptical will surely admit.

Salisbury Cathedral is very singularly developed by the square, and in the *sections* of some of the cathedrals the existence of a system is made evident beyond a doubt. We may not dwell longer, however, on this work, except to congratulate the author on the satisfactory advance he has made.

It is an easy and natural progression from this endeavour to make clear the geometrical system of the mediæval architects, to the new edition of Rickman's "Attempt to Discriminate the Styles of Architecture in England," which Mr. Parker* has just now published in a form which would have gladdened the heart of its author if he had been alive. Very little additional matter has been added; for, as the editor observes, notwithstanding the numerous works which have appeared within the last five or six years, it is surprising how very little real information has been added to that which Mr. Rickman collected and digested. What the book wanted was proper pictorial illustration, and this it has now received in a profuse and extraordinary degree. A few of the illustrations are from other works, but the majority are from original drawings, executed expressly for the purpose, and have the disastrous effect of rendering all former versions of the work comparatively worthless. Those who have Rickman, equally with those who have not, must buy the present edition. We must take one exception to the illustrations,—an exception which applies to another work from the same publisher,—and that is as to the unsatisfactory manner in which the illustrations which relate to classic architecture are executed, as compared with those of the mediæval period. While the latter are clear, precise, sparkling, and beautiful, the former are tame, coarse, and incorrect. We hope Mr. Parker will remedy this in the next edition, and in the meantime commend it

* Published by the author, 9, St. John's-square.

† See p. 393, Vol. V.

* 377, Strand; and Broad-street, Oxford.

as absolutely necessary for every architectural student.

An author whose work has just now reached a second edition and is before us,—"Ancient and Modern Art, Historical and Critical," by George Cleghorn,*—says, "If the practice of our modern British architecture is corrupt, vacillating, and unsatisfactory, the theories and doctrines inculcated in a great portion of the leading journals and treatises, published within the last twenty-five years, are characterised by the same bad taste, affectation, and inconsistency." We must take care, therefore, how we praise. The same polite writer says,—

"A great proportion of our British architecture, within the last half century, consists of imitations of the Gothic, both ecclesiastical and castellated. They are generally in the worst taste—meagre, false, and affected—adhering to no style or period—having no statuary, and destitute of the characteristic features and accessories of the ancient structures. The modern Gothic church is comparatively high, square, and stunted in length. A greater length, with a projecting chancel and semi-octagonal absis, would not only be more graceful, but supply a convenient recess for the altar."

He has evidently been out of the world for a time. And elsewhere he says,—

"While our English architects and architectural writers have for more than a quarter of a century been indulging in abstract and barren speculations on the perfection and superiority of Grecian architecture, which they never dream of reducing to practice, except in detached portions and on a pitiful scale; vituperating the Roman and Italian, which they do not scruple to borrow, only to disfigure and corrupt; eulogising the Egyptian, and recommending its modern adaptation in brick and stucco for the most plebeian and degrading purposes; indulging in every kind of dogmatism and paradox in their mystified discussions and absurd controversies;—the great continental nations have been quietly and steadily improving their taste, and raising magnificent and lasting monuments of architecture, decorated with sculpture and painting, well calculated to perpetuate their fame and achievements to a distant posterity."

Such an intolerant and captious spirit as is displayed in this book should be accompanied by greater knowledge than is displayed in the intimation that the new Houses of Parliament are in the *Elizabethan* style (p. 172), or in his attempt to maintain that the Pointed style originated from the imitation of groves of trees, in which the northern nations worshipped, and wickerwork constructions. Other theories are not to be listened to,—"the sylvan hypothesis affords the only rational solution" ("motley's your only wear"). It seems quite surprising that any man who has studied the subject should, in these days, be found to take up this long-ago exploded fancy, and gravely write:—

"To deny that the purest ecclesiastical Gothic exhibits the most striking similitude to the interlacing of groves and trees, as well as to the construction of wickerwork, were as unreasonable as to shut our eyes to the marked analogy between the Grecian Doric temple and the wooden hut. Indeed, the whole composition and details of a Gothic cathedral—the naves, aisles, clustered pillars, groining, and ramifications, cross springers of the vaults and roof, the transoms, mullions, tracery, and minute ornaments—all point to the same prototype. What is a great part of its sculpture and decorations, its trefoils, quatrefoils, cinquefoils, its finials, crockets, featherings, cusps, foliage, and fretwork, but an imitation, more or less free, of plants, flowers, fruits, and vegetable nature? What are its stained glass windows and oriels, but an imitation of the harmonious and chastened gleams of sunshine passing through the branches and openings of the richly variegated foliage."

Contradiction is not necessary; and then to find this same gentleman turning up his nose and not merely pooh-poohing every body and every thing connected with architecture in England, but throwing all sorts of abuse at them, is really too good.

Enough of him for the present, and let us look at a quiet little work by Henry Shaw, F.S.A., entitled "A Booke of Sundry Draughtes, principaly serving for Glasiers; and not impertinent for Plasterers and Gardeners, besides sundry other Professions,"* and which professes to be almost wholly copied from a work originally "Printed in Shoolane, at the Sign of the Falcon, by Walter Dight, in 1615." It consists of a large number of forms for glazing (certainly "not impertinent for plasterers," but suggestive), and will be found very useful. We had arranged a collection of such forms, intending to engrave them for our pages, affording proof that we thought some such publication as this was needed. We agree with Master Gidde, the author of the original work, when he says,—

"Although it may seem to those expert in glazing that these draughts are needless, being so plaine and in use, not deserving in this sort to be published, yet notwithstanding here I doe in friendly courtesie admonish that it is most needful, giving choice to the builder both for price and draught of work, which by no understanding can the glazier so sensibly demonstrate his feat as by having his examples of draught, for by such show the builder shall understand what to make choice of, for whose care and furtherance only I have published this notice of glazing, knowing the expert master is not unfurnished of these usual draughts, though each workman have not all of them."

And here we will end for a time.

* Blackwood and Sons, Edinburgh and London.

ON ARCHITECTURAL EXHIBITIONS.

THREE weeks have elapsed since a critical sketch of the contents of the Architectural room at the Royal Academy was laid before the readers of THE BUILDER, coupled with a sincere expression of regret at the inefficiency of the collection with reference to the purposes for which it is offered to public notice; an inefficiency which evidently resulted from the just and frequently-urged claims of the profession to attention being unheeded by the Academy.

During this interval many letters have been received on the subject, the writers of which seem deeply to regret their apparently helpless position, and, knowing that they express the general sentiment of the majority of the profession, it seems desirable seriously and dispassionately to consider the subject—to settle its real importance—to point out the sources of the evils at present connected with it, and, if possible, to suggest a remedy.

The subject will be fully discussed if the following queries can be satisfactorily answered. Of what importance to the public and to the professors of the art is an improvement in architectural taste? To what extent is an exhibition of designs for buildings calculated to conduce to such improvement? What is the present position of our national exhibition of architectural designs, and what the cause and consequences of that position? To whom should the public and the profession look for a remedy, and what should that remedy be?

First, then, of what importance to the public and to the professors of art is an improvement in architectural taste? If we consider man in his social character, influenced to the extent he undoubtedly is by the force of example and habit (that is, by what he continually sees, animate or inanimate, or by what is continually acting upon some other of his senses) and if we allow that the contemplation of visible beauty with an understanding eye, is elevating, improving, and delightful—that visible beauty may be embodied in buildings—and that designing and appreciating such beauty is architectural taste, it must follow that an improvement in that taste is of considerable importance. The social character of man induces him to live in the immediate vicinity of his species, and consequently buildings are erected, cathedrals, churches, palaces, theatres, mansions, monuments, bridges, streets, shops, houses, cottages—all are the results of the gratification of this desire in mankind to herd together. We live in buildings, we walk out, we see buildings, we transact our business in buildings, we worship in buildings, we amuse ourselves in buildings. Look where we will, at home or abroad, in whatever direction we turn, some development of some idea in building, is almost sure to meet our eyes; the visible beauty or the visible ugliness of building, is operating on us all every day, indeed, almost every hour of our lives: what then may not fairly be expected from an improvement in architectural taste. Let us trace its workings.

A love for the beautiful becoming general, the means for gratifying it become general, that is, the demand being created, invention is taxed. Ugliness is known in its true character of ignorance. Beauty is recognised as wisdom: education thus becomes worth acquiring, and is acquired. Science offers the right hand of friendship to labour, and relieves her of half the burden; material becomes a universal language for the expression of thought; competition and the desire for progress successfully combat with sameness and apathy; the professor rises in the public estimation (a consequence only to be ensured by his satisfying a generally felt public want); the minor arts flourish;—it being a fact, however little recognised, that the success of the mason, modeller carver, gilder, decorator, paper-hanger, and of numerous other trades and occupations, is always in exact ratio to the development of architectural taste in the public mind; and withal, though the time expended in execution gradually diminishes, the number of labourers is ever on the increase, since a gratified love for beauty, gaining vigour by the food afforded it, continually enlists new worshippers at its shrine. It is only from a contemplation of these truths in their various bearings, that we can arrive at any proper sense of the importance of a general improvement in architectural taste.

We have next to consider to what extent an exhibition of designs for buildings is calculated to conduce to such an improvement.

It will hardly be denied that improvements in, and additions to, the appliances and delights of men, result not so much from a demand being, in the first instance, actually made for the supply of recognised wants, but from its being an honourable and profitable exercise for the ingenuity and energies of individuals, first, to discover these wants, then to invent the means of gratifying them, and, subsequently, to take judicious steps for proving to the public that such wants really exist, and are worthy of attention; and we think it may be shewn that an exhibition of designs is one of the most natural and influential steps that can be taken by the professors of an art, in their endeavours thus to act upon the public mind. In the first place, it courts attention, and tacitly acknowledges the importance of public opinion, while it boldly asserts its own claims to notice. If a true exposition, it gives a good idea of the extent to which the positive appreciation of the art has arrived at that time; and, reacting by the force of example, leaves a latent desire in its beholders to do as they there see others have done and are doing. It at once induces in the architecturally uneducated who view it, a frame of mind and train of thought, with regard to its subjects, more certain to be attended with a satisfactory result than any that is likely to be engendered by the mere existence of the individuals in the vicinity of even the most splendid practical examples, because, in the latter position, a dull feeling of incapability and difficulty prevents them from exerting the power of reflective contemplation naturally possessed by almost all: whereas, in the former, a momentum sufficient to overcome the inertia is given, by the supply of a convenient and easy means for gratifying that spirit of criticism and comparison of merit that would continue to lie dormant, without some

* London, William Pickering, 1848.

such gentle though active stimulus. Such an exhibition affords at one view a variety of examples of structures, many of them similar in purpose, and is thus calculated to achieve the important end of establishing in each mind, more or less, the principle of a decided preference. Each beholder distinctly feels and exerts the power of liking one design better than another, and derives pleasure from the exercise of that power; thus realizing a capital or stock in hand of critical taste, that goes far to induce him to avail himself of the opportunities that afterwards continually lie open to him for improving it.

This we conceive to be the *modus operandi* on an uneducated mind: to the artistically educated man such a collection needs little to recommend it. It is to him a luxurious studio, where he finds the materials for increasing his previously acquired store of knowledge, and for perfecting his taste in all its varied details. Again, from the facilities it affords he can clearly mark the advancement of men of established talent,—he can search out and perhaps form the idea of encouraging genius hitherto unrecognised,—and he can rejoice in the progress of the art he loves in districts remote from his own sphere of action, and in the minds of individuals to whom his personal influence can never be extended. A collection of this kind also enables the foreigner of taste, who visits our shores, to take at once a clear and comprehensive view of the general state of architecture throughout the kingdom. By well-known and eminent architects it ought to be supported with spirit and vigour, affording, as it does, an important means for increasing their fame, and an arena in which they can incontestibly prove, by comparison, the justness of their claims to the honourable position they occupy. To the local and junior professors of the art it is invaluable; for through such means alone can they hope to introduce themselves to the notice of the general public, and by shewing what they have done, and can do, establish their claims to attention on a fair and proper basis. These are some of the advantages that a national exhibition is calculated to confer upon the public and the professor.

Of the other heads of the inquiry we shall speak hereafter.

FALSE PUBLIC DOCUMENTS.

WEEK after week and month after month, for some years past, we have been looking for the alteration of the written lists of regulations put up at the several entrances to the parks, which are practical untruths. They are signed, "By command of *His* Majesty, *Augustus Frederick*, ranger," and give the same unpleasant impression which is produced when you observe that the almanac of the previous year has not been changed in a solicitor's office,—a sure sign that things are going badly, and that time is of little consequence there.

These rules are the current regulations of the day, and have their authority from *her* Majesty (GOD bless her!) and the present ranger. Do, pray, therefore, excellent Lord Morpeth, let the office of Woods' painter set matters straight, and give a business-like and truthful appearance to these boards, which at present lie as they stand (so *very* unlike some other Boards), and you will thus remove an eyesore and a reproach, and oblige many besides your lordship's admirer,

"THE BUILDER."

KENSINGTON.—Sir: You have recently spoken of Kensington,—do, pray, remark again on the want of a proper gate-entrance to the Queen's-road, similar to the one at Bayswater, and tell them to pull down that rookery called Jenning's-buildings, and form a nice street through it, with private houses on both sides of the way; and where the "Crown" public-house was burnt down, to pull the remainder of the houses down as far as the National School, with the houses opposite, in order to widen the road at that part, and to throw the houses back. As for the new church they intend to build down Victoria-road, although Mr. Vallotton has given them the site for it, they seem to sleep over it.

A CONSTANT READER.

ON GUTTERS, FLATS, AND LEAD WORK.

PROFESSOR DONALDSON'S LECTURES AT THE LONDON UNIVERSITY.

IN connection with our remarks on the importance of the study of construction, the inattention to it displayed in too many cases, and our suggestion of such aids as would render the acquirement of professional knowledge a matter of less difficulty than it now is, it would be wrong were we to omit reference to the eminent labours in this respect of Professor Hosking at King's College, and Professor Donaldson at the London University, and not urge on our younger readers the advantage which many of them would derive, at comparatively small cost, from joining the classes of one of them. Confining ourselves on the present occasion to the labours of the latter gentleman, we may state that he gives every year from 100 to 120 lectures, partly on architecture as an art, partly as a constructive science. In illustration of the first, beyond a large collection of diagrams and drawings, the pupils are taken to the buildings of chief importance in the metropolis, where their merits of design and execution are pointed out; and the course on construction is elucidated by practical experiments. To convey a better idea of the sort of information which is conveyed, we give notes of the professor's last lecture, which related to gutters, flats, and lead work.

Gutters.—After speaking of eaves-gutters, Mr. Donaldson said,—To obviate their defects, trough or parallel gutters are constructed, and they are formed by letting the feet of the common rafters fall on a deepish pole-plate, which forms one side of the gutter, whence the name parallel gutters. The gutters, if next a lofty parapet, should be at least 15 inches wide, but if between two sloping roofs of moderate size, 12 inches will suffice. The fall and drips may be less than in the former gutters, but it is as well to get the fall as rapid as possible, and the drips as deep as circumstances will allow.

At the lowest part of the gutters a cistern must be formed the full width of the gutter, about 18 inches or 2 feet long, and 8 or 10 inches deep, at the bottom of which should be a pipe some 4 or 6 inches in diameter, as the case may require, which pipe either goes directly into the main stack of rain-water pipes, if immediately under, or else leads the water into the cistern head at the top of the stack of rain-water pipes outside the building. It is to be observed that it is necessary to prevent the obstructions of the top of these pipes, by leaves or other substances. For this purpose there is placed over the pipes a loose lead circular cauliflower head, perforated with numerous holes, about half an inch diameter, the head itself some 9 or 12 inches in diameter; or else there is a grating at the top of the cistern, which however is likely to be choked. In fact, the great object must be to get the gutters to relieve themselves of the water as soon as possible, that it may not overflow at the drips or joints, or by rising over the lead where turned up. Another good expedient is to have metal or wood gratings all through the gutters, strong enough to bear a man's weight. This prevents the obstruction of gutters, by the snow sliding off in large masses from the roof, and protects the lead from injury by nails in the shoes or boots of those sent to repair or cleanse the gutters. If shovels be used in the gutters, or on the flats, they should be of wood. The heads at the top of the rain-water pipes should be of metal, either lead or iron, sufficiently capacious, and provided with waste shoots about 1 or 2 inches in diameter; so that, in case of the head becoming choked, the water may flow off through these shoots.

We find in the Gothic buildings, that the stacks of rain-water piping were of lead, sometimes of stone, and that the cornices and strings frequently profiled round them. Often there were no stacks of pipe, but the waters were discharged directly from the gutters, by greatly projecting stone tubes, called gurgoils, covered with odd capricious figures of animals and birds, nay sometimes of men. They threw the water off to a great distance, but in case of a driving rain, were very unavailing to protect the wall on the windward side of a building, as the force of the wind would blow it on the walls, and completely saturate them. Care should be taken to have the stacks of pipes as straight as possible, without any bends, or if there must be some angles, they should be rendered as obtuse and gradual as possible. At the bottom of the stack there should always be a shoe to break the force of the descending water, and turn the current into the mouth of the drain into which it is discharged. All the joints must be made as secure as possible, and to prevent overflow or dripping, they should be stopped with oakum, well driven in. It is evident that in channels for water, there should be as few angles as possible, either in the section of the channel itself, or in the line or direction which it follows. Now, it is very frequently necessary to lead a gutter from one point to another; in this case, it is as well to construct the angle with a circular turn: this less impedes the currents of water, prevents the accumulations of leaves, dirt, and other matters, and leaves the watercourse unobstructed.

Lead Flats.—As regards lead flats, they should always be formed with well-seasoned timber, as their position renders them most liable to the heating action of the sun, which is very trying to unseasoned timber. They should be laid with a sharpish fall, not less than 3 in. in 10 ft.; the rafters or joists should be laid transversely, and the boarding in the direction of the fall, as otherwise, in case of shrinkage and twisting, the rising edges of the boards would form so many ledges to prevent the water running off, and nothing is more detrimental or trying to lead than settlements of water, which, evaporating, tend to decompose the lead. It is better for lead to be always free or always covered with water, than alternately either one or the other. The boards should be of equal thickness, and the edges shot, to prevent open or irregular joints.

Lead.—The best lead is the purest, free from all foreign matters. It is manufactured for use in two ways, either milled or cast. In the first case it is passed through a mill in two cylinders, which secures its being of equal thickness, or it is molten and cast in sand, from which inequality of the thickness sometimes comes, and sand-flaws will be produced, which, however, can be detected by careful examination. None but the best lead can be cast, but an inferior and mixed quality can easily be passed through the mill. Hence each sort has its advocates. The even thickness and the smoother surface, which offers less friction to the water, outweighing every other consideration with some, and others preferring the cast, on the ground of the purer quality thereby ensured. But although cast lead may be safely used for parts where great weight is required, as in gutters and cisterns, in which cases a slight inequality of substance is not so material, yet in parts where lighter lead is used, as of 5 lbs. or under, in flashings, hips, and ridges, there the milled lead must be employed, in order to ensure that no parts be under the standard thickness. In buildings of the very first class, the flats should be of 9 lbs. lead, the gutters 8 lbs., the hips and ridges 6 lbs., the flashings 4 or 5 lbs. In all other buildings they should not properly be more than 1 lb. less.

The sun acts so powerfully in expanding, and the cold in contracting lead, that it is of the utmost importance to lay the sheets as loose as possible, in order to afford them play, or they will crack, and no other fastenings must be used than those absolutely required to keep the lead in its place. Except in cisterns, it should never be soldered. The sheets should not exceed 3 feet in width, nor be in greater lengths than 16 ft. Consequently, as the sheets supplied by the lead merchant are about 6 ft. wide and 16 ft. or 17 ft. long, they may be cut in half.

On leaded roofs or flats, the side joints are formed by laying wooden rolls about 1 in. or 1½ in. diameter, round which the sheets are turned at the side one over the other; and this is usually sufficient to prevent the wet from rising over the roll and under the lead; when the inclination is very rapid, lead-headed nails are driven through the lead into the roll to secure the sheets, and then the lead is soldered over to prevent the wet entering, but they soon get loose. In old roofs the junction is formed by merely turning up the edges one over the other, without a roll, and hammering them together.

It is to be observed that the weight of the lead must be somewhat regulated by the greater or less exposure of the roof; for if in

exposed situation, and subject to severe storms and gusts of wind, heavier lead is required to resist the blasts, or the hips and ridges will be blown off. There should always be a ridge or roll for the purpose of securely dressing the lead, and to receive the lead-headed nails, which are usually 2 ft. 6 in. apart.

In recapitulating the leading circumstances to which attention must be paid in the gutters, flats, and lead-work of roofs, the following points demand special attention :—

1. The proper formation of the framing, so that the gutters may be in troughs of moderate width and sufficient depth, and not of excessive length.

2. That a proper fall should be given to gain rapidity in the current opposite, and enable it to carry off waters deposited in the beds of the gutters.

3. That the lead should be of the proper thickness for the several purposes.

4. That the lead should be laid loose, not soldered, and be well dressed in its place.

5. That great care should be bestowed upon the laps, to render them secure and impervious to the water.

6. That cast lead may be used for thicknesses of 6 lbs. or 7 lbs. and upward, but that lead of less weight should be milled to ensure equality of thickness.

MEETING OF ARTISTS TO PETITION THE BOARD OF TRADE.

AT the Institute of Fine Arts, on Tuesday evening last, a very numerous meeting of artists was held, including Mr. Pickersgill, R.A., Mr. Hart, and other members of the Royal Academy, for the purpose of deciding on a memorial to the Board of Trade, praying them to abandon their proposed unwise interference with the Art-Union of London.

The first resolution* was moved by Mr. Doane, who said in effect that the real question they were met to consider was, whether the present system pursued by the Art-Union of London should be supported by them or not. In his opinion, there were very great and important advantages in the present system, and it was unquestionably highly popular. The Board of Trade could not interfere without a breach of faith or principle as regards the fundamental laws of the Art-Union. But to come to the real point at issue, it seemed clear that the Art-Union subscribers must, above all and before all, be pleased, if such an institution is to prosper. Now taste was progressive. To get people to interest themselves in art, they must be allowed to possess something they like to look at—to dwell on—to discuss with their friends—and thus to acquire their first lessons in the grammar of art. Depend on it, that even the finer works of art, if not the possessor's own taste or fancy, will only excite disappointment and repugnance, or, at the least, indifference, and so in place of being dwelt on, and their beauties discovered, be made a subject of traffic, be sold and got rid of for the cash they do like. The public could not be drilled into art as children are into the elements of school education. Boards of Trade and Art-Union Councils have no birch —no compulsory authority—here. The people must be induced to subscribe by other temptations and prospects than those held out by the Board of Trade, otherwise, in short, they will avoid such a Society altogether. It has been taken for granted that, without such a schooling, the general taste is, and will continue to be, bad; but that is a conclusion rather too hastily jumped to. Are inferior pictures in general selected? Even though they were, in many cases, is it not as with music, where a love in the first place of, and an indulgence in, the simple, naturally leads by degrees to an appreciation of the more elaborate, with which, if forced or called on at once to listen to it, many would be only perplexed.

Doubtless the Lords of Council have had the same object in view which the Art-Union Council have had; but it did not follow that because they were a higher council they were therefore right. On the contrary, the result of the system founded and pursued by the Art-Union Council, which had so greatly and so successfully exerted itself in educating the public taste for art, by a persuasive and enticing principle of self-selection level with their own power and intellect, clearly proved that *they* were right. He therefore thought it was high time that artists were bestirring themselves, for their own sakes, in the prevention of so injurious an interference as that of the Board of Trade must prove to be; for they might depend on it that the young and thriving spirit of art-appreciation amongst the public would be smothered and destroyed unless this difficulty were got over.

The resolution was seconded by Mr. George Raphael Ward, who said he supported the Art-Union Council in their very proper opposition to the Board of Trade. If that council had deviated from the Act of Parliament on which their authority was founded, such an interference might have been just; but it was little less than a gross breach of legislative faith thus to frustrate the objects of a well-digested system, by insisting on a mode which had already upset an Art-Union. The very threat of persistance in the interference had already done great injury.

Mr. Wagstaffe (engraver), in supporting the resolution with an earnest and eloquent speech, said that nothing could be more gratifying to him than such a manifestation of hearty interest in a common cause as that displayed by the present meeting. He objected to the interference of Government with the Art-Union of London. It was a direct interference with private property. The Art-Union had ushered in a new epoch in art. The Fine-Art Institute was established expressly for the purpose of defending the Art-Union; and he was glad to see it now upholding the same good cause. He acknowledged that he had not defended Art-Unions in the outset—he had opposed them; but seeing how successfully the principle, as it at present exists, had operated in advancing the taste for art and the profession of the artist, he now felt bound to support that principle to the utmost. It was not by the interference of Boards of Trade that the noble symphonies of Beethoven and his compeers had supplanted the paltry old tunes of theatres in the public taste and affections. It was not by cramming Homer's Iliad down the throats of those who preferred the home-grown and popular works of Dickens, that the literary taste of the public was to be exalted. Why should not the Board of Trade or committees select books for the reading and the shelves of the people, or their circulating libraries, if they are to select pictures for their private walls? Some foreign countries certainly allow this, that, or every thing to be chosen for them; but it is the genius of this country to allow every man to spend his money as he pleases in the choice of his own selection, and he denied the right or title of any British government to intermeddle with the freedom of that choice. Was it to be endured that the taste of the people for pictures, in place of ranging at will over a wide field of art, was to be drilled into the narrower limits of some particular school that might happen to be most agreeable to some particular member or members of some particular committee, appointed to dictate to others what they must choose to have for their money, while the wider range of art and of taste lay waste and uncultivated? For the noble manner in which the Art-Union Council had refused so great an amount of patronage and monopoly as this, they were all much indebted. He agreed with them in believing that such a monopoly would be most mischievous; and the many artists present must feel it to be for the general interest to combine together in determined opposition to such a measure as is sought to be forced upon the Art-Union Council.

A good deal had been said about the issue of the Art-Union prints; but he was well aware of the extreme difficulties to be coped with, and he thought the prints had been treated with injustice: to the opposition of the print-selling trade, it had been found that that trade had been benefited in place of injured by the Art-Union issue.

Mr. Cornelius Varley said that the very want of skill, or diffidence of taste or ability in the choice of prize pictures, induced many prize-holders to seek the advice of friends, and thus, by discussion, and by diffusion and reverberation of opinion and judgment amongst the people, to stir up a taste for art, and so greatly to promote the very objects which the Board of Trade professed to have in view, as well as those for which the Art-Unions were mainly instituted. The conduct of the Board of Trade in desiring that the popular food for taste in art should pass through the mental gustatory organs of committees ere it was presented to the eyes of those whose taste in art it was designed to nourish, reminded him of a specimen of Hottentot *taste* and good breeding, displayed while offering anything good in the shape of eatables to their guests, who were bound to receive it as a compliment only after it was well licked over by their hospitable entertainer's highly discriminative organ of taste. Such an example might afford a good enough precedent for baby nurses while offering pap to their young charges, but it would not be at all to the taste of a full-grown British public, who would undoubtedly reject with disgust the morsel offered them under auspices such as these. He believed that the Art-Union had adopted an excellent mode of encouraging artists as well as of cultivating public taste, a mode by which art would thrive and artists live.

A gentleman, whose name was not announced, remarked that one express object of Art-Unions was the encouragement of young and rising artists, and unless their less mature productions were sold, and yielded some remuneration, how were they otherwise in many cases to develop and attain to that maturity and excellence of which they were capable, and at which they aimed. As to the proposal that committees should go to the houses of artists, and select from their studios; no committee would ever be induced to give the time really necessary for such a purpose; and unless they did, how obviously unjust would the working of such a principle in practice be. Some one artist, or a few, might be pitched upon to save trouble, and if a committee, or a leading member of a committee, liked the style of some one artist, or desired to encourage him in particular, what was to prevent the selection of his whole stock by the lump?—Another artist declared that the Board of Trade seemed to have an immense job in view.

Mr. Franklin called attention to the fact that if the prizeholders were not allowed to select their own pictures, the very considerable additional capital now expended by them, in surplus payments for desirable or favourite pictures, over and above the amount of the prizes held by them, would at once be thrown out of the field, and much injury, therefore, even thus done both to art and artists. In fact the whole concern would be likely to resolve itself into a mere money speculation, since those who had pictures forced on them, whether they wished for them, or liked either style or subject, would of course only sell them as fast as possible: and, indeed, could only be induced to subscribe to such a system at all with such a merely mercenary object. As to the prints issued by the Art-Union, he must admit that they were not sufficiently good; but he was certain that the Art-Union Council had done everything in their power in the midst of difficulties, while he believed that the old opposition of the printsellers was still at work.

Mr. B. R. Green said he should like to know why the richer patrons of art were to have a free choice in the selection of pictures, while the Art-Union subscribers, who were equally patrons of art, were to have no choice whatever in the property purchased with money as much their own as if it had come out of the pocket of some one richer party with probably little or no real taste in the exercise of even of his free choice.

It was here proposed to make some amendment in the form of the resolution, as bronzes, &c., were not selected by the prizeholders, but a general feeling prevailed that pictures were the sole subject under consideration, and that it would be improper to mix that subject up with any other. The amendment was therefore withdrawn, and the resolution was passed without a single dissentient.

Mr. Moseley, in moving the second resolu-

* Resolved, that this meeting views with deep regret the decision of the Board of Trade with regard to the prints, by which the Art-Union of London is established by the Act of Parliament, prohibiting the right of selection of the prizes by the successful subscribers themselves, and that this meeting trusts that the representation which may be made to the Board of Trade will induce the Committee to withdraw all such interference with the Art-Union of London, and permit it to carry out its objects according to its original and vital principle.

tion,* said that artists ought to pull a little more steadily together than they had hitherto done, and many evils and drawbacks would thus be completely obviated.

The resolution being seconded, Mr. Wagstaffe suggested that the Institute ought to come to an understanding with the body of prizeholders by calling a meeting of them, and uniting with them in still further carrying out the objects which all seemed to have so much at heart.

Various other gentlemen expressed their accordance with the suggestion of Mr. Wagstaffe, one after another declaring that they knew many subscribers who were determined to keep their guineas in their own pockets if the Art-Union was to be dictated to by a Board of Trade setting itself up, by an odd misnomer, as a Board of Taste.

The second resolution was then unanimously passed, and the proposed memorial to the Committee of Privy Council for Trade, was read, and its adoption moved by Mr. Wagstaffe, who said that the unanimous feeling of artists and Art-Unions, seemed to be embodied in the brief but pithy phrase, "Let us alone." Mr. Dibdin, who seconded the motion, said that a demonstration of this sort was much wanted. The memorial was then unanimously adopted.

Attention having again been called to the fact that very great loss to artists must inevitably be incurred if prizeholders were not allowed, to choose a picture as they now frequently did, worth double the amount of the prize; it was proposed that the Board of Trade be requested to receive a deputation in order to enter into necessary details on presentation of the memorial. The chairman said, he had reason to think that the Board would receive such a deputation, and he could assure the meeting there would be no want of a goodly corps of M. P.s to accompany it. It was, therefore, unanimously "resolved, that a letter be written to the Board of Trade that they be requested to receive a deputation from this meeting on this very important subject."

The Chairman (Mr. Ellidge) then said that, anticipating the most kindly feeling towards the council of the Art-Union for the noble stand they had made against the thrusting of an enormous amount of patronage on themselves, Mr. T. F. Marshall would move the next resolution.†

Mr. Marshall, in putting this resolution to the meeting in a fervid and able speech, the sentiments of which in favour of the subject of the resolution were repeatedly responded to by hearty and unanimous acclamations, reminded his hearers that, until the Art-Union lent them a helping hand in 1836, their profession was at best but a precarious one and full of difficulties, their prospects being entirely dependent on individual patrons on the one hand, and on picture-dealers on the other. The Art-Union, in giving them the public as their patron, had been ever since emancipating them from so exclusive a dependence on either. How well it had succeeded, and is succeeding, in doing so, let the unanimity and the feelings of all present testify. Its roots once fairly struck, it rapidly yielded its fruits, and many a rising artist of the day has ever since prospered on these fruits. The present plan of the Art-Union has done more to create and increase public patronage, and to foster a love of art, than any plan ever proposed. Minor errors or defects in the working of it had been adverted to. The subject of the failure and unpopularity, to some extent, of engravings issued by the Art-Union, and the causes of that failure, was a difficult one to touch upon. Great difficulties have stood in the way of the Council itself. Electrotype had been thought to be a cause of the failure, but he thought the secret of the unpopularity lay deeper. He regretted that, in his opinion, the council seemed to have lost sight of the spirit of a passage in their prospectus in allusion to art of home growth, which he read. Yet nevertheless he said we owe them a deep debt of gratitude, and it is certainly a reflection on us as a body that we have not already resisted the opposition advanced to the hitherto successful progress of the Art-Union. It is because it has hitherto stood alone and undefended from without that the Board of Trade have ventured to press its interference so far. He trusted and believed, however, that the cordiality and unanimity with which they now received the present resolution, as well as those previously passed, would constitute a powerful preventive for the future.

Mr. J. H. Foley (sculptor) then seconded the resolution, and it was passed with acclamation. Thanks were voted to the Chairman, and the meeting separated, after most of those present had signed the memorial.

* Resolved, that a memorial embodying the foregoing resolutions be prepared, and, when signed by the body of artists, be presented to the Privy Council for Trade.

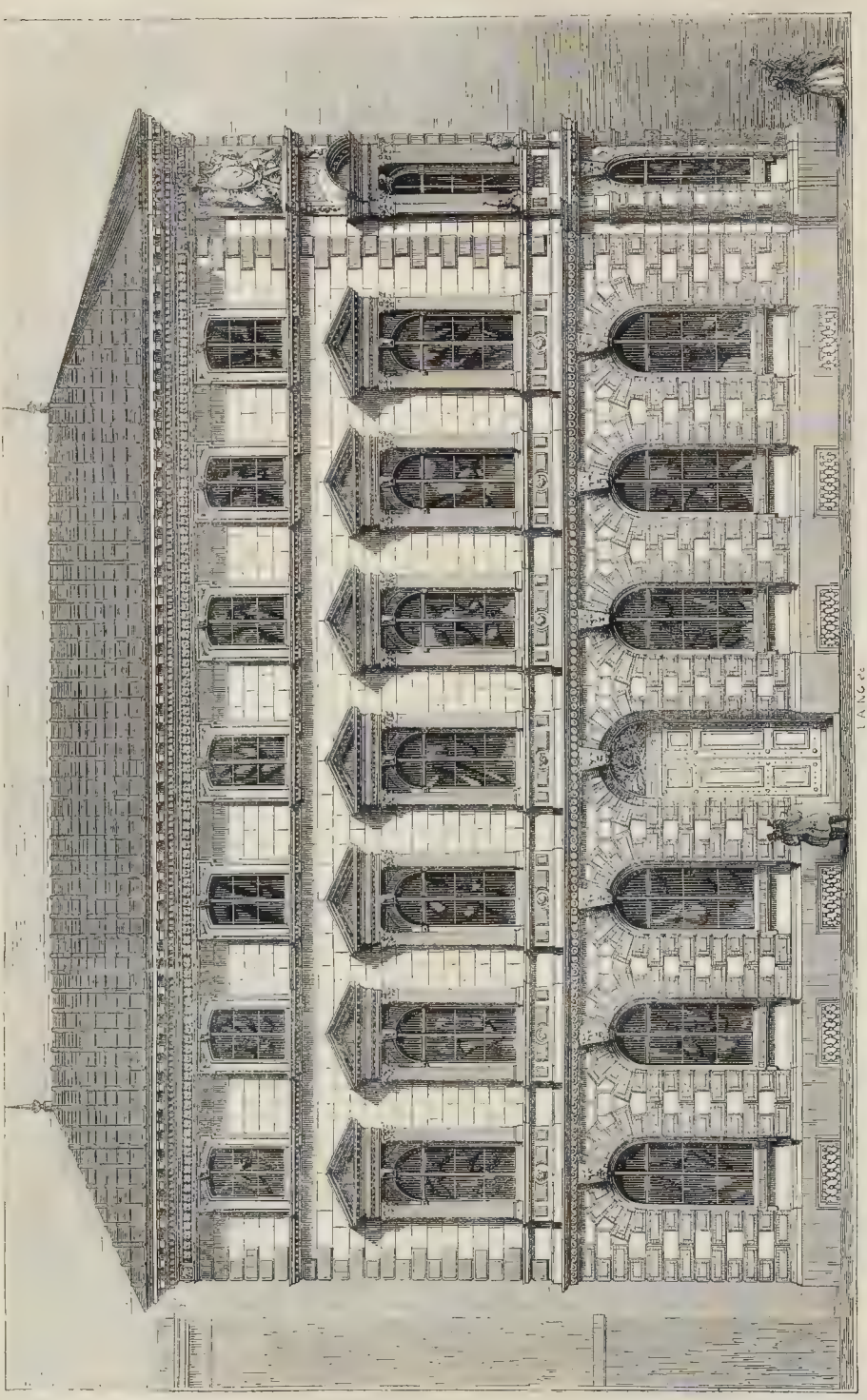
† Resolved, that this meeting take this opportunity of expressing the warmest thanks of the body of artists to the Council of the Art-Union of London, convinced that the Council have manifested at all times an anxious desire, in the face of many difficulties, to promote the diffusion of a love of art among the people, and the elevation of the position of the artist, and more especially for their disinterested and determined resistance to the measures proposed by the Board of Trade, which would inevitably place in the hands of the Council a vast amount of patronage.

NOTES IN THE PROVINCES.

The new steam-basin at Portsmouth, was to be formally opened by her Majesty and Prince Albert to-day (Thursday), in presence of most of the Lords of the Admiralty, and an assemblage, for whom 40,000 seats were to be provided, the Admiralty being desirous, it is said, to "give a high official character" to the formal opening of this national work.——Operations have been commenced in Angel-street, Worcester, on the site of one of the projected Corn Exchanges. The contractor is Mr. Joseph Wood, of Blackfriars, who is bound to demolish the old and erect the new buildings, by 1st September, and has accordingly already cleared a considerable portion of the ground. The design is by Messrs. Rowe and Son, of Worcester. It will consist of a hall 75 feet long by 60 feet wide, exclusive of offices; will be lighted from a roof framed in one span by four ranges of glazed compartments, extreme height from the floor 48 feet. The entrance front is in the Grecian Doric style, with an approach of stone steps forming a recess, and relieved by four columns supporting an entablature, with balustrade, &c. Each side of the entrance in front is divided by pilasters into equal compartments.——The new district church of St. Mark's, Easton, near Bristol, was consecrated on Thursday week. It is in the Norman style, of stone, with free-stone dressings, and consists of a nave, about 70 feet by 30 from west end to chancel, the latter semi-oval, lighted by four windows, filled with stained glass. At the west-end is a Catherine-wheel window, of stained glass (presented by the Rev. H. Richards, Rector of Horfield). The sittings are open, of oak, for about 400 persons. The pulpit is of Painswick-stone. At the tower entrance is a font, of same material. The roof is open within. The church was built, and on a site given by Sir R. Colt Hoare, Bart., from designs of the late Mr. C. Dyer, carried out by Mr. Gabriel, architect. The builder was Mr. J. Brown, of Stoke's-croft: painting and glazing by Mr. Edkins.——The journeymen masons of Newport have "unanimously resolved that no master-builder in the town shall be allowed to contract for any other than mason's work". The *Beacon* wonders what they will do next.——At the late Government timber sale in Forest of Dean, the utmost price obtained for bark was 4*l.* per ton, being 1*l.* per ton less than the price last year.——The foundation-stone of a pillar to commemorate the visit of her Majesty and Prince Albert has been laid at Ramsey, Isle of Man.——The parish church of Rodborne Cheney, near Swindon, is to be partly rebuilt and enlarged, at an estimated cost of 1,500*l.*——Repairs of the tower and spire of St. Mary's Church, Oxford, are proposed.——The first stone of the Asylum for the Licensed Victuallers of Sheffield was laid last week, at the village of Grimesthorpe. Messrs. Weightman and Hadfield are the architects, and Messrs. Fewsdale the contractors. The building will consist, at present, of seven comfortable houses, which will form the centre of the building, the two wings to which will be added at a future period. The cost of the ground was 1,200*l.*——The *Sheffield Iris* has authority for stating that the celebrated gardens and mansion of Alton Towers will be opened from 1st of June till the end of October, on Tuesdays and Thursdays. Tickets of Mr. Orrell, Shrewsbury Arms Hotel, Farley.——The mutilated tomb or shrine of a Babington, in the little church of Kingston, Nottinghamshire, near the Kegworth station, contains "bas-relief of heaven and hell, of the Deity, of 200 different baboons on 200 different tuns — in fact of all things sacred and profane"—and has been called one of the seven wonders of Nottinghamshire.——A new river cut has been opened at Astwick, near Stotfold, Beds, by a private individual, Mr. George Waldock. It is nearly two miles and a half long and twenty-two feet deep, and has been cut through a stiff clay towards a water-wheel, 20 feet high, and weighing 25 tons, shaft 5½ tons, attached to a mill, driving eight pair of stones, and erected by Messrs. Wentworth, of Wandsworth, and Spells, of Clophill, engineers; Wilshire, of Stotfold, builder; and Seymour, of Arlsey, carpenter.——The foundation-stone of the temple for Dr. Jephson's statue, in the gardens at Leamington, was laid on Saturday week before last, by Lady Somerville. The design is circular, and the style Corinthian. The new church at Sewerby, near Bridlington, consecrated week before last, is in the Norman style, and decorated to the minutest detail. The windows, of stained glass, were designed and executed by Mr. Wailes. The whole was erected and endowed at the expense of Mr. Yarburgh Greame, of Sewerby-hall.——The contracts for building two groynes on the south rocks, at the Sunderland docks, in continuation of five already completed, a coffer-dam, to be placed within the tideway of the Wear, excavation of marly rock and other matter within the same at the entrance of the intended Tidal Harbour, have been taken by Messrs. Hunter and Thompson, of Sunderland.——Whilst levelling the eastern end of the choir of Durham Cathedral, some workmen have uncovered the tomb of Bishop Beaumont—two massive stones, weighing about ten tons. This monument was prepared in the bishop's lifetime, and is recorded to have been inlaid with brass. The design is yet visible, though the brass work has disappeared.——Dr. Wardlaw's Independent chapel, at Glasgow, has been sold to the Edinburgh and Glasgow Railway Company for upwards of 12,000*l.*

Read, Mark, and Learn.—Mr. Serjeant Thompson recently delivered a lecture on printing to the Hull Mechanics' Institute, of which he is the president, the conclusion of which we will find room for:—"One of the chief objects of this noble art," said the learned serjeant, "is, that it enables men to consider by themselves, in their own studies, the ideas of subjects given to them by other minds, and thus are they enabled to carry out that noble precept 'prove all things, and hold fast that which is good.' This is a time in which I cannot but think every man should endeavour to form for himself a just conception of every thing that is going on around him. The bane of almost every person who is attracted to study, without first binding his attention to what he studies, is to form superfluous opinions upon every subject, and it is only by considering, in solitude, the works which you have in your own library, that you can produce such an effect as will hereafter be a source of satisfaction to yourselves. The effect which I wish to be produced is this—that we shall not have to say, 'I would I had known that, I would have done it before,' for the time will come when you cannot alter the effects of not having attended to it. The way to attain a high and noble position is to study the works of those who have gone before you, especially of those who have written upon those things which are similar to what may attract your attention now, but without the same prejudices of party which are rife at this time."

Institution of Civil Engineers.—At the meeting on May 16th, no paper was read, in order to afford time for the discussion of Mr. Gooch's paper, "On the resistance to railway trains at different velocities," which was read at the meeting of April 18th. The principal speakers were Messrs. Brunel, Gooch, Bidder, Locke, Harding, and Russell, and their arguments were necessarily so complicated by calculations as to render it difficult to convey, within reasonable limits, even an outline of the discussion.



NEW IMPERIAL INSURANCE-OFFICE, THREADNEEDLE-STREET.—Mr. Gibson, Architect.

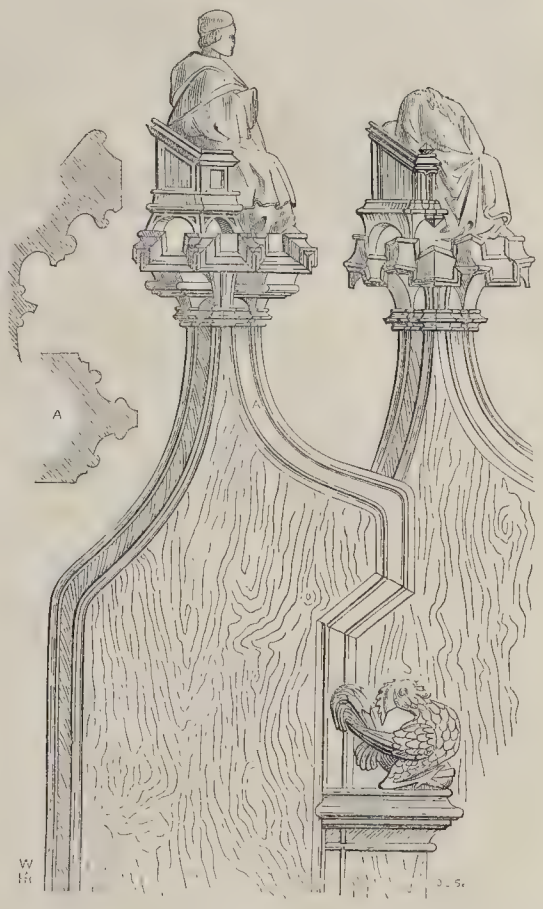
IMPERIAL INSURANCE OFFICE,
THREADNEEDLE-STREET, CITY.

The accompanying engraving represents a building, now nearly completed, which has been erected at the corner of Threadneedle-street, nearly adjoining the Hall of Commerce, for the "Imperial Insurance Company." The ground on which it stands is angular, and our view shews the longer side of the edifice in the return street. Next week we shall give some particulars of the structure.

STALL-ENDS, LANDBEACH CHURCH, CAMBRIDGESHIRE.

Amongst the great patrons of art whom the middle ages produced, few appear more worthy of celebrity than John Alcock, Bishop of Ely, whose rebus is seen on the arm-rest of the accompanying bench-ends now in St. Peter's Church, Landbeach, but which were originally in the chapel of Jesus College, Cambridge. At the suppression of the convent of St. Radegund, Cambridge, in the 12th year of King Henry VII., the munificence of this splendid prelate converted it into a college, which he dedicated to St. Mary, St. John, and the virgin St. Radegund; and this edifice, which combines some of the choicest examples of Early English architecture with much of the profuse decoration of the end of the 15th century, now forms, under the name of Jesus College, one of the purest architectural gems which ornament the banks of the Cam. The small but beautiful chapel at the east end of Ely Cathedral, and known as Alcock's Chapel, is, from its elaboration, a still more princely monument to his memory; but Landbeach Church, though of less pretension than either of the works which have been alluded to, recalls with agreeable associations the name of this amiable bishop, whose piety was so great, that an encomium was even passed on him by Bale, who was warmly devoted to art, literature, and devotion, and united in his long discourses profound learning and impressive ardour. An elegant carved oak door which Landbeach Church once contained has been removed to Ely Cathedral, but the stalls remain in their original condition, excepting that a coat of white paint (about, however, to be removed) in some degree mars the general effect. The arm-rests are all fashioned into the rebus of a cock standing upon a ball; but the poppy-heads, which are all various, contain figures of bishops, priests, and acolyths, seated in chairs, and supported by battlements of extreme intricacy. Of the latter, two specimens are here given, one of them somewhat mutilated, the other more than ordinarily well-preserved. These examples with much propriety are now being copied in carved oak as stalls for the fellows and undergraduates of Jesus College, in the restorations and improvements which have already been announced as taking place in that memorable building.

STALLS—LANDBEACH CHURCH, CAMBRIDGESHIRE.



Engraving of the New Palace at Westminster.—We lately observed in the shop windows a large print of the New Houses of Parliament, and wondered as we looked at the great tower and other parts of the structure, whether the representation there given was *really* what the architect meant to carry out. The following letter from Mr. Barry has eased us considerably:—"Sir: "Having observed in several of the print-shops an engraving prepared and published, without my knowledge, by Mr. T. H. Ellis, of Jewin-street, purporting to be a view of the New Palace at Westminster, with the *Towers now in progress*, I feel myself called upon to state publicly that the representations of the towers in that engraving are altogether at variance with the design adopted for them, and that the view is in other respects very inaccurate. I venture to hope, therefore, that by the insertion of this letter in your valuable and widely-extended publication, you will do me the favour to assist me in denouncing, especially, the representation of the towers in this engraving, as a gross caricature of the most important features of my design for the New Palace at Westminster."—I am, Sir, &c., C. B. Westminster, May 23, 1848.

CRITICISM OF ARCHITECTS.
WANT OF DEFERENCE FOR THE OPINIONS OF ARCHITECTS—AMONGST THE PUBLIC—AMONGST PROFESSORS.

In the present position of architecture as an art, there is much that must occasion pain to those who mingle any love of it with its practice as a profession. Provided architects are fully competent to the development of their art, and properly qualified for that end by a knowledge of principles and forms already educed, there should exist, amongst the public, great deference for their opinions on all matters of taste, and perfect confidence in their ability to produce beautiful works. But this state is very far from characteristic of the public. It has so little manifested itself amongst *students*, as to have led to the admirable remarks of Professor Cockerell in his last lecture. The architect himself, when criticising the works of his contemporaries, is, like these, too liable to commit injustice. He, at least, ought to know how numerous are the points in which the mere construction, form, and detail of a building may be influenced, how these, in many cases, dictate in the design, and that, ere the merit of a work can be properly appreciated, something like the same amount of attention to the circumstances of the case may be expected from the critic, as was devoted by the designer. How constantly do we hear this or that building condemned for peculiarities of arrangement, or decorative treatment, which a mere representation of facts and reasons would convert into beauties. It is true, as it has been said in an article in The Builder, that the critic will require some show of reason for preferring, in each case, the form there employed, to others which may exist, but still there should be great deference to the opinion of that individual who has had the best opportunity of arriving at a matured decision—namely, the designer himself.

The architect should eschew that unfounded, or hasty vituperation, in which ignorance and impertinence are about equally blended: from his knowledge of the difficulties and responsibilities of his vocation, it should give him pride to admit the excellence which others are unable to appreciate. He should consider what were the circumstances of situation and plan, what were the other considerations exacted, and *then*, and not earlier, say if the forms and character of decoration employed be such as there is reason in the use of, in variety and in intrinsic beauty, compared with other forms with which the architect is familiar. His knowledge of the whole history of architecture, of the several forms which each style has given to material, places him so far above the general public in the ability to judge of the merit of a work. But in omitting to consider the data on which the design was founded, he is guilty, not only of injustice to his brother professor, but of a method of criticism which, in one who makes the art his profession, is productive of the most injurious results.

An opinion of an Oxford tutor in a case of surgery, of a physician in a matter of theology, or of a mill-owner or manufacturer in a moot point in law, would have no great weight, and would hardly be offered; but the difficult question of the merit of an architectural design, is one on which all think themselves able to arrive at sound judgment. The architect is not free from the error, which he is ready to ascribe to these, if he passes judgment in the same ignorance of facts and data. He possesses a knowledge of the art, which would enable him to detect the fact of an invention, to estimate its value compared with other variations of the same feature, and to ascribe to the author the merit which is due. He is able to see the reason which should be apparent, for the use of any particular form, whether in its pre-eminent beauty, or in beauty conjoined with variety, -for he will not forget that the most beautiful form which the architect might know to be available, is not always that which he would be right in choosing; he must produce that which has novelty, as well as that which has propriety and accordance with principle, and is relatively beautiful. He has the aptitude to discover the circumstances which influenced or restricted the design; let him use this faculty, or in place of a hasty judgment, give that deference to him who has had the best means of balancing every requirement with every feature of effect, and who has at least devoted mature consideration to them. It is easy to discover errors, but difficult wholly to avoid them. Let the architectural critic, whilst requiring that a reason should be given for the preference of a particular form, not refuse to seek that reason which could often so readily be offered.

"But you are tired—I'll tell a tale.—Agreed.—
Where London's column, point ————"

No, that is not the story, and how, indeed, could it have been known to Pope, for although a building, unfinished, does not always imply that it was commenced only lately (for proof of which see a "column" upon which Pope would have written a satire,—"The Nelson"), yet the elegant structure to be referred to, was certainly not commenced very long since. And if consequently, it is not recorded in a chronicle of very early date, that a building intended to serve the purpose of a museum, was in progress in the parish of St. James's, the anecdote to be related came to the knowledge of this present deponent through some channel of equally undisputed verity. It is said, that this building has for its author an architect who would do nothing without being able to give a "reason" for adopting any particular arrangement or decorative detail.—The principal, or most elaborate front, which has lofty stories, and very large windows, is in a wide street, one of the principal thoroughfares, whilst the entrance is in another front which is much less elaborate, and is in a narrow street. It chanced—so runs the story—that two architects, one of mature age, and the other young, together examined this building. The younger was the first to give an opinion. He said nothing of the beauty, or otherwise, of the doorway, of its importance compared with those of public buildings generally, or of its obviously serving for the entrance to an important public building; the details of windows, arches, panels, cornice, coins, and piers, were unobserved, but he confined himself to one item of arrangement, which to him gave ground for indiscriminate censure. The architect, he said, by placing the entrance in what was not the principal elevation, had acted in direct contravention of one of the most recognised principles of arrangement and design. This was, he said, in all cases, to place the doorway in the most important position, so that it should be obvious to all who wished to enter the building, and to make it so not only by position, but prominent by its decoration; and he affirmed, that every stranger who wished to visit the Museum, would be unable to find where the doorway was, unless a direction-board were placed against the building, which, to his thinking, would make the design very ridiculous. To him, the other, who may have been the writer of this notice, answered:—"Your principles are good ones, but you have committed the usual error of the young, in arriving at a hasty conclusion, with no knowledge of the premises—without considering how far other principles, in addition to what you have mentioned, may have required to be taken into account in this particular instance. You do not allow anything to the architect for circumstances of ground, light, and destination of the building. You forget that it has been the fate of every architect, as it assuredly will be that of yourself, to find our own wishes secondary to the caprice of employers, and that Wren is to this day censured for defects in the architecture of St. Paul's Cathedral, which did not exist in the design which he was anxious to have adopted. You have remarked how often, in really excellent works, a confined site has required the entrance to be placed at the side, and not in the centre of the building; *that* position you would, if quite consistent, object to. For myself, I wish to feel none of that envy which is said to be inseparable from artists; and whilst I would not have that incompetence which would blind me to positive defects, I would rather dwell upon beauties. In this instance, I know that we are looking at the work of a practised architect, and I would, as a talented professor has recommended, judge this master with the generosity of the English law, which considers all as innocent till proved to be guilty. I have no doubt that good reason could be given for selecting an arrangement which is unusual, and that reason would remove, with me, all ground to ascribe negligence and bad judgment to the architect. I may differ in opinion, but if he can give good reason for *his* view, that is all that I require; and in any case I will not be debarred from admiring the design in other features, if it deserve it. But, I may say, that had the entrance been in the principal front, the space would have been—if I guess at the plan rightly—most injuriously interfered with, where, from the imperative necessity of good light in this building, it could ill be spared, and whether this be the reason of the arrangement, or not, the error of your criticism is, that you have not taken this point into consideration. Had you done so, your condemnation of the architect might have been qualified." Such is the story,—the moral has in this case preceded it.

COLOUR IN ARCHITECTURE.

THE ARCHITECTURAL ASSOCIATION.

AT a meeting of the Architectural Association, held in Lyon's Inn Hall, on Friday, May 12th, a paper was read by Mr. William Wood Deane, "On the Application of Colour to Architecture." The author commenced by pointing out the universal presence of colour in the works of nature, and its great effect in the production of their beauty, observing that, as all man's ideas of beauty are derived from nature's works, to delight man the artist must endeavour to work like nature, and avail himself of the means which she employs to produce pleasurable sensations.

The first essential of beauty in architecture is form, but nature is not content with form alone, and indicates colour also as a legitimate means of producing additional beauty. The author took a rapid survey of the different modes in which coloured decoration had been employed in architecture during each succeeding age, from the days of Egypt's grandeur to the present time, observing that such a review is calculated to remove all scruples in respect to the employment of colour, from the minds of even the most prejudiced worshipper of precedent; while to those who study the works of past ages, merely to profit by their experience, to whom they are aids to originality rather than restraints upon their fancy and genius, such vestiges of antiquity are replete with suggestions of the greatest value.

The application of polychromatic painting to external architecture has received much attention abroad, and led to several bold attempts in Germany and France. In a country like our own, where surface decoration appears in continual danger of destruction by the weather, external painted decoration was thought to be inadmissible. But our various building materials afford opportunities of producing much agreeable variety of colour. The tints of the materials of a building should harmonise as far as possible with surrounding objects.

Interior decoration has for years received undeserved neglect at the hands of the architects of England, but it is a subject which has happily begun to engage the attention of the artist and the connoisseur. Historical paintings are undoubtedly the noblest means of introducing colour,—as these, while they assist the design of the architect, are themselves to be ranked among the noblest efforts of the human mind, calculated at once to adorn, to delight, and to instruct. Polychromatic painting affords a means of displaying the liveliest fancy and most elegant design; and even in essentially cheap architecture, a few well-disposed lines of harmonious colour may give a pleasing character to an apartment, at a very small outlay of money, although not without the exercise of a considerable amount of judgment. Painted glass may be used with propriety in classic as well as in pointed architecture; although the practice of imitating oil paintings in this material, in vogue during the last century, is undoubtedly a misapplication.

In conclusion, it was contended that the application of colour to architecture had been proved to be in accordance with the practice of the past ages, to which architects look for precedent, and, above all, to be a mode of obtaining beauty taught and practised by nature, from whose example all true art is derived.

RAILWAY JOTTINGS.

THE number of passengers carried on railways in the United Kingdom during the year ending 30th June, 1847, was 51,352,163*l.*; receipts, 5,148,002*l.*; and for goods, cattle, &c., 3,362,884*l.*: total, 8,510,886*l.*: increase on preceding year, one million. The rates of fare average on the Midland lines—first class, 3d.; second, 2d.; third, 1d. per mile: on the Great Western, 2¾d., 1¾d., and 1d. per mile; on the North Western, 2½d., 1½d., and 9-10d. per mile. ——The Scottish Companies are preparing for a conjoint application, along with the English Companies, to Government, for a loan of money to enable them to finish their respective undertakings, and thereby afford employment to the destitute working population.——In describing the late fearful accident from which we so narrowly and fortuitously escaped on the Great Western, we believe we gave the gist of the unfortunate cause which led to it, in saying that the train, being a few minutes after the usual time of passing the Shrivenham station, the porter in fault, who was usually at dinner during that time, concluded, or took it for granted, on his return, that it had passed as usual. Now, instead of allowing any such employé to *conclude* habitually that events have taken place as usual, were the law strictly laid down that the very contrary 'conclusion' be in all such cases come to till *its* contrary be ascertained, a fruitful source of accidents, would be sure to be obviated. As the *Times* justly remarks—"Where human life is concerned, nothing should be taken for granted—everything should be proved—nothing but danger should be apprehended until the contrary be ascertained." For the neglect of so simple and effectual a regulation every company must forthwith be held responsible. Indeed, it appears most strange that so obvious and correct and essential a rule should still remain to be established on any line, and more especially on the Great Western, where, perhaps, more good-will to establish public safeguards has been displayed than elsewhere. ——A correspondent of the *Birmingham Journal* points attention to the fact that repeated, but hitherto unavailing, recommendations have been made by juries at Rugby in cases of accident, "that a suitable place be provided at the station for the reception of those who meet with accidents." It is easy to see the force of those motives, which, apart altogether from questions of expense, may have operated in the prevention of so desirable and requisite an adjunct to accidents ever and anon occurring; but so long as accidents do occur, or have so much chance of occurring as they still have, Companies ought to be compelled to prepare beforehand the most ample and ready accommodation, with all requisite surgical and medical appliances. In this case, certainly, ridicule and the fear of ridicule have not operated as a corrective agency, but the contrary, for which we believe our worthy

contempory *Punch* and his witty coadjutors have, it may be unwittingly, much to answer. In the recent accident just referred to, the poor fellow Lee, whose left leg was a complete pulp from hip to ancle, is said to have been "carried in that state on a slide (used to lower luggage from the tops of the carriages) to an out-house, cold and damp, without a particle of furniture, and no light save the flickering of a lantern." It is admitted, however, that otherwise the utmost possible attention was paid to all who were in any way injured. It is nevertheless advisable that the want of proper and ready accommodation and appliances in such cases on all lines should be brought under the notice of the Secretary of State, if not speedily remedied.—— Mr. Lane, brewer, Vauxhall-road, Liverpool, has patented an invention for preventing accidents from collision, and has models, driven by a locomotive, running on a temporary line on his own premises. The models, in recent experiments before the mayor and others, were repeatedly brought into contact at full speed against resisting bodies, "and in no instance did the collision produce the least apparent effect on the body, wheels, or works of the models." Mr. M'Conochie, of the firm of M'Conochie and Claude, engineers, has been engaged to make a series of experiments, the results of which will be published. The peculiar feature of the break used in this invention consists in its locking all the wheels of each carriage at the same moment, by aid of the compression of water. The buffers act in connection with the breaks, by compression of air with water in cylinders. There are also improvements in the adjustment of the bearing-springs, &c. A writer in the *Mining Journal* states, that to his astonishment a whole train was brought to a stand-still by this invention, within a few feet, at a given signal.——It has been suggested that for convenience, in second class carriages with high enough roofs, two or three straps should be stretched across the roof for the suspension of hats, as in first class carriages,—a cheap enough convenience to passengers surely.

METROPOLITAN COMMISSION OF SEWERS.

THE ORDNANCE SURVEY.

A special general court was held on Thursday morning the 25th inst., Committee-room No. 10, House of Commons. The Hon. F. Byng took the chair.

The minutes of the proceedings of the committee of Tuesday, 25th, on the subject of the Ordnance survey of the metropolis were read, in which it appeared that a difference of opinion existed as to the power of the commissioners to appropriate the sewer rates towards carrying out that object. After several divisions upon the question, it was finally resolved that the opinion of the Attorney-General and Solicitor-General and Mr. Peacock should be taken as to the power of the court to appropriate the sewer rates in the way proposed, which was given in as follows:—

"We are of opinion that the Commissioners of Sewers cannot cause a general survey and plan of the metropolis to be made at the joint expense of the several districts now under their control by virtue of the seven new commissions which have been lately issued. But we are of opinion that they may cause a separate survey and plan of each district to be made, and pay the expenses of each of such surveys and plans out of the rates of that district to which the survey and plan relate. The commissioners may employ the same persons to make all the surveys and plans, so that when made they will substantially have the same benefit as they would if one general survey and plan were made, but the expenses of each survey must be kept separate. We see no objection to their employing the officers and persons in the Ordnance department to make the plans and surveys; but such officers and persons will have no greater powers or privileges as to entering upon lands without consent or the like, than any other engineers or surveyors who might be employed by the commissioners.

"Secondly.—If it should be necessary in making a survey for the purpose of correctly constructing or improving sewers within the limits of any particular district, to extend the survey beyond the limits of that district, or to examine any water-lines or levels out of the district, we are of opinion that the Commissioners may pay the expenses thereof out of the rates of the district in respect of which such work may become necessary; but care must be taken not to incur any expense which the survey of the district does not require.

"Thirdly.—We are of opinion, as before observed, that the Commissioners must charge each district with the actual expenses incurred in respect of such district, whether the survey be made by contract or otherwise; and if the work be done by contract, a separate contract in respect of each district must be made.

(Signed) "JOHN JERVIS.
JOHN ROMILLY.
B. PEACOCK."

The following recommendations of the General Purposes Committee were also read:—

"That the committee recommend to the court that the Ordnance department be requested to proceed with the block plan, so far as may be necessary for the purposes of every district, with all practicable speed, and that the Survey Committee be instructed to take care that the filling in of the necessary particulars be confined to the rateable districts respectively.

"That the committee recommend to the court that the Ordnance department be requested to appropriate the charges of the triangular and block survey to the various districts, so that every district be charged only with the proportion of the expense duly incurred for the purposes of that district.

"That the committee recommend that such payments on account, as may be necessary for proceeding with the survey, be made from time to time out of the rates."

Mr. Chadwick, in moving that the opinion of counsel and recommendations of the committee be adopted, said that the course advised by the law officers of the Crown was precisely that which they had always intended to pursue. The metropolis had for years paid its quota of rates to the Consolidated Fund, out of which the surveys of the large towns in the north had been made, and, even on this ground, he considered, was entitled to its share of the charge upon that fund for the present work, so as to render any resolution upon the subject unnecessary. Parliament, however, which was omnipotent, had thought otherwise, and had determined that each town should henceforth pay for its own. He was willing that Parliament should be set right upon this point, but still he might undertake to say for himself, and even upon the very highest authority—that of Sir H. de la Beche—that the delay of a month would cost fully the amount now in question. The weather, too, and other circumstances, were highly favourable to the work, and if not proceeded with immediately, the eventual loss could not be estimated at less than a quarter of a million. He therefore moved the adoption of the opinion and resolutions of the committee.

Mr. Broderip seconded the motion.

Mr. Leslie said, that in the early stages he saw that the whole question was surrounded with difficulties, but they had been relieved from them by Government undertaking to defray the expense, on receiving the approbation of Parliament to such a course. What had been the result? why, that the House of Commons had refused its sanction to the vote, and they themselves had then undertaken to pay the expense out of the sewers rates. He (Mr. L.) objected then to what was demonstrated now, that they had no power to pay for the survey out of the sewers rates, and he could not sanction the report of the Committee, which was not clearly justified by law as a Court of Sewers. Besides, a private gentleman had offered to undertake the work at a less cost, and to perform it as unexceptionably and in a less time than that required by the Ordnance department, and why was his offer declined? The objection was, that he had no legal power—no right, to enter on private property, and this point stood first in the answer of counsel to their own application; clearly shewing that they could do that themselves. Then another point arose, shewing, that by the local Act of the Holborn and Finsbury district, they had no power to carry out the plan as far as that division is concerned, as one of the clauses declared that no work exceeding 200*l.* in any year should be performed unless such work was performed by contract; and by another clause it was stipulated that, before any work was executed to the amount of 50*l.*, security should be given for the due performance of the same. How could they comply with these clauses in the course proposed? Surely they would not contend that a survey of the metropolis was not work? He advised them not to go on in a hasty manner until they had again taken the opinion of the House of Commons, for, he felt assured, there was a bar to the proceedings as far as Holborn and Finsbury were concerned. Should they do so, he believed they would save much valuable time, for he believed the law did not authorise them to proceed in the manner they proposed.

Mr. Slaney was as desirous as any member of the court to carry out a complete survey, which he believed would lead to true economy in the end, but how was it to be done? It was estimated to cost 25,000*l.* If they got an Act of Parliament, it would give them facilities, and spread the rate of charges over a period of thirty years, instead of throwing the whole expense upon the present ratepayers. He considered it advisable, however, before proceeding further, that the commissioners should wait upon her Majesty's Government; and he had no doubt that a short Bill might be brought into the House to do all that was required.

Lord Ebrington, as a member of the House of Commons, could state that Lord Morpeth had given assurances that the charges would be spread over a long period, and that a bill for that purpose was already in preparation.

Mr. Chadwick, in reply, said that it was a matter of favour to have the assistance of the Ordnance department in carrying out the work, whose officers and men gained nothing by it but additional work: no extra pay. (Laughter.)

The resolutions were then put and carried with but one dissentient.*

* It was stated in the course of a conversation that the expense if spread over thirty years, would be about 1¼d. per house per annum.

Miscellanea.

Projected Works.—Advertisements have been issued for tenders, by 7th June, for repairs, alterations, and repewing, at the parish church of Frisby, Leicestershire; by 22nd June, for alterations and additions to the Kent County Prisons; by 6th June, for the erection of carcass of dwelling-house, and for building and finishing warehouse, factory, and other premises, at Haggerstone; by a date not specified, for building and finishing houses at Southampton; by 6th June, for erection of schools and master's house at Southampton; by 9th June, for the erection of an Odd Fellows' Literary Institution at Birmingham; by 2nd June, for certain works at the Halsted Union Workhouse; by 7th June, for the erection of booking-offices, &c., at Leeds station; by 8th June, for supply of various paving materials for St. Giles-in-the-fields and St. George, Bloomsbury; by 9th June, for paving in St. Ann's, West; by 30th inst., for lighting the City with gas; by 7th June, for laying down water-pipes in Southampton; also by 2nd June, for a survey plan and valuation of Houghton Regis parish.

Meeting of the Archæological Institute, Lincoln.—The members of this society have arranged to hold their next meeting in the city of Lincoln, in the week beginning Tuesday the 25th of July. There will be three sections, at which papers will be read on architecture, history, and antiquities. Excursions will be made to Southwell, Tattershall, and other places. Professor Willis will give a lecture on the minster. Papers will also be read, among others, on the Roman remains of Lincoln, the castle, the palace. The Council of the Institute has solicited the exhibition of the regalia, and access to the antiquarian section of the ancient documents of the corporation. The Town Council resolved to afford all possible facilities, enabling the institute to carry out their objects. A writer in the *Lincolnshire Times*, who signs himself "A Visitor," has been finding fault with the buildings last erected in this city. He says,—"I think Lincoln has lost the art of classic building. My attention was first attracted to a new building, which I was informed was the 'New Corn Exchange.' Had it been a money change, I should have wished that not only the tables of the money-changers were overthrown, but the change itself. I felt no inclination to inquire the names of your several architects, as, by the specimens, posterity will not require them. The building is disproportionate, of no known order, and out of the square; it has large pillars in front, with no corresponding capital; the entrance is more adapted for a solemn mosque than for commercial resort; the arches are narrowed within the proportion of height. The Exchange itself would do for a republic of bees, where humming is the language; for, either from the want of attention, or of knowledge of the science of acoustics, the vibration and echo were so striking to me, that a speaker would have to gulp his own words—they could never reach the auditory at any distance. I proceeded to the new hotel intended for the Great Northern Railway. On an external view, it was apparent that the ingenuity of the architect has been taxed to make a large good building out of a bad small one. I will give him credit for the endeavour, but I cannot compliment him on his success. The entrance door is out of all proportion; it is small and insignificant. The interior I did not see; but, from the exterior, I could form an opinion, which was highly favourable for public accommodation. On returning to 'mine inn,' I had opportunity sufficient to examine the building, but lately erected. The same faults were as visible in this as in the other buildings. The architect evidently shadowed forth on his 'card board' an Elizabethan building, but he has not fully carried it out; consequently, the intended effects are defects." As we shall probably take a peep at the doings of the "institute" in the ancient city, we shall be able to confirm or contradict this censure.

The Western Literary Institution.—Mr. J. S. Buckingham has commenced a course of lectures here on Italy and the Italians. The lectures of June 1 and 8 will treat of the ancient and modern buildings of Rome.

COMPETITIONS.—Advertisements have been issued for plans, &c., for a new workhouse in the Erpingham Union, for 500 persons: premium offered, 50*l.* or a commission;—also for designs and estimates for the erection of a church and schools in the Marsh, Stratford, Essex: no terms specified;—also for a plan and estimate for building thirty cottages at Chertsey.

THE SHOP-BLIND NUISANCE.—A Dudley 'six-feet' correspondent of the *Birmingham Journal* indignantly complains of a local nuisance, such as that already no less indignantly denounced in THE BUILDER as a metropolitan one—that is, the shop window-blind, or awning-tackle nuisance. "Is it to be endured," he asks, "that while in the very act of returning with studied elegance the salute of some fair friend, your "chapeau" shall be dashed from your apex into the kennel by some infernal machine fixed in mid air? a machine evidently originated by some fiend of a shopkeeper for the express purpose of malicious annoyance to pedestrians." We cannot but sympathise with the Dudleyite, seeing that we have suffered but too often under a like infliction, not exactly such as he may have met with, while, 'with his beaver up,' in the pride of one of those studied flourishes of elegance which occasionally, we must admit, deserve to meet with so summary a downfall from the sublime to the ridiculous, but, on the contrary, while with much more staid, if not more studied manner, threading our way through a metropolitan thoroughfare. We had even determined on a public-spirited, but probably Quixotic crusade against these worse than windmills, in the Strand, the other day; but confess we were, *pro tem.* at least, seduced from our valiant purpose by a highly satisfactory solatium on the majesty of our person, administered, by way of "soft sawder," by a graceful Dulcinea del Strandoso, who pleaded guilty to the not very 'soft' impeachment of elevating one of these levelling engines a reef or two too low, at least for our 'elevation' above the pavement, in front of her 'emporium.'

ORDNANCE SURVEY.—On Monday some returns connected with the Ordnance survey were printed. A list is given of the towns in Ireland surveyed, on the scale of 60 inches to a mile. The surveys were not made for the purpose of sanitary improvement. They were commenced in 1830 and finished in 1843: the expense was 863,206*l.* It appears that the area of Ireland is 20,875,482 acres. In Great Britain it appears that Southampton and Windsor only have been surveyed for sanitary purposes. The cost of the preparation for Southampton was 1,240*l.* 12s.,—the area was 3,356 acres;—whilst, for Windsor, it was 331*l.* 17s. 9d.; the plan embracing an area of 1,212 acres.

ART IN PARIS.—A commission of reform, composed of artists, has been instituted in Paris, to examine into the constitution and condition of the school of fine arts there and those of the Academy at Rome, and to propose measures for their improvement. Some curious hoards of objects of art of various kinds have been discovered in the Louvre, and a commission has been appointed to examine them. ——The competition for the symbol of the Republic, consisting of five hundred designs, is said to be a failure. The collection contains few designs of any merit.

COMPOUND IRON BEAMS OR GIRDERS.—In a specification, enrolled May 9, 1848, of the patent of Mr. Henry Fielder, Maida Vale, it is stated that the lower or tension flanges are made wholly or partly of malleable iron, while the centre ribs and upper or crushing flanges are wholly or partly of cast iron, according to the duties they may have to perform. The malleable iron is united to the cast iron by hot riveting, and in all cases in such proportion that it shall be able to support, alone, the estimated weight to which the whole girder may be subjected, and so prove efficient in case of fracture of the cast-iron portion. The specification also comprehends the application of the principle to the strengthening or repairing of existing beams or girders, and to the construction of beams or girders composed entirely of malleable iron, in which case the flanges are united to the centre rib by angle iron, the coupling joints headed, and the whole fastened together by hot riveting.

ARMSTRONG'S HYDRAULIC ENGINES.—We are glad to perceive, from accounts forwarded to us from Liverpool and Newcastle, that the ingenious invention of Messrs. W. G. Armstrong and Co., of Newcastle,* already noticed in our columns, is in course of multiplication, especially at Liverpool, as a power adapted to use for warehouse and ship cranes,—a subject of the utmost importance to that and every other port, for the economization of manual labour. The moving power at Liverpool is the pressure of the water supplied from the mains of the Green-lane water-works, whereby a couple of tons of goods can now be hoisted in a few seconds to the highest floor of a building almost without human aid at all. It is said to work with great precision and delicacy. Our confident prognostications of the immense diffusion of such a power for various purposes, long since published in THE BUILDER, are thus in course of fulfilment. A modification of the same principle, approximating closely to the steam-engine, has been recently put in operation at Newcastle, where, as we have already noticed, quay cranes have been for some time in use. The *Newcastle Journal*, in describing this new engine says, "Certain it is that all impediments to the attainment of high speed and easy motion are removed in this engine, and there appears to be every probability of its coming into extensive use, not only in cases where steam-engines are considered objectionable, but, also, for many purposes where it will be found more economical than steam, and in others where it will be applied in substitution of manual labour. We congratulate Messrs. W. G. Armstrong and Co. on the production of this engine, which is novel and ingenious in design and beautiful in workmanship." It is worked without waste of water at all by means of slide valves opening into pistons acted on through two separate pipes, "by the pressure of the Carr's Hill water on the one side, and by the opposing pressure of the Gallowgate water on the other, the engines being consequently put in motion by a force equal to the difference between the two pressures [82 lbs. on the square inch]. By this means the water, instead of being run to waste, merely passes from one set of pipes to the other, and remains available for the use of the town."

LINEN FIRED BY SOLAR HEAT.—In the case of a fire which occurred on Monday week, in a warehouse at St. Paul's Churchyard, Mr. Braidwood reports to the insurance offices that the cause of it was the firing of a linen curtain first at the open part of a window. It seems doubtful, however, whether by "the open part" of the window he means that the sash was open, or merely that the fire originated by the solar action through the glass where exposed openly to the solar ray. The heat was lately, it is said, 21 degrees above the average of the same time of the year for twenty-five years past; but the firing of linen by the unconcentrated rays of an English sun in May, would be a phenomenon likely to startle the linen-clad denizens of the tropical south.

DISCHARGE OF WORKMEN WITHOUT NOTICE.—At Bedlington, lately, it was decided in court that a notice posted up by employers to the effect that every workman was to give three weeks' notice previous to leaving his employment, implied a like understanding on the part of the masters towards the workmen, and the bench decided accordingly, except in cases where it was proved that the men had on several occasions quitted work to speak to others,—in fact, to advise them to strike for higher wages, the real reason of their summary dismissal.

BRITISH GLASS.—In an official document presented to Parliament, and lately printed, it is stated that the quantities of British glass exported in the year ending the 5th January last, were as follows:—Flint glass, 17,858 cwt.; window glass, 29,804 cwt.; plate glass, 41,879 superficial feet; common glass bottles, 227,844.

AN ARCHÆOLOGICAL SOCIETY has been formed in Scarborough. The objects of the society are to promote antiquarian research in the neighbourhood, and to illustrate and make interesting the history of ages past, by those memorials of them which have been or may be found.

* Are these the gentlemen who discovered the singular principle of "Armstrong's hydro-electric boiler," first announced from the vicinity of Newcastle?

WINCHFIELD CHURCH, HANTS.—This is a very interesting structure of the Norman period, and is well worthy of a passing visit. The tower is 25 feet square at the base, but the upper part is modern, apparently built after a portion of the original had fallen down. The western doorway is a good example, with columns and zig-zag decorations; and the arches between the tower and nave internally, and the nave and chancel, are beautiful, especially the latter. The windows in the chancel are enriched internally with the zig-zag ornament. On the northern side are the remains of an Early English doorway, and at the eastern end there is a triple lancet window. Perhaps the most interesting part of the building to an antiquary would be the curious rude paintings on the outside of the tower. The old part of the tower has been plastered over, and on the upper portion of it is painted a scallop running round the tower, and on the west front above that are represented dragons crossing their forked tongues in the centre: these dragons seem to be issuing out of other dragons, and underneath appear to be the figures of human beings. An external decoration of this sort is rare. The pulpit bears the date of 1634.

FOR THE PRESERVATION of WOOD, a patent has been taken out in France by MM. Hutin and Boutigny, the principle of which consists in the assimilation of the antiseptic substance with the vegetable itself, in place of impregnation with corrosive sublimate, or the chlorides of zinc, calcium, iron, &c., which have been found, it is said, to tear the woody fibre asunder by the irresistable force of crystalization. On the new principle, nothing more is necessary than simply to immerse the ends of each piece to be preserved in any of the hydro-carbons—such as the oil of schist, and set on fire the ends of the pieces thus treated, letting them burn until all the applied hydro-carbon is burned out—when they must be immediately dipped into a hot mixture of pitch, tar, and shellac, and may then be painted, tarred, &c. M. Gemini, in a paper read to the Paris Academy, testifies to the destruction of fibres by the usual processes, and recommends tar, creosote, naphtha, or any of the highly-bituminized articles, easily and economically obtained.

STONEHOUSE MECHANICS' INSTITUTE COMPETITION.—We understand, with respect to the competition for the Stonehouse Mechanics' Institute, that, at a special meeting of the committee, held on the 9th inst., to receive the report of the sub-committee appointed to investigate the plans submitted by architects, a design was adopted, which was afterwards found to be by Messrs. Fuller and Gingell of Bristol. There were about twenty designs sent in.

CHRIST CHURCH, EAST GREENWICH.—Last week a supper was given by the committee for erecting Christ Church, East Greenwich (Messrs. Brown and Kerr architects) to all the parties employed upon it, on the occasion of the roof being covered in. About 70 persons sat down. These kindly gatherings have a good effect; they make all parties feel personally interested in the success of the work.

NAIL MAKING.—We are told this branch of trade is likely soon to receive a strong impetus by the operations of the British and Foreign Patent Nail Company, who are about to commence their works. It is said that the nails manufactured by the machinery are of a first-class description, though produced at an expense which will enable them to be sold at a lower price than is paid for the most common cut nails. It seems that the whole nail—head, body, and point—is made at the same time, and simply by one operation of the machine.

IRON PIPES CAST IN TRUE CONCENTRIC CYLINDERS.—The patented invention by Mr. D. Y. Stewart, of Montrose, now of Glasgow, described in THE BUILDER, Vol. V., page 522, has been favourably reported on by Professor Miller, of the Philosophical Society, Glasgow, and Mr. P. Wilson, head master of the Western Collegiate Institution there.

ARCHITECTURAL CONVERSAZIONE.—Mr. S. Angell, late Vice-President of the Institute of Architects, received the members of that body, and many persons eminent in art and science, on Thursday evening, at his house, in Gower-street.

TRANQUILLIZING EFFECT OF PICTURES.—Every good picture, by which I mean every picture that has something good in it, is not mere surface and colour; it has a countenance, like the countenance of a friend or lover, of which certain expressions are revealed only to certain eyes at certain moments. Then there are the associations of long acquaintance; accidental gleams of lamp or sunshine have lighted up the shadowy nooks, and startled the eye with revelations of hidden beauty and meaning: or, in hours of lassitude and sorrow, hours when the "fretful stir unprofitable" of this painful actual world, has hung heavy on the spirit, the light breaking from behind the trees of far-off distance, stretching away, and leading the fancy after it, till it melts into Elysium; or rural groups, revels of satyrs, or clouds, or face of pure-eyed virgin or serene saint, has arrested the troubled course of thought and stamped a consecration on certain pictures which it would be a pleasure to see commemorated, but which no accidental visitor can enter into. "I cannot express to you," said a most distinguished statesman of the present day, as we stood in the midst of his beautiful pictures, "I cannot express to you my feelings of tranquility, of restoration, with which, in an interval of harassing official business, I look round me here." And while he spoke in the slow quiet tone of a weary man, he turned his eyes on a forest scene of Ruysdael, and gazed on it for a minure or two in silence—a silence I was careful not to break—as if its cool dewy verdure, its deep seclusions, its transparant waters stealing through the glade, had sent refreshment into his very soul.—*Mrs. Johnson's Companion to Picture Galleries of London.*

ILLUSIVE IMITATIONS IN ART.—Mengs says justly, "all the refinement of the art consists in selecting the beautiful and the necessary, and in leaving out the superfluous and the minute." But we should remember, however, that in proportion as the work becomes refined and abstract, it will have fewer admirers; while the pleasure afforded by illusive imitation, even when employed on the most ordinary subjects, mere transcripts of still-life, will always render that property of our art the most generally attractive: all are in some degree judges of it; the cobbler, in his own line, may triumph in criticising Appelles; and for this reason, the judicious artist, even in his loftiest flights of imagination, or highest attempts at expression, will endeavour to introduce some portion of those qualities which are intelligible and agreeable to all, as a passport for those of a more intellectual character, which will ever be confined to the few.—*H. Howard's Lectures.*

TENDERS.

Delivered for the erection of a new Grammar School and Master's House, at the Litten, Newbury:—

Woodman	£1,459	0	0
Hansom	1,274	0	0
Harris	1,268	0	0
Salisbury	1,185	10	0
Adey	1,153	0	0
Prodge	1,079	0	0
Stratton (accepted)	919	0	0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, MAY 29.—Institute of Architects, 8 P.M.
TUESDAY, 30.—Institution of Civil Engineers, 8 P.M.
WEDNESDAY, 31.—Society of Arts, 8 P.M.
THURSDAY, JUNE 1.—Society of Antiquaries, 8 P.M.
FRIDAY, 2.—Archæological Institute, 4 P.M.

TO CORRESPONDENTS.

"*J. C.*" would find Mr. P., we believe at Blackwall Railway office. As to first question, value of land differs so greatly, we can give no answer.

"*G. H. S.*" was overlooked. The position of stringcourses is very various. The stone corbels were probably intended to carry the main timbers of aisle roof.

"*T. O.*"—Do not quit a certainty for an uncertainty.

"*C. B.*"—If the drawings are left for us, in confidence, they shall be safely returned.

"*A. B. D.*"—The Portland Cement would answer his purpose.

"*Covent Garden Surveyor of Pavements.*"—Five communications on this subject since our last, shew how strongly the late election is objected to.

"*R. K.*"—Excuse our silence.

Received.—"Archi" (shall be inquired into); "D. C.," (Sheffield, and "G. H." Birmingham (will find what they want advertised); "D. C." (we hope to engrave the view); "C. W." (what is there to ensure the return of the vulcanized rubber into its proper place?); "A Citizen," "R." (has been attended to, we understand); "S. S." (thanks, though we cannot find space for the lines); "A." "A Real Surveyor," "Rate Payer," "T. M.," "W.," "P. S.," "Architectural Student," "Michael Angelo," "Yorks," "J. P." (next week).

Books, Prices, and Addresses."—We have not time to look out books or find addresses.

ADVERTISEMENTS.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades

H H H H	for drawing on wood.	F F	light and shading.
H H H	for architectural use.	F	for general use
H H	for engraving.	B	black for shadow.
H	for sketching.	B B	ditto ditto.
H B	hard and black for drawing	R B B	ditto ditto
M	medium	B B B B	ditto ditto.

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By Her Majesty's Royal Letters Patent.

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THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 93, St. Martin's-le-Grand, London, opposite the new Money-Order Office

CAST IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earlsfleet, Grays, near Blackfriars bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c.; Half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights and other Castings; Iron Work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to the competition Contracts taken to any extent.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¾ inch to 12 in in diameter, with Bends, Branches, Syphons, and Lamp Columns, also Hot water Pipes, with all the usual connections A large Stock of Cast and Cut Ceilings at JONES'S Iron Bridge Wharf, No 6, Banksside, Southwark.

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PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories Squares Market Places, Roads, Gardens and for Liquid Manure BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

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FLEXIBLE INDIA-RUBBER PIPES AND TUBING. For Railway Companies, Breweries, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA- RUBBER HOSE-PIPES are made to stand hot liquor, and are in without injured by it becoming hard or still more temperature at all acids to perfectly flexible pipe is required. Made all sizes, from 4 inch bore upwards, and of any length to order Vulcanized India rubber garden hose fitted with brass taps, superior to any hoses complete, ready to be attached to pumps, water butts, or cisterns. Sole manufacturers JAMES LYNE HANCOCK, Goswell mews, Goswell-road, London.

N.B Vulcanized India rubber washers of all sizes for joints of hot water and steam pipes, and India rubber sheet rubber any thickness for all kinds of joints, and other purposes

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B Slabs and Tiles for Fireplaces, Plain and ornamental; Door Furniture &c.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied Roads, Rails for Mineral Lines, Arches for Bridges, Buildings, Gardens and other purposes, the undermentioned are the chief:—"The Builder" of the 2nd, 16th and 30th of April and 14th of September, 1850, also 1st January, 1853. Lists are ready, containing prices, both per 1, number and also per square yard, post free, &c. Applications will be duly attended to, and the want the pieces in Staffordshire or London. Address 4, Wharf, Macclesfield street South City road Basin.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Perthshire) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 13a, Piccadilly, from Ten a.m. to Five p.m. Mr Rolfe, Surveyor, who has been appointed manager in the room of Mr J. Sinclair, will shew the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London—All communications to be addressed to Mr WILLIAM GORDON, Secretary, at the office of the Company, London, 13a, Piccadilly.—Much 1,250 These machines may also be seen at Mr Shiells's, Leith-walk, Edinburgh; Mr Robert Bowie's, Ayr; Mr. Lawrence Hills's, 145, Buchanan-street, Glasgow; Mr Rew and Chaloner's, Mill-hill, Leeds; Messrs. Penny and Pinen's, Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr John Connor, Newton Lindvady, County Derry.

JACKSON'S PAPIER MACHE and CARTON PIERRE. Enrichments executed in the first style, at their Establishment, 99 and 100, Rathbone-place. Just published, a Series of Designs for SHOP FRONTS -Elizabethan, French, and Italian. Price 7s. 6d.

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ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Geaters' Hall, &c.; also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1—Works, 15, Wellington Street North, Strand.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 16, Hampstead-road, 67, St. Martin's-lane, and 118, Argyll-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE- PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE PROOF SAFES of every size, and Patent Deteector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

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NAILS, and every description of Builders' IRONMONGERY, supplied at the lowest Birmingham Prices, by FREDERICK BLYTH, Patent Cut-Nail Manufacturer and General Factor, Edmund street, Birmingham.

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BURBIDGE and HEALY, 130, FLEET- STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a quick, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

HAZARD'S PATENT.

THE BRITISH and FOREIGN HEATING and VENTILATING COMPANY beg to call the public attention to their HEATING APPARATUS, patented by Mr ROBERT HAZARD, which has now been tested in public and private Buildings, Churches, Mansions, Conservatories, Forcing-houses, Offices, Factories, &c.; establishing a character for safety, economy, and cleanliness, possessed by no other invention of the kind

A Pamphlet descriptive of the principle, with testimonials and list of buildings warmed, sent post-free on the receipt of four postage stamps at the Company's Works, Bristol; the London Office, 14, Lincoln's-inn-fields; or Lyne-street, Liverpool.

Application for the purchase of Licences under the Patent to be made to the Company's Solicitor, H. COWLARD, Esq., 14, Lincoln's-inn-fields, London.

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BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock

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Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Iron Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and looks unsightly

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JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c. &c.

Black Registers, from 6½d per in and upwards.
Bright ditto with Black and Bright Bars, 3s 10s and upwards.
Sheffield Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3ft. 3s.	3ft. 6 in. 3l. 14s.	4 ft. 4l. 5s.

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Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £4 12s. 6d.	4 ft., £4.
5l. 6d.	8d. 10l.	1s. 1d. 1s. 10d. per 1,000.
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Best Cheet Floor Brads 14s. per cwt.
Best Town Glue 33s. Do. Scotch, 52s. per cwt.
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4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.	per gross.
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Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3 3s.	£3 13s.	£4.	£4 10s.	£4 15s.

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3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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Best Register Stoves, at 7d., 8d., and 9d per inch.
Do Elliptic do., at 3½d., and 4d do.

Manufacturer of WOLFANTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Stucco Cement, Blue Lias Lime Works, CHURCH STREET, MOTHERWELL, Sole Consignee for Atkinson's Cement Grey Stone Lime Depot. Cement Chimney-pots of every pattern

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or polished in imitation of stone, by the admixture of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Steel-street, Liverpool.

PORTLAND CEMENT. -Testimonials received from all quarters, prove this CEMENT to possess the rare property of withstanding the severest frost, and to become eminently superior to every other for hydraulic purposes, such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Roman Cement Coatings, it requires neither Colour nor Paint, in every vegetable, and will carry from three to four times its own body of sand

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PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes, for all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall

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JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet—does not discolour by Damp—wants no Paint—never cracks or blisters—adheres to any substance without previous preparation—not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls—it is very cheap, and very easily worked

Where also may be obtained,

JOHNS and CO'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, producible by no other Paint whatever It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel-yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. declare themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 135, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 25, Canning-place, Liverpool.

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball, near Bridgwater.—The Proprietor of these Works begs to inform the public that he is now enabled to supply them with an unlimited quantity of the above Cements, and that the Bath and Portland will be found to resemble those celebrated stones both in colour and durability. They are recommended as being superior to all others, for the following reasons:—Being made of Inland Stone (and not dredged from the sea as stone for Roman is), they are not impregnated with salt, therefore never vegetate or turn green (a fault so generally complained of with Roman), they take a much larger quantity of sand than other Cements, never crack, blister, or peel off, and will be found even preferable to stone. They are perfectly Hydraulic, and will set under water in a few minutes; as an external Stucco they are impervious to all kinds of water, and not affected by frost or heat; they improve both in texture and durability, and require neither paint nor colour to make them resemble the best Bath and Portland stone, no other mixture being required than common sand. When used as an internal Stucco for walls, staircases, passages, &c., the Bath and Portland Cements may (if required) be trowelled up to a face almost equal to marble, or may be painted or papered on in a few days. The IMPROVED ROMAN CEMENT is made of the same kind of material, and will be found to possess all the qualities of Bath and Portland (except that of colour); it is cheaper, and in every respect better, than any previously offered to the public, and only requires one trial to be appreciated.

A stock of those Cements, as well as Blue Lias Lime ground for concrete, always on hand, which may be had at BOARD'S Depot Stone yard, Paddington Station, and of the following Agents, viz.: Mr. R. Croft, Surrey-street, Kent-square, Liverpool; Mr. Baker, 78, Diebeth, Birmingham; Mr. Furze, Hotwells road, Bristol; Messrs. Tothill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay, Bath; Mr. Grimsby, Oxford; Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Horniman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. Southam and Evans, Gloucester.

EMERSON'S PATENT CEMENT PAINT. This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used in the first of houses, giving the exact appearance of PENTON PORTLAND OR OTHER STONE. It can be used at once on fresh Roman cement or other plastering, and is just nicely adapted for country houses, villas, or entrances of that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT

A brilliant black paint, invaluable as a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the exquisite coating for tanks, baby tubs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay, it puts on any preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

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LONDON AND MANCHESTER GLASS COMPANY,

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PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.
1	0	3	4	11	2	15	0	19	4	5	8	28	12	12	8
2	0	6	8	12	2	18	5	20	7	11	4	29	13	7	7
3	0	12	6	13	3	8	0	21	8	3	5	30	14	3	0
4	0	17	6	14	3	17	1	22	8	11	5	31	14	17	8
5	1	2	6	15	4	6	11	23	9	4	0	32	15	15	10
6	1	7	6	16	4	17	8	24	9	16	10	33	16	6	10
7	1	13	1	17	5	8	6	25	10	10	8	34	17	2	6
8	2	0	0	18	5	19	10	26	11	4	5	35	18	0	0
9	2	5	0	19	6	7	7	27	11	19	4	36	18	18	4

Intermediate and other Sizes in the same ratio. No extra charge for Stout Plates, Ground or Frosted Plates, of various thicknesses, supplied to order

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors, and other Building purposes, of every thickness, at very moderate prices.

Blind Frames complete, 1s. per foot, and all extra charges to be defrayed by purchasers.

Packing Cases charged, but full price allowed if returned free of expense and in good condition, within one month.

Plates Silvered, Re-Polished, and Bent

*** The Company are not accountable for breakage after delivery from their Warehouse.

Every further information may be obtained upon application to J. L. GRUNDY, Company's Agent.

12, Rathbone-place, London, 19th April, 1848.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.
Kitchen Floors (particularly where it is essential to keep damps from rising).
Garden Walks and Terraces.
Carriage Drives.
Coach-houses and Stabling.
Dog-kennels.
Barn Floors.
Granaries.
Tan-room Floors.
Malt-house Floors.
Piggeries, &c. &c.
Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantages to be derived from the application of SEYSSEL ASPHALTE

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

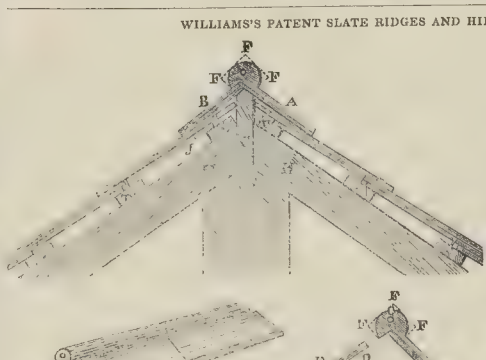
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

I. FARRELL, Secretary.

Seyssel Asphalte Company, Stangate, London.

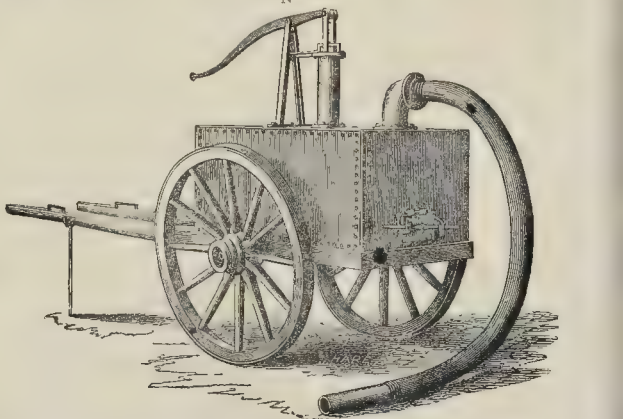
WILLIAMS'S PATENT SLATE RIDGES AND HIPS.



THE above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.

Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere road Lambeth, London.

DEANE, DRAY, AND DEANE'S PATENT CESSPOOL AND TANK CLEANSER.



BY DEANE, DRAY, and DEANE'S PATENT CART or WAGGON, a Cesspool can be emptied in a remarkably short space of time, and without smell or dirt; and their simplicity and cleanliness while in action is such, that they may be used as well by day as by night. The flexible hose may be taken through any length of passage, &c., to a receiver that might be otherwise impossible, or left undisturbed, on account of the difficulty of getting at it.

Cesspools thus left cause much unhealthiness, especially where many of them are confined in the limits of a small neighbourhood. See Mr. Ellerman's "Letter to Lord Morpeth on Sanitary Reform and Agricultural Improvement, or how to promote health and abundance."—See also "Mechanics' Magazine," February 12, 1848.

MANUFACTORY—SUTTON, NEAR ST. HELEN'S.

The directions for use are as simple as the machinery is effective: insert the nozel into the semi-fluid matter to be lifted; then set the Air-pump to work; the pressure of the atmosphere will immediately cause the matter to ascend the pipe, and fall into the cart.

AGRICULTURAL IMPLEMENT DEPOT, NEAR THE MONUMENT, LONDON-BRIDGE.

The Builder.

No. CCLXXVIII.

SATURDAY, JUNE 3, 1848.

WE would say two or three words to-day on a matter which greatly concerns art and artists, though in so doing, we risk the possibility of being pronounced in error, and upbraided for too hastily giving currency to wrong information. We would gladly find this to be the case,—our readers would be forced to admit it is seldom we do so,—and in that event we should solace ourselves with the saying of Burke, it is "better to be despised for too anxious apprehension than ruined by too confident security." We speak, however, on good grounds, and with the conviction that the step to which we are about most loudly to object, is contemplated if not determined on.

According to our information, which comes from more sources than one, the present esteemed and accomplished Secretary to the Royal Commissioners of Fine Arts proposes to retire from that position; its duties interfere with his work as a painter, to which, so it is said, Mr. Eastlake desires to devote more time. Glad are we to hear it; for well as he performs his duty as secretary, and useful as he has been, and would be to his country in that capacity, it is far easier to supply efficiently the place of the present secretary to the commission than of the painter of "Christ Lamenting over Jerusalem." This occurred to us forcibly the other morning, when looking at this picture in Mr. Vernon's gallery (that noblest evidence of the progress of the British School of Art, and of individual taste and munificence),* and we were, therefore, glad to hear of his intention. Not so, however, with the rest of the story, which runs thus, that Signor Bezzi, an Italian gentleman, is for a time to act as his deputy, and ultimately to be his successor!! We know we are upon ticklish ground: we *may* by possibility be annoying unnecessarily an individual for whom we have every respect,—at all events it may be *said* so, hereafter, if the intention be given up; but we feel the matter so strongly, view it so seriously, that we cannot, by waiting for further confirmation of the statement, run the risk of hearing that the appointment is settled, and that the objection should have been raised before.

The gentleman in question may or may not be perfectly fitted for the duty; with this we will have nothing to do, farther than this, that there are plenty of English artists or art-lovers quite as well fitted for it (far better for anything we know); and this being the case we most earnestly and loudly protest against the appointment of a foreigner to this office.

If we only remembered what Mr. Eastlake has written we should not believe that he could be any party to the arrangement. In a paper appended to one of the Reports of the Commissioners, we find him saying:—"The first conviction that should press upon us should be, that *our own country and our own English feelings are sufficient to produce and foster a characteristic style of art;* that although we might share much of the spirit of the Germanic nations, this spirit would be modified, perhaps refined, by our peculiar habits; above all we should entirely agree with the Germans in concluding that we are *as little in want of foreign artists* to represent our history and express our feelings as of foreign soldiers to defend our liberties. Even the question of ability (although that ability is not doubted), is unimportant; for *to trust to our own resources should be under any circumstances the only course.* Ability, if wanting, would of necessity follow. In the arts, as in arms, discipline, practice, and opportunity are necessary to the acquisition of skill and confidence; in both a beginning is to be made, and want of experience may occasion failure at first, but nothing could lead to failure in both more effectually than *the absence of sympathy and moral support* on the part of the country. Other nations, it may be observed, think their artists, whatever may be their real claims, the first in the world; and this partiality is unquestionably one of the chief causes of whatever excellence they attain. It is sometimes mortifying to observe that foreigners are *more just to English artists than the English themselves are.* Many of our artists who have settled or occasionally painted in Italy, Germany, Russia, and even in France, have been highly esteemed and employed. The Germans, especially, are great admirers of English art, and a picture by Wilkie has long graced the Gallery of Munich."

If this be true in respect of art, how much more so is it as relates to the literature of art, to general knowledge, judgment, good sense, and the other matters in question in the present appointment? "Our own country and our own English feelings are, surely, sufficient to produce and foster" a man fitted to be the secretary of a commission issued to advance British art and artists: we are "as little in want of a foreigner for such a post" as of foreign soldiers; "to trust to our own resources *should* be, under any circumstance, the only course," and such an appointment as is here deprecated would truly shew "the absence of all sympathy and moral support" on the part of those in authority.

The position which this appointment gives, and the remuneration it brings, should be made the reward to one of our countrymen who, in connection with the arts, may have exerted himself and deserved better than he may have received. There are too few of such rewards open in England, and to misapply these is indeed too bad.

So far from any being found to say that it is necessary to go out of England to obtain a proper man for the office, we unhesitatingly assert it is *in* England the best and most proper person will be found. Were this not the case, our protest would be weaker. We deny anything like a want of liberality in our feelings in this respect. We would offer no hindrance to the settlement of foreigners amongst us, or to their liberal employment. If they are superior to us, they will in time teach us to beat them, as Czar Peter used to say after losing in another sort of fight. If a German decorator, for example, is employed privately by half the aristocracy of England, we have no business, even if we had inclination, to interfere; but when a corporate or other public body apply to him exclusively, English artists have a right to demur to such a course,—the inference from which is that they are inferior to the foreigner,—if it be shewn that this is not so, and that they are fully equal to the undertaking. If a private gentleman thinks proper to employ a French architect, the public have no right to interfere, or to ask if many English architects would not do it as well or better; but if the Government were to employ this foreigner to erect a palace with the money of the people, and were unable to shew that the country did not possess a man equal to the occasion, they would commit a great wrong, and be amenable to public indignation.

Again, if there were no Englishman capable of producing a good collection of designs for decoration and manufactures, required for the School of Design, and to be chiefly paid for out of the national purse, we should have less ground for condemning the selection of a foreigner for that work, and for marking so strongly as we did the worthlessness of the first part of the work in question. Our opinion was adopted and confirmed in numerous quarters, and a mark was put upon that transaction which it will be difficult to remove. Nevertheless, the Court newsman shortly afterwards duly chronicled that the author of it was admitted to an audience of her Majesty, to present the precious publication, and receive praises which, by good management, are made to go from one end of the kingdom to the other, to shew how inferior we English are in matters of fine art.

An Englishman who may have published works really good and really useful, honourable to his country, and consulted abroad, but who did not know the way up back stairs, would find it difficult to get into the presence of his Sovereign, though he needed a cart to carry his productions.

The advancement of British art and skill, and the encouragement of British artists, is with us a matter of paramount interest, and we earnestly solicit for the latter "that sympathy and moral support on the part of the country" which is so necessary for complete success. In the case immediately before us, we enter a respectful protest against the appointment of a foreigner as secretary to the Royal Commission for the Encouragement of the Fine Arts, and sincerely hope that the intention so to act, if it exist, as we fully believe it does, may be at once and for ever abandoned.

* This fine collection is now open to the public every Tuesday and Thursday by tickets, which are obtainable in the hall of the National Gallery on any of the first four days of the week. Besides being issued in the *Arts' Journal*, engravings of the pictures forming the collection are to be published by the proprietors of that work on large paper, with descriptive letter-press, as a separate work, under the title of "The Vernon Gallery."

REMARKS ON PROFESSOR DONALDSON'S "ARCHITECTURAL MAXIMS AND THEOREMS."*

A WORK from the pen of Professor Donaldson must always be received with respect; and more particularly will his character and position secure for him every deference from the youthful learner. I have the advantage, therefore, of feeling that my present subject to my present audience is of more than ordinary interest; and this especially, as I may own at the commencement of my critisism, that I have very much to dwell upon with pleasure in the "Maxims and Theorems," and very little to dispute.

When Mr. Donaldson determined "to write in aphorisms," perhaps he took duly into account,—perhaps he did not,—that although such "has many excellent virtues whereto the writing in method does not approach," yet it carries with it also in most cases this disadvantage to an author, that the result of his labour has but small show. But he who has concluded that there is but little profit to be had in Mr. Donaldson's work, because it may have but small show, must have so concluded on a superficial examination of it. A good aphorism

* Read at a meeting of the Architectural Association, on Friday, the 26th ult. This society, we are glad to hear, is steadily on the increase.

is only quintessence of argument—pointed and concise expression of condensed thought. There are not many minds that can well reach it to construct it, and there are not few that can never comprehend it to appreciate it; but it is often indeed that a very short aphorism will convey to a thinking mind more thought than the labour and research of a volume.

Mr. Donaldson has entitled his work "Architectural Maxims and Theorems, in elucidation of some of the principles of Design and Construction: and Lecture on the Education and Character of the Architect." The first part of the volume is a system of principles and precepts, in number one hundred and sixty, methodically arranged under the two general heads of "Fine Art" and "Construction." The second part is a lecture delivered at University College, as a valedictory to a class of architectural students, and has for its theme the right manner of education and study, and the character in practice, of the architect.

It is not my purpose to enter in detail into critical discussion of peculiarities in Mr. Donaldson's opinions; still less is it any aim of mine to try to ferret out and expose error or imperfection: the short time to which the present discourse must be limited may, I think, be best employed in simply and briefly laying hold of a few points the most profitable for your examination and inquiry, without pretending to thorough criticism, or even to complete discussion. For the "Maxims" are not lacking in most valuable springs of thought: there are single small sentences by the score, on which might be readily built as many times long and profitable discourses: we are circumscribed, not by our subject, but by our time.

First, then, let us turn to the preface of the volume—one of its concluding sentences,—"We ought no longer to have to wander in uncertainty as to the laws of our art after the experience and lessons to be derived from the monuments erected during 4,000 years." To such a sentiment common sense would probably reply thoughtlessly in a sort of affirmative. Certainly, it says, one might think so; after four thousand years of endeavour, the world ought surely by this time to have attained some success—some knowledge of the system of the work—principles for precept-regulation—facts and truths for standard criticism. I wish it were so. We ought not to wander in uncertainty;—beware of specious fallacy;—*do* we wander in uncertainty? Undeniably we do. Granted that we ought not to wander in uncertainty, that the world by this old time of day ought surely to have learned in some sort the system of the work. Where is our certainty then,—where our system? Principles, we have said, for precept-regulation;—yes, Stuart and Revetts, Taylor and Cresys, Rickmans, Pugins, Paleys,—they are our high priests, and we are content to follow them; in them we have certainty to guide us. Facts and truths, we have said, for standard criticism; yes, mighty precedents in old parish churches, ruins and mutilated fragments; long since dead and buried stones,—they are our canons and our guiding stars, and we are content to do them homage; in them we have certainty to judge by: and he whose spade digs deepest has his seat highest in the senate of the critics. There are principles in nature and truth which regulate and govern—*must* regulate and govern of their own high right, whereby men's minds, tastes, judgments, think and conclude, fancy, approve, reject, alike,—essences of beautiful, elements of true and right,—immutable principles for regulation, irrefragable facts for guidance,—their certainty the certainty of nature's very scheme and system: it is a sorry substitute for this surely, that we have remnants of monk-built churches long ago to build our churches by; mansions of old Italy and old England long ago to build our mansions, banks, clubs, railway houses by—even to their every door and window, and balcony, and chimney; barons' castles long ago to build our prisons, and fortresses, and towers, and lighthouses by; even old chairs and tables and old sculpture-work of the monks long ago, by which to have our chairs and tables and sculpture-work contortedly carved. There are fundamental truths and laws in the physics and metaphysics of nature, by which, if we but knew them, there is not a point, least or greatest, most particular or most universal, most simple and seemingly self-evident, or most complex and seemingly for ever hidden, but may be tested, explained, deduced, proved; it may be difficult to find them—undoubtedly it is difficult—but still, if so, let us not fall back upon mere grave-opening from the long since dead—mere digging for precedents from the past,—can *this* ever give us criticism?

We ought no longer to wander in uncertainty as to the laws of our art: one might think we ought not, but we do; and simply by reason of our reliance upon those very 4,000 years of monuments for guidance. If we knew less of these (in a certain sense) we should be all the better—all the wiser. Former ages knew nothing of the sort, and they were all the better—all the wiser, as it seems—for they compassed works whose imagination we wonder at. Their mind worked by simple strong unsophisticated nature; our mind works by learning a way—weakly, uncertainly, corruptedly. When archæology arose, art fell. Yet we need not, altogether, either deplore its rise and government, or seek to obtain liberty by rejection of all its learning; we may rather let it run its course, which will be good. The end is this; by study of this learning we come at last to find truths, principles, laws; and, albeit, that this end seems distant somehow and delayed, yet will it, at its own time, come triumphantly, and we shall be all the better then for that whereby we are at present, while we thus pass through it, often so very much the worse. The child-like uncertainty in which this age wanders, its strange submission and dependency upon the past, will, in due time, give place to the confidence of strength, the manliness of freedom. It is, perhaps, well, after all, that we should thus serve apprenticeship to the past, and architecture be the pupil of archæology.

Is not maxim 93, therefore, also in error? "To copy is the instinct of the mere animal faculty; to imitate is the property of reasoning intelligence. In fact, 'the proper use,' as Poynter suggests, 'to be made of the study of the ancients in their works of art is not to copy, but to think like them!'" Truly, it seems to me, there can be but small difference between this copying and this imitation; if the one is servility, the other is surely not independence; the difference is but a degree, six of the one and six-and-a-half of the other. I would neither copy the ancients, nor endeavour to think like them,—but examine their thinkings; when I did so, simply, except for suggestion, from the improvement to be derived from the deduction of their good principles; to endeavour to think like them, certainly, if you mean that I shall think freely for myself and my circumstances, as they admirably thought freely for themselves and theirs,—but never to think like them, if you mean merely that I shall think in their manner of thought—learn their system in their school.

"The ancients themselves," says maxim 16, "were in nothing bound by mere precedent. No two monuments of the Egyptian, Greek, or Roman artists were precisely alike; yet each was imbued with the leading feature of its style or period; and this feeling was progressive, not retrograde." A sentiment both well expressed and truly argued. Perhaps, too, we may one day attain to a leading feature for our period; and it will be an exquisite step when we thus come to think like them. The feeling was progressive; our progression now, while we are improving in the spirit of the styles, as unquestionably we are, is only child's play and school lessons,—the progression of a manly mind is advancement in free thought.

It would scarcely be impartial criticism if I were to neglect to note, all this while, that, although I rejoice to find the eminent author of the "Maxims and Theorems" declaring himself so far in advance of what I have supposed the age to be, and even still cherish a shrewd opinion that it is, yet he seems very anxious to speak a word for the old school, that it may not be considered as overthrown—that the ancients, whom he has worshipped, may not be utterly denied the homage they were wont to claim. These are days of revolutions of crazy empires, spontaneous combustion of old thrones, vehemently forcible contempt of ungenerous dignities; and Mr. Donaldson concedes to popular clamour popular rights; but he still remembers with honour the glories of the old *régime*, and is constrained to lift up his voice for the divine right of its kings. When I allude to Mr. Donaldson's well known and, I presume, self-acknowledged prejudice for classic art, I do it with much honour to him compared with the worshippers of the dreary monks; but still I fancy him to be too much of the legitimist when I find him saying (Maxim 20) "He who talks of common sense as superseding all reference to the opinions of those who are gone before, had better cease to speak a cognate language, abandon every known art, and invent a new order, ere he rejects the experience of ages and the wisdom of thinking men of former times;" and again (Note, p. 78, Lecture) "Did they (the ancients) create these (works) at once from their own resources, or, as the phrase now is, from *common sense*, a term identical with presumptuous ignorance?" The ancients must soon give up the field if this be their last position. Misinterpretation of language, taking advantage of what is *said*, to the prejudice of what is *meant*, is a common critic's sin. I am not about to sin it for myself; but I must really charge our author with sinning it here. For where is the man who really argues what these passages really condemn? If one can be found who declares the results of the experience of ages—the wisdom gathered through 4,000 years of gathering—to be rejected—worthy of nothing but to be rejected—by his common sense, his common sense, I would say, must be of poor value, and his resources small for disproving a charge of presumptuous ignorance. But if the man can be found who holds, and teaches, and charges us with presumption because we will not allow that this world of ours, thus old and thus experienced by the increasing wisdom of increasing years, shall refuse itself independent thought and bow before an *authority* in *antiquity*, such a man is at least as far from the line of reasonable truth.

"The works of the ancients were founded upon the finest perception of fitness" (Maxim 17) is the expression in few words of a most comprehensive principle. Fitness, appropriateness, simple, unsophisticated, unblushing ingenuousness, and truth,—here lies indeed the grand prime secret of ancient eminence, modern debasement. "Construction should be the origin of decoration and ornament" (Maxim 52);—"True beauty cannot be apart from convenience" (53);—"There is no part of a building (65) which has not the power of adding considerably by appropriate treatment to the effect of the edifice;"—in all these there lies most valuable and in our day most needful truth. What a *gratuitous* offence all our sham and make-believe is when you think of it! It cannot be too broadly stated, contradiction or exception for ever fearlessly challenged,—*conceal, disguise, refuse nothing.* In the words of Maxim 84, "all becomes gold in the hands of a skilful architect, but in the hands of some of our practitioners, no matter what it is, we know not what it may become. The days are not now when human sight can tell by the face of a thing what it is,—we must peer narrowly and argue many chances, for there is much craft and cunning scheming to see through. Doors are not doors, but something else; windows are not windows; chimneys are not chimneys; a strong arch of masonry is a suspended thing of lath and plaster; a marble column is a smoke flue,—and perchance the stove-pipe passes boldly into the side of it; mighty old buttresses of support and counter-thrust are hollow encumbrances—decorations of the last year—and already pulling heavily towards ruin; pinnacles are chimney-pots, with the smoke creeping stealthily out behind, as if you could not see it; carved entablatures of stone are sly arches, of paltry brick, with plaster casts stuck on—or paper; these are days of sagacity and huge contrivance in this way. Frequently in a single building an industrious schemer will waste ingenuity enough to convert a Brahmin or weigh the moon.

One maxim which particularly attracted my attention is No. 21—"Can it be supposed by any who have thought on the subject that beauty of form or gracefulness of proportion, even in a moulding, depends upon chance?

Some law, known or unknown, rules each." I thought it vastly comprehensive and expansive, tersely and gracefully put. To my mind it is worth a whole library of Stuart and Revetts, a world-wide pit of old churches and old chairs. "But," continues 22, "is there anything more difficult to define than beauty?" True likewise, in very much degree, and in great comprehensiveness. Yet is the study of it fraught, in my fancy, with every profitable and every beautiful result. I wish I had a ten years' day to sit down and search for it!

"Is not proportion," inquires Maxim 26, "the principal ingredient of beauty in architecture?" Maxim 51—"Three principles must be observed in the adoption of any object, or member, or detail in architecture, appropriateness, proportion, form," seems to convey a very clear and correct idea, which we may extend, of course, beyond the lesser and inferior features to the greater and superior. But whether the former maxim is correct in assigning to proportion eminence and value above the rest is what I would not decide at once affirmatively. Proportion has its rule, however, in much more than mere superficial shape. There is a balance and adjustment—a harmony and good relation—in outline, in solid, in colouring, in disposition—combination and resolution, in ornament—style and character even in materials conjoined, which, although the provinces of appropriateness and form may be somewhat invaded if we were to call all this proportion, might still be called so without misconstruction, and not unprofitably studied as such; for these proportionings are too little studied in our times, or at all events too empirically.

The maxim of Blondel (26), and that of Milizia (27), that all other excellence is but comparatively barren of result where proportion is neglected, may be widely true; but no less is the most excellent proportion of surface and general mass deficient as to refined pleasure if unsupported by what I have designated proportion in other forms; and it is a question which is the more painful,—the regret that a work of elaborate, appropriate, and elegant detail should be devoid of the more primary harmonies, or the disappointment when a fabric of beautiful mass exposes, at every nearer step, greater and more numerous deficiences in elegance and grace.

Mr. Donaldson more than once makes use of the phrase *conventional Laws of architecture*. The reader must beware of misinterpreting the term. Architecture has no conventional laws except in mere government of style—character—consistent spirit. The harmony which, as a first principle, must pervade a composition, constitutes and is constituted by a governing characteristic spirit, which, of course, is conventional law or its equivalent, in so far that it is more or less a matter of choice in the composer. The designer who keeps harmony of style and character in view chooses and follows a certain spirit as the spirit of his design—a conventional law for the occasion. But here, also, avoid misinterpretation of the word. "Conventional," says my dictionary, "stipulated—agreed on by compact." The compact I refer to is a compact of the designer with himself,—he simply decides that such a spirit shall be the governing spirit of his work. If you rather mean by *conventional* that the compact is a compact of public standard, a recognised system of styles and their details holding an authority by public acknowledgement, then I must make objection to the idea. Certain standard styles we have in nineteenth-century-practice unquestionably, and their government by established recognised details I will admit to be frequently most unexceptionable and true. But if it be thought that this is conventional law of limitation condemning every thing beyond its own pale, the notion is manifestly erroneous. Architecture is as free as poetry or music,—its variety limited by only equally illimitable principles with theirs. There are poets and musicians in plenty, with whom composition is but a thing of the conventionalisms of authorised manner as with our architects,—they sit down and select a style from among the standard styles, and perhaps a model from among the standard models, and copy precedent unwaveringly. But there are also those who follow a very different system; and there will be such in architecture too.

I will merely remark in connection with part of this, what I cannot now pause to enlarge upon, but would not pass over without note,—the valuable thoughts on harmony. "Unity in diversity, and diversity in unity, the law of nature." "There must be harmony in contrasts, and contrasts in harmony" (Maxim 60). "In fact (Maxim 71), can any effect be produced without contrasts? But all contrasts must have relation to each other to produce a just effect, and a *tertium quid* to prevent rude and harsh juxtapositions of contrarieties; a middle term, as it were, to complete the architectural syllogism." Such aphorisms as these may be long thought over ere their field of study is exhausted.

As a last subject at present I have noted the excellent maxim No. 59. "Picturesqueness is no excuse for crude forms or barbarous parts." Many of our best architects have need to study this. I have always considered Burke to be egregiously in error when he draws a distinction between beauty and the sublime, and Price or Gilpin, or whoever it is, when he draws a distinction between beauty and the picturesque. Such distinctions are philosophically false. You may distinguish between the picturesque beautiful and the non-picturesque beautiful; but the picturesque itself is only one province of the beautiful. It seems to be often thought that it is rather a kind of hideousness,—confusion rather than method,—utter recklessness and fantastic license instead of truly only piquant but graceful abandonment.

The remaining portions of the work,—the maxims under the head "Construction," and the "Lecture on the Architect,"—I must leave for another article. But as I have now done with one part of the work not to recur to it formally, I must not neglect to offer to the author my tribute to the value of his work. I have myself, in reading carefully, read profitably; the minute fulness of detailed argument cannot be there, but perhaps its absence affords us more pleasurably the rich thinking which a well-pointed aphorism provokes.

Robert Kerr.

ROOF-COVERINGS.

PROFESSOR HOSKING'S LECTURES ON THE ARTS OF CONSTRUCTION IN CONNECTION WITH CIVIL ENGINEERING AND ARCHITECTURE.

This course of instruction by Professor Hosking, at King's College, London, is intended to afford to students intended for the profession of civil engineering and architecture the means of acquiring such general practical knowledge as will enable them to apply the information obtained in other classes, and qualify them to understand, and thereby to avail themselves of, the practice of the engineer's and architect's office.

The professorship was established in Mr. Hosking's person, now eight years ago; and there are already many men in active practice, in both branches of the profession, who first heard described the processes of the bench, the banker, and the scaffold, when attending this course, the nature and objects of which are above indicated, and the matter of which may be judged of, so far as regards the more familiar operations, by the following brief notes of part of one of the Professor's lectures:—

"Tiles and slates are the materials most commonly used for covering the roofs of buildings; and they are, upon the whole, the best adapted for the purpose when economy is to regarded, and when a sufficient pitch or slope can be obtained to render them effectual by the ordinary mode of applying them. Whether tiles or slates are the better in any case, will depend upon the quality of the article obtainable,—well-formed and well-burnt tiles being preferable to soft and rough-faced, or to thin and brittle slates;—whilst in some places the one kind of material, and in some places the other, will be found to be the cheaper, according to the circumstances of the locality.

Tiles for the purpose of covering roofs are made of different forms, and are susceptible thereby of different modes of arrangement in use; and slate is, in like manner, applied in more than one form and more than one manner: but when tiling and slating are spoken of without any term of qualification, plain-tiling, and slating with slates brought to the shape of a plain tile, and applied as plain tiles are applied in roof-covering, are understood.

As between these two familiar kinds of roof-covering, tiling with tiles of the best quality is preferable to slating in one particular only, and that is, that the material conducts or transmits heat less freely than slate does; and, consequently, other things being the same, a plain tiled house is warmer in winter and cooler in summer than a slated house, whilst slates are obtainable of so much larger size than tiles can be conveniently made, and require thereby fewer joints in the same space to be covered; and, at the same time, so much thinner, that they allow of the lap without tilting as tiles tilt, and so lie closer, course upon course, than tiles can be made to lie; and, as a material, slate is less absorbent of water than tile material, and may be laid flatter therefore; and because of the more compact bedding of slate upon slate than tiles can be laid, slating will admit of a flatter pitch than tiling.

The principle upon which tiles and slates are laid to cover roofs is the same, however. Whether tiles or slates, they are laid side by side, but not lapping over, nor, indeed, touching one another sidewise; and so in a long straight row, to the extent of any side or face of a roof.

In the case of the lowest or eaves-course, the slates first laid are not of the whole length of the slates employed, for a reason to be explained, though it be tolerably obvious; that is to say, the second course of slates must cover down to their lowest edge, or drip, the slates of the course first laid, to prevent the water from passing through between their sides or edges, and this process is called doubling; but to prevent the doubling of the eaves-course from tilting up the drips of the slates of the next course above, the first slates laid should be no longer than the gauge and bond united of the work to be executed. The eaves-course being laid and doubled, the second course is laid above it, to cover and break joint with that below, and so on, course after course, to the ridge or other termination of the side or face of the roof, when the imperfect breaking off of the tiling or slating is rendered harmless by a ridge or saddle-tile, or by lead laid over a ridge-roll, and extending down on both sides to produce the same effect.

But the placing of slates, side by side, in courses, the course above curing the defect in the course below, by covering the open side joints which they all exhibit, requires to be regulated carefully, so that every side joint shall certainly have a slate below as well as a slate above it, and not only to the extent of the drip of the slate above, but so much further up as to provide against the effect of driving rain and snow as well as to cover and protect the pin or nail, as the case may be, by which the tile or slate is hung up or otherwise kept in its place upon the roof. Take slates, of the size known in the London market as Duchesses. These are considered to run 2 feet long each, and when they are of such length in every part, they may be laid with a 10½ inch gauge, that is to say, 10½ inches of every course may be left uncovered by the course next above it, by which means there would be a bonding tail of 3 inches, in about the middle of which length the nail holes ought to fall, leaving in such case, however, a true bond or overlap upwards of not more than 1½ inch. But if the length of the slates be, as it commonly is, less than 2 feet, by 1 or even 2 inches, a 10½ inch is more than they will bear, so that the arrangement of slates ought to be always determined by the bond or overlap upwards, and not by the gauge, whilst with tiles which are of certain length, it is indifferent whether gauge or bond is specified. The doubling eaves course, that is to say, the first course laid, ought to be in length equal to the gauge and the bond, and consequently always more than half the length of a slate."

And so on, describing the rest of the operations connected with tiling and slating; and then the processes, with the various kinds of metals, the descriptions in words being aided by diagrams chalked on a board as the words are uttered.

IMPERIAL INSURANCE OFFICE.

IN our last number we gave a view of the building now being created for this company. For this structure there was a select competition in December, 1846, when the whole of the designs were submitted to Mr. John Shaw, architect (one of the official referees), for his opinion; upon which the directors of the company awarded the first premium, of 100 guineas, to Mr. Gibson, under whose direction the work is being executed by Messrs. Piper, builders.

The building is now roofed in (having been commenced in June last year), and occupies a piece of ground at the junction of Threadneedle and Old Broad streets, near the Royal Exchange, and adjoining the Hall of Commerce; the two elevations have 90 feet and 60 feet frontage respectively: our view shews the elevation of the long frontage.

The ground-floor is divided into an entrance vestibule, principal and private stairs, town office, country office, accountant's office, with separate rooms for the heads or principals of each department, and strong rooms adjoining.

The one-pair floor contains a life office, actuary, physician, board room, managing director, with waiting rooms and safes.

The two-pair floor has committee and waiting rooms, with a clerk's residence.

The basement is divided into strong rooms, clerks' rooms, residence for porter, &c. &c.

The two elevations are faced with Portland stone; the keystones of the ground-floor windows have carved masks representing fire, water, strength, &c. &c. The dado of the one-pair windows has a carved cipher (I. I. crossed), through an imperial coronet.

The insignia of the company occupy a panel ranging with the upper windows, 8 feet 6 inches by 9 feet, and represent, in alto relievo, the shields of Great Britain and Ireland, with their supporters, and two figures of Plenty bearing the imperial crown.

Leadbeater of Aldersgate-street has constructed some efficient fire-proof doors, with ventilating grates, for the strong rooms of the building.

THE LABOUR QUESTION IN FRANCE.

So far from the grand scheme for the organization of labour on communistic or on national principles in France having made one single step towards a realization, the industry of the whole country is in a state of complete anarchy, and the doings, or rather the idlings without doings, at the Luxembourg are now acknowledged on all hands to have not only been one of the principal means of plunging the whole body politic itself into a state bordering on anarchy, but to hang at this moment like a millstone round the necks of the Government, who are swimming for their lives in this sea of troubles. No wonder, therefore, that the Minister of Public Works has at length felt himself compelled to acknowledge "that the system of *ateliers nationaux*, instituted at the moment of the revolution, when it was necessary to do something for the numerous workmen out of employment, was no longer calculated to give satisfaction to any party;" or that he has accordingly, in his desperation, "proposed that all the men so employed should be set down to useful works. He would take the youngest, and propose that they should be enrolled in the army; others might be sent home to their departments, on being allowed a sum of money; the greater number he would propose to employ in reclaiming waste lands and digging canals; the rest he would have employed on railways." The subject has been referred to a Committee. Thus, over and above the hundreds of thousands called away as it were by the late revolution from a normal state of industry to be 'organized' into the very different form of 'mobilized National Guards,' we find additional multitudes yet to be disposed of, who were thrown out of work at the same time and by the same cause,—for really to throw them into national workshops was little else than to throw them out of any little work that many of them might have previously been obliged to seek for themselves to obtain a living.——M. Leon Faucher while developing his motion in the National Assembly respecting the national workshops, stated that there were "in Paris alone 120,000 individuals employed in the workshops, paid at the rate of 2f. per day, entailing on the State an expense of 6,000,000f. per month, or 72,000,000f. per annum. The operatives themselves, he said, condemned a system which had not even the merit of disguising charity. It was, in reality, a premium offered to laziness and inaction. One-half of the population could not thus continue to live at the expense of the other. The Government, however, was bound to afford work to the labouring classes. In demanding a credit of 10,000,000f. for that object, he desired to convert an unproductive into a productive expense, and to rid the country of the leprosy of pauperism, and the capital of these dangerous lazzaroni." The Assembly referred the proposition to the Committees of Labour and Finance.——The *Réforme* states that there are at present in Paris 175,000 male and female* operatives in want of employment; 110,500 who are employed four days in the week; and 52,000 who are never employed: a total of 375,000 operatives in Paris and the suburbs, whose distress is indescribable.——Much need there is, therefore, to do something on the reconservative principle, if we may so call it, since the national provision-all system has failed. And that it has failed, and how it has failed, may be gathered from a single instance of recent occurrence, which tended completely to open the eyes of the workmen themselves to the natural and inevitable consequences of such a system. The *atelier social* to which we allude, and which has ended in the most miserable failure, although tried under the most favourable circumstances, was thus formed:—The debtors' gaol of Clichy having been evacuated, a social organization of tailors was there established, and at once set to work on the clothing for the Mobile Guard, on Louis Blanc's plan, namely—fixed wages for all alike, whether strong or weak, active or slow, industrious or idle, quick or stupid; and the consequence has been that, after having kept the poor mobiles perishing in their blouses and bare feet so long that they threatened to storm the garrison, and take their clothing, made or unmade, the work was at length finished, and the expected dividend, after two francs a day wages, amounted to some few pence a man! One such instance may be deemed more than sufficient, but we may add yet another, on the authority of the *Economist*, which states that the public works at Belle Ville, executed by the workmen of the Provisional Government, cost the public purse 80,000f. When measured it was found that the cost, if executed by an ordinary contractor, would have been rather less than 8,000f.! And yet it was out of the profits of such concerns as these, and others founded on the basis of these, that Louis Blanc was to "increase the annual receipts of the national treasury by several hundred millions!" Long previous to the latter doings, however, Louis Blanc had lost any influence or favour among the more sober and common-sense order of the workmen. He was returned to the Assembly with scarce one thorough supporter.——The new Committee on Labour have met. They have decided to form sub-committees, and call before them those "likely to throw light on the question of the organisation of labour" (not, of course, on communistic nor on 'national *atelier*' principles). —— The *Moniteur* announces that M. Flocon, Minister of Agriculture and Commerce, is making arrangements for the cultivation of the waste lands and the general amelioration of agriculture, and that the rights of all agricultural labourers and workmen in manufactories, &c., will be "democratically appreciated and satisfied." ——It is a well-known fact that while the towns are gorged with idle workmen, and every business over-stocked, the rich land in the neighbourhood is famishing for want of hands. A knowledge of this fact has suggested another commission of inquiry into the state of labour, all over the country, of a most searching and minute description, for which a decree has already gone forth.——The *Moniteur* publishes the returns of the trade of France during the first four months of 1848, showing a terrific diminution in the amount of the import duties, which only produced 26,786,968f. The proceeds during the corresponding period of 1846 had been 48,946,187f., and in 1847 43,720,267f. The duties collected during the month of April had fallen to 3,764,590f. In April, 1846, they had amounted to 12,725,150f. and in 1847, to 10,750,672f. ——The provinces are in a lamentable state. At Lyons silks worth 24 francs a yard have been sold for 8 francs, and the industrial community there are in complete anarchy, the workmen having the supremacy, with an organised system of terrorism, and citizens were seized, held prisoners, and threatened to be shot. The government lately sent 500,000 francs to the 'national workshops' there, in the vain attempt to pacify, and authorised the city to borrow 1,500,000 more on the "extraordinary imposition of 45 centimes on landed property." These funds were to be laid out on the Lyons and Geneva Railway.——Seven hundred men employed at the breakwater of Cherbourg have been dismissed for want of funds to pay them. ——At Marseilles, where the idle workmen have been receiving 2 francs a day for doing literally nothing, they actually threatened to murder one of their companions, who was desirous of working conscientiously. The town treasury being empty, a resolution was come to to put the men on piece-work [a scheme just decided on at Paris]. Grumblingly they demanded 10 francs per 3 feet cubic for work worth about a franc and a half.——The national workshops at Aix have been closed, "having been an enormous charge to the town, and bringing in nothing." —— At Rouen the national funds depended on for the purpose of keeping the working classes 'employed,' are exhausted, and the charitable institutions are to be closed.—— In short, throughout the whole country vast masses are unemployed, who must be paid by the State or driven to outrage, and the means of providing for them are becoming daily more difficult to procure. The condition of the manufacturers is one of actual or approaching insolvency. Such a state of things, as remarked by a contemporary, must have a speedy end. The whole fabric, not only of French, but of continental industry, is shaken to its base, and must come to the ground, when to be built up again who can say, and at what cost? Truly our neighbours are paying dearly for their various whistles; and affording a warning which others will do well to contemplate attentively.

* It is suspected that there are females among the slight and youthful-looking warriors of the Garde Mobile. The idea is at least suggestive of various rather grave reflections.

SCENERY AT THE ITALIAN OPERA HOUSE, COVENT GARDEN.

OUR contemporaries, one and all, have borne testimony to the beauty of the scene painted for the last act of Donizetti's Opera *La Favorita*, as produced last week at the Royal Italian Opera House, Covent Garden. The daily papers have pronounced it perfection, and the *Athenæum* says,—"We have seen no English stage effect like that of the cloister scene in the fourth act: a piece of gorgeous and impressive reality in which Mr. Grieve has equalled the best interiors of the *Académie*. (In open-air landscapes, &c. it is needless to say that our scene-painters are beyond all rivalry.)"

It is truly a beautiful and effective scene, built up on the stage as well as painted, but all having pointed out its excellence, we should not have considered allusion to it necessary, had it not exhibited an error which, as it may be usefully spoken of, affords us a legitimate opportunity to record, notwithstanding, our admiration of the artistic skill displayed. The stage, if we understand the intention rightly, represents the ruined nave of the church of a monastery, unroofed, excepting a portion immediately adjoining the proscenium. On the left hand side a series of pointed arches, on columns, are glazed, and seem to form part of a chapel, which is lighted up, and on the right a series of similar arches, on *coupled* columns, admit the moonlight, and shew other ruined portions of the monastery. At the back, the chancel arch with a lengthened vista, lost in gloom beyond, and the towers seen on either side, through the roofless building forming the foreground, complete the picture,—a picture which, with the incidents of the scene, and the wonderful singing of Grisi and Mario, excites the strongest emotions, and fully justifies the praises which have been bestowed upon it.

What we wish to allude to, however, is this: the pointed arches on either side do not spring direct from the capitals of the columns, but from an *entablature* which is interposed, and which, as most of our readers know, is inadmissible in pointed architecture. The necessity for an entablature in classic architecture is as distinguishing a characteristic as its absence is in pointed architecture. To quote Rickman, when enumerating the striking contrasts in classic and pointed architecture: in the former, he says, "an entablature is absolutely necessary,"—"the columns can support nothing but an entablature, and no arch can spring directly from a column;" while in the pointed style, "there is no such thing as an entablature," and "the shafts can only support an arched moulding, and in no case a horizontal line."

Messrs. Grieve and Telbin will, we are sure, not take this objection amiss, any more than Mr. Beverley did our recent comments on his superb scenes for Mr. Planché's "Theseus and Ariadne." Our desire is to aid in advancing the art of scene-painting; and by calling the attention of those engaged in it to errors of this sort when they occur, we are disposed to think good is done.

WHAT THE SOCIETY OF ARTS HAS DONE THIS YEAR.

Sir,—The Society for the Encouragement of Arts, Manufactures, and Commerce, may omit from its title the "fine arts," for a reduced copy of the Laocoon and two compositions of "children," in chalk, are representations this year of painting, engraving, and sculpture! As for architecture, among all the designs for a cottage, not one apparently could be found to satisfy the committee for the premium of 31*l.* 10s., but two,* said to have "a superior degree of merit," are rewarded with 15*l.* and 10*l.* respectively,—a clear gain of 5*l.* 10s. to the society, while two people are made happy instead of one. With regard to the designs for a railway station, the gold medal, valued by the society at 25*l.*, was not given, although offered, but 10*l.* was awarded for a "superior degree of merit," to Mr. J. Colson (No. 32). Is any one able to tell me what is the committee's notion of a superior*est* degree of merit? Altogether, the "history of competitions" exhibits nothing in its annals equivalent to the composition of the list of prizes of the society for this year, which were distributed on Monday last by the Marquis of Northampton, who took the chair, in John-street, Adelphi, as vice-president of the society, Prince Albert being prevented from attending by the demise of the Princess Sophia.

At the society's house a printed "list of prizes" was distributed, and a comparison with the programme of subjects for competition gives the following results, obtained with some trouble, as the four classes, in the section "Arts and Manufactures," are mixed together in the "list of prizes awarded."

In the class of students, out of the twelve subjects proposed, four are declared to have been satisfactorily fulfilled; and, in one case, the liberality of the judges has been evinced by the donation of a double premium (both of books): these are numbered in the list 25; 7; 16 and 27; 28.

In the class of original designs for decoration the society had proposed twenty-nine subjects, with prizes of a medal to each, and a sum of money, which, in the whole, amounted to nearly 250*l.*, divided according to its estimate of the importance of each subject.† The object was in itself good, and the response of the artists such, that the number of subjects in the programme might reasonably be reduced from twenty-nine to sixteen, from the want of any attention to thirteen of them; and this reduction would have left the society the sum of 100*l.* not claimed, and 150*l.* to distribute as proposed to sixteen premiums. What has been the case? *Only about* 55*l. have been allotted, and only nine men are premiated,*‡ whereas double that number could easily have been picked out of the number of competitors, as deserving of some notice.

Silver medals are given to (No. 1) Copeland, (No. 2) Minton, (No. 8) Collman and Davis, (No. 11) Magnus, (No. 13) Pratt, and (No. 14) Richardson; and honorary testimonials are bestowed on (No. 16) the Coalbrookdale Company, (No. 15) Christy, (No. 17) Hall, (No. 18) Hetley, (No. 19) Taprill and Holland, (No. 20) Jennens and Betteridge, (No. 21) Messenger, (No. 23) Stuart and Smith, (No. 22) Phillips and Wymer, and (No. 24) Willock; *i. e.* CAPITAL is rewarded for seeing the advantage to itself of bringing out good things. What we should wish to see are rewards to those men who design, and to those who with their own hands execute these works. It is a *fact*, too, that some things were exhibited in John-street for which no payment was ever made to a designer.* A. B.

We have received several other communications on the subject, but have room for the following only:—

Sir,—It is a sad reflection that neither of the architectural prizes of the above society have been carried away this year, in a complete state; that out of 61 students, not one had designed a labourer's cottage of sufficient merit to justify the judges in awarding him the premium offered. One of the greatest faults in this competition is that which too frequently occurs with the older members of the profession,—a total disregard to the limited *amount*. This dishonest, ungentlemanly practice ought not longer to be tolerated.

The point to which I wish more particularly to call your intention is this:—

It was stated in the instructions to competitors that the first consideration would be given to success in internal arrangement, ventilation, drainage, &c.

It happens that of the two designs selected, one is *especially* recommended for the manner in which the author has treated this *principal* part of his subject, whilst the merit of the other lies in the external decorations.

Does it therefore seem just that the highest amount should be awarded to the minor quality; and that he, who supplied the Society with their chief requirement, should receive, for it, but the secondary sum?

I may add, that I am a disinterested party and

A Non-Competitor.

P. S. In the competition for a premium of 10*l.* offered by a correspondent of the Art-Union Journal for a design for a Labourer's cottage (the expense not to exceed 65*l.*), particular attention should be devoted to the *actual* cost. I do not think that a cottage fit for habitation, with fittings, &c., can be built for the money, without it be very similar to the wretched hovels now erected; and when the student is *so* limited, it is scarcely *his* fault if the result be not satisfactory.

ILLUSTRATIONS OF THE EARLY HISTORY OF ARCHITECTURE. — FROM ANCIENT MANUSCRIPTS.†

Having already offered to our readers representations of architectural details taken from ancient illuminated manuscripts, from a very early period to the close of the twelfth century, we resume the subject, in order to show the subsequent changes of style which, as they influenced architecture by strongly marked lines, are also, to a certain extent, to be traced in contemporary delineations of it.

Of late Norman work, fig. 8, with its long slender columns, high turrets, and overhanging foliage, fully corroborates what has already been said as to the anticipation of that lightness which characterised architectural productions of the next style. It is taken from a quaint book of the twelfth century, in the British Museum, entitled "Speculum Virginum." Many MSS. of about this period, or rather later, offer ornaments which stamp, as far as could have been in the power of illuminists, whose only knowledge of architecture was derived from observation, the transition from Norman to its successor in style; and the ornament engraved in the first part of the present series (fig. 7) is one of these, and seems to exhibit an early germ of the finial of after-times.

A tattered volume, entitled "The Chronicles of Friar John de Walingeford," written at St. Alban's, in the reign of Henry III., has furnished the beautiful lectern, fig. 9, and a more decided example of the MS. mode of representing the Early English period of pointed architecture, it would perhaps be impossible to select. The profusion of circular mouldings cannot be mistaken, nor can the "stiff-leaved" foliage, which forms a kind of capital at the top, though indicated rather in effect than in detail. This is the rude type of much magnificent sculpture at Lincoln and Salisbury, and conveys, as accurately as might be expected from an uninitiated hand, an idea of such elegant productions as applied to a different purpose and material.*

Fig. 10 is an ideal representation of the Temple of Solomon, taken from a celebrated book, known usually as "Queen Mary's Psalter," from its having once belonged to that sovereign. It was, however, executed during the reign of Edward I., and is an unusually fine specimen of the work of that charming period which ushered in the "Decorated" style. The volume has been frequently described and referred to in the elucidation of various questions. The present drawing shows the gradual development of the cusp, the crocket, and the pinnacle, to the important position they obtained during the fourteenth century; but they are here delineated less with a view to define the proportion they would bear to the entire edifice, than to present in a small compass a picturesque assemblage of well-known architectural forms.

Under figure 11 are offered two reproductions of designs from a large and superb MS. of the fourteenth century, long in possession of the Howard family, and now in the Arundel Collection, British Museum. In the canopy or crocketed pediment at the top, is shewn an exquisite adaptation of the ivy, treated ornamentally, which might even in our own day be suggestive to the sculptor or wood-carver for works in this style, which owes so much of its merit to its gleanings from nature. The canopy in the original is supported by slender columns, of which the bells are enriched with appropriations of the oak, introduced with equal originality and good taste.

Figs. 12, 13, 14, are all from works of the fifteenth century, an age prolific in revolutions in every department of art. In England, by almost imperceptible gradations, the "Perpendicular" style merged into existence, adding to its own some features of that style which it so totally supplanted. During the sway of Perpendicular Gothic, the illuminators of the time became less exact in their delineations of architecture, taking only peculiar forms and details, and combining them in a way suggested by their own imaginations. It may also be noticed that, in books known to have been produced in England during the chief part of this century, the edifices which form backgrounds to pictures have a strong approximation to continental work: see figures 12, which are taken from a rare set of pageants in our National Collection, giving a pictorial history of the birth, life, and death of Richard Beauchamp, Earl of Warwick. These masterly outlines were executed during the reign of King Henry VI., and it will be seen that one of the turrets we have engraved bears some resemblance in form to those of King's College Chapel, Cambridge, and others of like date.

Fig. 13 is taken from a nearly coeval "Valerius Maximus," executed in France, and exhibits a chair of rather clever design, and very like some actual examples which are preserved in the Hotel de Cluny and other col-

* (No. 30) Mr. T. C. Hyne and (No. 31) Mr. I. J. Nicholl.

† *e. g.* For the best ornamental design, suitable for printing on a child's mug, 5*l.*; ditto for an encaustic tile, Italian style, 3*l.*; ditto of figures, half-life size, in a circle, &c.; ditto of a pillar for a railway platform, with detail, 5*l.*

‡ "Children" half-life size, in a circular compartment—this is not "Decorative" Art. No. 4, Mr. S. Bendixen, a silver medal and 5*l.* No. 35, Mr. T. Brownie, 3*l.* 3s.; this extra. "Decorative Arrangement of the White Lilly." No. 6, Mr. B. Farmer, a silver medal and 2*l.* 2s. as offered. "Designs on Panels of Folding Doors," Mr. C. B. Allen, No. 33, no medal as offered, but the 10*l.* "A Sideboard," No. 3, Mr. Thomas Seddon, jun., a medal and 20*l.* as offered. No. 34, Mr. L. W. Collman, 5*l.*!!! as next in merit! "A Chandelier," No. 36, Mr. H. Fitz Cook, instead of a medal and 10*l.* has 2*l.* 2s. !!! "A Bracket," No. 5, Mr. W. Smith, a silver medal and 5*l.*, as proposed. "A Design for a Finger-Plate and Lock Furniture, No. 29, Mr. Henry Maye, instead of a medal and 5*l.*, a prize of books.

* Amongst those who received premiums not mentioned by our correspondent, are—Mr. Batsford, for hand-carving; Mr. Hatfield, for bronze-chasing; Mr. Hall, for mode of discharging colours from marble; Dr. Potts (gold medal); Mr. Pratt, for a landing pier (gold medal); and Mr. W. Stanley, for a timber swing bridge.

† See p. 246.

* It may be remarked, that Early English wood-carvings being so extremely rare, a collection of such drawings as the present would be eminently valuable as suggestive authorities.

ILLUSTRATIONS FOR THE EARLY HISTORY OF ARCHITECTURE:
FROM ANCIENT MANUSCRIPTS.



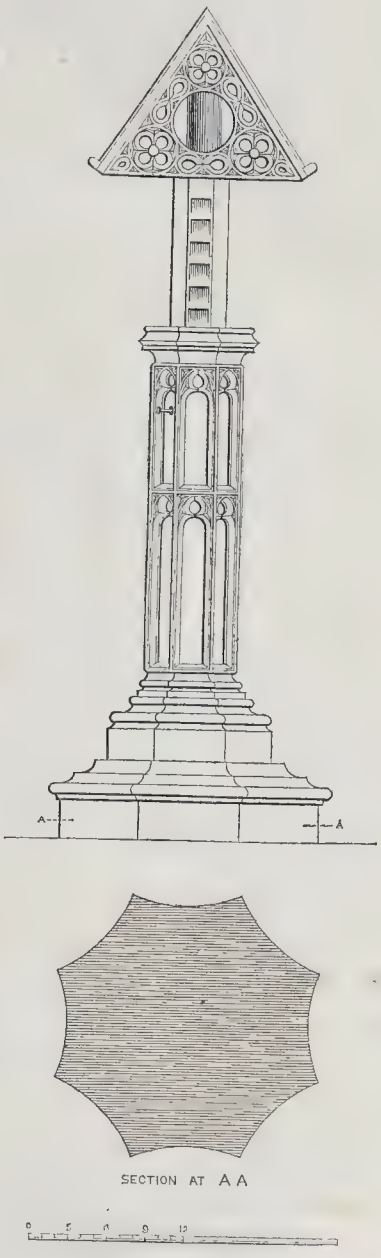
lections. The circular-headed panels, filled with tracery, evince an unerring proof of the decay of Gothic architecture, or rather of the approach of a style attempting in vain to blend it with its antagonist, the Italian. The architecture in French and German MSS. of this time often appears no less crowded with excess of detail, than do the "flamboyant" churches of the continent.

The fifteenth century was an age of wonder in Italy. The gothic style which never obtained a firm footing in that country, for which it was not suited, was now entirely discarded at the dawn of the "Renaissance," and the discovery of numerous grotesques of Roman art was eminently calculated to foster the change of taste which had sprung up in manly ripeness, rather than by progressive stages by which changes of any character are generally effected. Ancient Roman art was now the study of all architects, sculptors, painters, and decorators. The artist and the illuminator were one; hence the reason why the borders and other ornamental accessories of MSS. of the time were almost counterparts of such decorations as cover the walls of the Loggia of the Vatican, and shine throughout the gorgeous churches and palaces of Rome, Florence, and the Venetian States. The sculptured pilasters of the periods exhibit the same feeling of design, i. e. the arabesque of classic antiquity rendered still more elegant by the influence of such minds as those of Giovanni da Udine and Francesco Veronese.* The engraving, fig. 14, is taken from the frontispiece to the "De Evangelicâ Preparatione" of Eusebius, executed in Italy towards the close of the fifteenth century, and the most beautiful Italian work possessed by the British Museum.

It appears, therefore, upon the whole, that architectural features found in the backgrounds of miniatures in illuminated MSS. are to be variously regarded. In the first place, the inaccuracy which characterises their drawing and perspective may, in a great measure, be owing to the exclusiveness of Freemasonry, whereby a correct knowledge of the nature and principles of architecture was strictly and religiously confined to one class of the community. The comparatively late period at which this fraternity was authoritatively established in England in no way militates against the supposition; for, had not some similar system obtained long previously, no agency could have rendered so complete the similarity of contemporary edifices, nor have accomplished all transitions, modifications, and changes of style so simultaneously in widely separated localities. Again, there is good evidence for believing that in most cases ancient drawings may be depended upon as rude representations of existing buildings; for in some specimens of Anglo-Saxon date "long and short work" is well depicted; Norman MS. ornaments occur resembling some of the sculptured capitals and tympana which have descended to us; stiff-leaved Early English foliage, as we have already shewn, also finds a place in the pages of mediæval MSS., and a resort to nature, so prevalent in the time of "decorated" architecture, is no less observable in book illustrations of the fourteenth century. But buildings, towers, porches, and furniture often present themselves, which it would be impossible actually to execute, but which seem to prove that illuminators had notions of ideal beauty in architecture, and that these they endeavoured to embody in the religious books which it was their office to beautify. And in order to render every thing painted as picturesque as possible, ancient artists, in depicting architectural subjects, gave to minor details an undue importance in proportion to the whole, and often enriched them with designs, in a manner only intended to please the eye, regardless of the capability of sculpture for producing them. Discrimination, in possession of the above facts, may be enabled to render these beautiful monuments available, particularly with reference to the study of early periods, and the architectural classifications under which they may be comprehended.

* A superb MS. Pontificate illuminated by this artist for Pope Sextus VI., and warmly described by Dr. Dibdin in the "Decameron," was formerly in the Esdaile collection, and is now in the possession of Mr. Jarman.

LECTERN, NEWPORT CHURCH, ESSEX.



LECTERN, NEWPORT CHURCH, ESSEX.

NEWPORT, 3½ miles from Saffron Walden, in Essex, contains a fine handsome church. Amongst much that is interesting in the interior is an oak lectern, of which we give this week an engraving. It is in good preservation, and in use.

The original colours of the shaft still remain, and are as follow:—The bead at top of capping *white*, hollow and cant *red*, fillet and hollow *green*. All the beads to shaft *white*, the panels being alternately *green* ground with *red* fillets and hollows, and *red* ground with *green* fillets and hollows. The red panels above stand over the green ones below, and *vice versâ*. The portion that is moveable is coloured *red*.

The lectern at Littlebury Church, 5 miles from Newport, was engraved by us some time ago.

RAILWAY JOTTINGS.

A MARKED increase in the amount of railway receipts on the leading lines has of late been observed. In each of two weeks lately past, the Great Western receipts were from 2,000*l.* to 2,500*l.* over the corresponding weeks of 1847; while in the London and North-Western, the returns of one week shew a like increase of upwards of 4,000*l.* The London and South-Western traffic for each of two weeks exceeds the traffic for the same weeks last year by upwards of 1,200*l.* There is also a large increase in the traffic on the South-Eastern and London and Brighton, while the returns of one week for the Eastern Counties give an increase of nearly 5,000*l.* over the returns of the same week last year.——On the bringing up of the London Bridge and New Cross Stations Bill of the Brighton and South Coast line, in the Commons lately, Captain Pechell "complained of the indisposition of the company to consult the convenience of the poorer class of railway travellers. When the railway opened, three third-class trains ran each way; now there was only the Parliamentary train; [and that, by the way, he might have added, was the train to which this great company 'could not afford' to contribute the luxury, or rather the decency, of a half-penny candle at night out of the profits of the numerous 'traffic' of both sexes crowded into each carriage.] The number of stations at which the cheap trains stopped had also been diminished. In his opinion it would be desirable to introduce a stipulation into every railway bill to prevent stations once opened from being shut up." Mr. Greenfell said that "the public frequently entertained unreasonable expectations as to the conveniences which railway companies ought to afford;" and in proof of his assertion he might have adduced the 'unreasonable expectations' and the 'rejected addresses' of the poor people forming the Parliamentary train traffic, to the officials, for the convenience just alluded to; or the fact also noted by us some time ago, that even the convenience of a traffic-table or printed notice of times of starting was unreasonably expected, as it could not be afforded, even amongst several first-class or second-class passengers, though not half a farthing's actual value off each fare!——The new station at Chester, now in course of erection, occupies a space of ground about a quarter of a mile in length. It was commenced but a few months back, and is now almost completed. The design appears to be well adapted for the purpose by Mr. Thompson, architect, who furnished plans for the Derby and other railway stations. Mr. Brassey is the contractor. Some of the sheds are from 700 to 800 feet long, and are covered with light iron roofs. Mr. George Holme, of Liverpool, is the superintendent of the works, assisted, as foreman, by Mr. Wm. Stewart, and, as clerk, by Mr. Wm. Barr, all of course acting under the architect. This is said to be the largest public building of the kind in this country.——Mr. R. Stephenson, at a dinner at Conway, stated, relative to the 'tube,' that "It was about six or seven years ago that he had first conceived the notion; and the result, when that notion was promulgated in the proper quarter, was the proposed adoption of the plan on a small and experimental scale, but under the provisions of an Act of Parliament, which put so many limitations, and clogs, and fetters upon the undertaking, in the very first instance, as to render it utterly impracticable." Experiments at length took place, however, "by which to test and develop all the essential data and conditions. In these experiments he had had the able assistance of Mr. Fairbairn and Mr. Hodgkinson; and the realized matured result of their joint labours was now to be seen under the walls of the venerable castle."—— The Great Western Railway Company have resolved to carry parcels not exceeding 12lbs. to distances not exceeding twenty miles for sixpence, including delivery.——On Monday last, a three-arched bridge on the Buckinghamshire Railway and across Bath-lane, Buckingham, fell into a complete ruin, from the sinking of the foundation of one of the piers.——On Wednesday week the key-stone of the last arch of the Bilton viaduct over the Nidd, near Harrogate, was lowered to its bed, "in all probability to remain for ages to come." The top of the viaduct is 106 feet from the bed of the river.——The railway works on the western side of Leeds, are proceeding rapidly, giving an altered aspect to the vicinity. The viaduct of the Leeds and Thirsk, supported on piers and circular arches of masonry, spans a great portion of the valley, and is a conspicuous object. Of a similar appearance is the viaduct of the Dewsbury line, approaching from the south to the river, on twenty arches, one of 75 feet span over the canal, and another of 105 feet span over the river; and continued by arches to the Wellington Hotel. South of the river it is nearly completed; and on the north side the work is proceeding with remarkable activity. The erection of a temporary station, near the Wellington Hotel, is resolved on, pending the question of the Central station scheme. The works on the Leeds, Dewsbury, and Manchester, are approaching rapidly to completion, and the last arch of the Morley tunnel was keyed on Tuesday week. This tunnel is in length 3,370 yards, or nearly two miles. The extreme breadth is 26 feet, and the height 26 feet: it is nearly level throughout. For executing the works 23 working shafts were employed, besides four permanent shafts. At one time workmen were employed at forty-eight different places. Eleven powerful steam-engines were employed, 15 double-horse gins, 330 horses, and about 2,000 workmen. Messrs. Shaw, Nowell, and Hattersley, were the contractors.——The works on the Great Northern, between Lincoln and Peterborough, are proceeding satisfactorily towards an opening in September.——The contract for building extensive goods-warehouses, &c. (Mr. John Dobson, architect), near the North Shields station, Newcastle, by the York, Newcastle, and Berwick Company, has been given to Mr. Richard Cail, at 20,000*l.* The contract for corn warehouses (Messrs. J. and B. Green, architects), near same place, has been given to Messrs. Rush and Lawton, at 13,000*l.*—— The Dundee and Perth large timber bridge is in rapid progress. The arches are to be curved, by which means an additional 5 feet of space between the water and the bridge will be gained. —— A vessel from Boulogne has brought over an entire cargo of railway materials, consisting of 190 waggons in pieces, 49 crossings, and 380 wheels and axletrees. More have since arrived.——The French Minister of Finance has formally announced to the National Assembly the long-threatened seizure of the railways by the Government on the terms already rejected by the shareholders, and payable, not in money, but in *rentes* of comparatively little value. The assembly, however, seem to have a strong sense of justice among them on this subject; but it remains to be seen whether the feeling is entertained by an effectual majority or not.——The *Cincinnati Gazette* details successive, but unavailing endeavours to cross a small prairie of 80 acres with the Mad River Railway. The works repeatedly sank, and it was discovered that the soil consisted of vegetable matter 6 to 8 feet deep, which floated on a subterranean lake containing fish, and 30 feet in depth. A deviation of the line was ultimately made.

THE IRON TRADE.

SCARCELY had the sustainment of previous prices being determined on by 'the great masters' at the last of those 'great humbug' meetings, by means of which they attempt, or pretend, to rule the rate of the market price of iron, from quarter to quarter, when it was announced—by the same thorough-going advocate who was formally snubbed at a previous meeting for his over-zealous endeavours to screw up prices beyond the mark which even the great masters desired, or rather, beyond that which they felt to be available,—that, on the contrary, several of the rulers of the roast had, forthwith, fairly cut downwards, and that pretty close to the bone too, for the sake of private pickings.

Taking up the line of policy thus laid down *pro tem.* by the doubtless offended advocate of 'great masters' and of 'high prices,' a local contemporary forthwith bids for the vacant office, by assuring those who will believe it, that "not one of the *principal* houses has departed from the prices fixed last quarter day;" that if the recreant "would be frank enough to tell the public that the class whose dealings *he* reports, and of whose buyings and sellings, alternate prosperity and adversity, *he* invariably writes, is *not* the one that rules the market of the district,—his reports would be harmless;" but that "*he* confounds isolated instances of the *necessity* to realise, at any price, with the market generally, and arrives at conclusions opposed to fact, and therefore dangerous;" whereas, "all who are in any way acquainted with the trade, know that there is a class of makers who, from their pecuniary circumstances, or from the inferior make of their iron, never profess to adhere to the fixed tariff."

In the rejoinder, then, to this 'unkindest cut' of all in so amusing an exhibition of party tactics, we have, of course, not only a re-assertion of the original announcement, but a still deeper dig into the bread-basket of the reprovers by whom he was so unkindly thrown overboard. "We observe," says he, "that the correspondent of a contemporary, who lately favoured his readers with the assurance of a 'further advance,' is now 'desirous of giving the most explicit contradiction' to the fact of a reduction having been submitted to, though 'the trade,' he says, 'may be prepared for a fall in prices to the extent, say of 20s,, at next quarter day.' We need not, however, inform 'the trade' that they are already in full enjoyment of this fall of 20s., or rather 30s., as merchant iron is very generally supplied in Liverpool at 7*l.* 10s. to 7*l.*, and may be purchased at the works here at proportionate rates. The question is, whether we have arrived at the lowest point, or whether something even further than the sanctioning of what has been done may not be required before any reaction takes place? In the accounts from Liverpool, dated the 26th inst., we read —'We have still to report a downward tendency in the market.' We are as unwilling as any one possibly can be to offer remarks that might have an injurious tendency, but we are aware that information to be useful must be early, as well as scrupulously correct; and having been kindly allowed access to the first sources, we have no hesitation in giving it to the public."

Leaving these local doctors to differ as they may, we have, from various sources, corroborated by a Birmingham correspondent of the *Morning Herald*, the most explicit confirmation of the fact, not only that several, but that "many houses of respectability have already felt the pressure, and been obliged to yield to a reduction of price; and that it is all but certain that, unless some unexpected improvement take place between now and the forthcoming quarterly meeting of the trade, a still further decline of 20s. per ton must take place." The fate of the operatives, in the midst of these class reverses, is most severe and much to be deplored.

THE SEWERS, THE THAMES, AND PUBLIC HEALTH.

SIR,—In commencing, as it were, a new era in the drainage of London, the merits of every plan for improvement which may be suggested should receive the fullest consideration, and the more they are publicly discussed the more likely are we to bring clearly to view such objections as present a probability of interference with the practical advantages that may be theoretically promised for them. I cannot lay claim to originality with respect to the system it is my intention to advocate, insomuch that within three days after having communicated my ideas upon the subject to several gentlemen, I was favoured with a copy of Mr. Ellerman's letter upon sanitary reform, addressed to Lord Morpeth, suggesting a plan for disposing of the solid refuse of towns, identically the same with that which had occurred to my mind. Those who take an interest in the subject will do well to peruse this letter, but for the information of those of your readers who may not have the opportunity of so doing, I will as briefly as possible, and without entering upon estimates, describe how it is proposed to collect and turn to account the soil which at present pollutes our rivers, by passing into them through the sewers, or creates equally mischievous consequences by the necessity for so many separate imperfectly-constructed private cesspools.

Proposed—That tight cesspools be formed at certain intervals under the public roadways, sufficiently large to receive the soil from the water-closets of as many houses as it may be found expedient to drain to one point: the author recommends the centre of the meetings of streets in particular, and that one cesspool would thus be sufficient for three or four streets. The soil pipe from the closet in each house is to be continued to, and connected with, a larger or main pipe, of glazed ware or glass, laid on each side of the street, and this is to empty itself into the common cesspool; the joints of all the pipes are, of course, to be sound. The cesspool is to be furnished with an air-tight valve, or man-hole, near the surface, for the emptying process, which as often as necessary (in the night or early morn) is to be accomplished by means of the air-tight night-soil cart recently invented and already in use for similar purposes, the suction hose of which being inserted through the aperture referred to, the contents of the cesspool may be abstracted without the slightest inconvenience or annoyance to the inhabitants.

One adjunct more than is described will, however, be indispensable—namely, an exit air-pipe to the cesspool, in order that the foul air may not be forced into the houses by the displacement which must take place every time an addition is made to its more solid contents; this may be formed of earthen tubes soundly jointed, and carried up to a height sufficient to prevent the noxious vapours from affecting the inhabitants, or the same might be turned to account in a manner which I shall leave for description to competent chemists.

The advantages of this plan are—1st, Economy in the original cost, which would evidently form a considerable item. 2nd, The rapidity with which some of the thousands of undrained houses might be simultaneously relieved, as the completion of every cesspool would afford instant benefit; whereas, in some districts, miles of sewers must be perfected before they reach the neighbourhoods most in need of them. 3rd, Security from the evils that must arise from the constant irrigation of the soil in its passage through the sewers to the distant point of its destination. It is well known that the shorter the distance, and the more quiet the action in the movement of soil, the less annoyance results from it. 4th, The entire saving of the expense of flushing; comparative security from stoppages, on account of the greater fall which may be given to the pipes; the small extent of inconvenience whenever such should occur, and the ease with which the same could be remedied. 5th, Greater freedom from the liability to have noxious vapours arise in the house, or to have the ordinary water drainage impaired, as it would be entirely distinct from that of the water-closet. 6th, The saving of our river from pollution, and the consequences thereof, as respects the domestic use of the waters, as well as the atmospheric influences exerted by it in manner already dwelt upon by your correspondents. And, lastly, the pecuniary value of the contents of the cesspools for agricultural purposes, which, upon the most moderate estimation, would produce sufficient to repay the original cost in a short time, and would be afterwards applicable to some local purpose —such, for instance, as improvements in the habitations of the poor, or in reduction of some one of the present rates.

In this manner the existing mode of disposing of the dust by the parish authorities might be at once applied to the soil, with powers for constructing the reservoirs, letting the cleansing of them by contract, &c.; a considerable portion of house drainage would thus be disposed of, leaving to the public commissioners that only which, depending, as it does, upon careful attention to levels and extensive general arrangements, would doubtless be more effectually accomplished by a central body; we might then expect to have our suburbs well cleansed and properly drained, neither of which will, in my humble judgment, be effected, if the plan of forcing the solid refuse through the public common sewers be persisted in.

The objections which urge themselves most forcibly against the present system of sewage, are, 1st The difficulty of driving, even by frequent flushings, so large a quantity of soil through continued lengths of sewers, with their numerous branches and windings. If, as in some existing instances, it is difficult to keep main sewers clear now that a very small portion of the houses in the districts through which they run make use of them, what may be expected when the whole population are compelled to drain through the same channels, besides the immense additions to come from the branches to be constructed in the yet undrained districts? I feel confident the plan would, in this respect, fail of accomplishing the desired objects without a very large annual expenditure. 2nd, That, which of all evils may be the greatest—viz., the corruption of the waters of our river so unnecessarily: it is true this might be mitigated by processes which have been described, for separating and securing the valuable part of the sewage near to the outfalls, but why allow that which is of so much worth to be needlessly amalgamated with the valueless, at an increased expense from first to last, in order that the further trouble and cost of separation may be incurred; at the same time that its liability to poison the atmosphere will exist throughout its course, increased by the constant washings it must receive in its progress.

The first cost of sewers to be thus used must of necessity be greater, to which should be added the expense of erecting air shafts for their ventilation, or it will be impossible for the small house traps to prevent effectually the gases from being forced up, pressed as they are by the ordinary operations of drainage, but more particularly during heavy rains. The power thus exerted in large sewers, especially those with tide traps, is not to be resisted by ordinary means, hence the consequences daily experienced: these would but be multiplied unless great improvements accompany an extension of the system.

A comparison of the advantges of the two plans under notice cannot, I think, fail to realise a preference for what I shall designate the separate system, whether on the score of economy or public utility: it is simple in application, and capable, as before observed, of affording simultaneous relief to our suburban districts without the delay which the combined system involves. It becomes, therefore, a question of serious import whether great benefit would not be secured to the community, by conferring forthwith upon the parish authorities the powers herein contemplated, in order that house cleansing may proceed, while the commissioners mature and carry into effect their admirable arrangements for rendering our village dry and healthy.

Camberwell. Thos. W. Plum.

THE ART-UNION AND THE BOARD OF TRADE.

Sir,—The question of Government interference in the Art-Union has very naturally called forth the complaints of artists whose daily bread, in a considerable degree, depends on that popular institution; but it is as much a subject for the serious consideration of the subscribers whose guineas are to be taxed and who would no longer be allowed to spend their money as they thought proper; nor is it less important to the public at large, who must perceive that so meddling a spirit in small affairs, may be looked upon as a prelude to a more general invasion of the rights of property. These are not times for Government to attempt paltry dealings of the sort, in opposition to the best principles of administration and justice: surely whilst defending themselves against the charge of undue interference in the internal affairs of other countries, they would do well to avoid meddling with the management of popular institutions in our own. Ten per cent. on the subscriptions, for especial purposes, cannot make up for the trouble that awaits them if they persist in this unjust and vexatious course of paltry meddling. The meeting of artists is but a small beginning; we who have not yet met may in due time do so, and place the question on the highest constitutional grounds.—I am, &c.

An Englishman.

Competition.—Premiums of twenty-five and fifteen guineas are offered, according to advertisement, for plans for a Normal college for Wales.

Correspondence.

EFFECT OF LEAD ON PURE WATER.

Sir,—Perhaps amongst your numerous scientific correspondents you may be able, through the medium of your valuable paper, to obtain for me some information respecting the following difficulty?

In an open situation in the country, the rain-water is collected from the slated roof of a large building, by means of zinc eaves-gutters and iron stand-pipes, directly into a tank built with brickwork in cement, and rendered in cement. The water is thence raised by a pump and lead pipes to a lead cistern, placed in a sheltered situation within a dwelling-house, about 150 yards from the first-mentioned building; it is then drawn from the cistern again by lead pipes to supply several bedrooms, but, during its passage from the tank, it becomes so exceedingly hard that soap curdles in it: it is quite unfit for use, and has a very bad flavour. The water in the tank, although not so pure as might be expected from rain-water, does not undergo the same change as that in the cistern. The whole work has been only recently executed. The cause of the change may no doubt be an ordinary one, but as I am at present unable to give a satisfactory reason for it, there may be others as desirous of obtaining knowledge as myself, which I trust you will consider sufficient excuse for asking a place in your excellent paper.—I am, Sir, &c., Yorks.

May 22, 1848.

*** If our correspondent's case be stated with sufficient accuracy and minuteness, as it appears to be, we have little hesitation in saying that it is to the very purity of the rain-water at first, that the evil (a serious one, which ought to be immediately remedied) must be attributed. We have already pointed out the great risk of poisonous corrosion by keeping very pure water in leaden cisterns, and precautions which may be used in such cases—see Builder, last volume, pp. 412, 438, and 456—to which we must refer our correspondent, more particularly to pp. 438 and 456. Rain-water is in fact *distilled* water, and it has been there shewn that such water is the most likely of all to act on lead.

Miscellanea.

Projected Works.—Advertisements have been issued for tenders for the various works required in the erection of 100 villa residences (time not specified); by 5th July, for reseating in wainscot Maidstone Church; by 8th June, for erecting buildings at Haggerstone; by 23rd, for the erection of a chapel, &c. at Hemingford Grey (St. Neots); by 6th, for the erection of the schools and master's house at Peartree-green, Southampton; by 5th, for the works to be executed in the erection of schools and master's house at New Wortley, Leeds; by 22nd, for additions and alterations at Sudbury Union Workhouse; by 15th, for the erection of two artillery stores at Portsea; also, for a palisade fence and warden's house at Southsea-common; by 5th, for repairing and keeping in repair the Stourbridge district roads; by 5th, for the erection of an oakum store and other buildings; by 7th, for painting and repairing gas lamps, &c. at Islington; by a time not specified, for digging or boring into the chalk for water; and by 7th, for a supply of British iron and files for East India Company.

The Windsor Town and Castle Improvements.—From some discussion in the Commons between Mr. Hume and Lord Morpeth, it appears that in order to enable the improvements arranged between the Windsor Town Council and the Woods and Forests, to be proceeded with, and some of the unemployed to be thus provided for, without any assistance from the public funds, but on the contrary, with the view also of increasing the public accommodation by railway, her Majesty has, for these purposes, thrown open, to certain railway companies, ground in her possession, upon condition that they contribute the sum of 60,000*l.*, to enable the Woods and Forests to proceed with the public and other improvements at Windsor. A Bill has been accordingly brought before the Commons to effect these objects.

METROPOLITAN SURVEY.—A public meeting of the Surveyors' Association was held at the Western Literary and Scientific Institution, Leicester-square, on Wednesday evening, Mr. James Wyld, M.P., in the chair, when a series of resolutions were unanimously passed, deprecating the interference or employment of the Board of Ordnance and its Sappers and Miners, in the lawful civil calling of the association, and in the civil surveys of the country, and particularly at present in the metropolitan survey; and appealing to the public for countenance and support even on economical grounds. The estimated expense of the military survey of the metropolis over and above the usual salaries and expenses of the corps, in place of amounting to a comparative trifle, was said to be no less than about double the whole estimate tendered by the association, but rejected, though ample security was offered; while it was also pointed out that the military estimate, not being a binding or responsible one, was worse than worthless, the real expense of the like military survey of the comparatively small district of the city and dependencies of Dublin, already incurred, being upwards of 200,000*l.*,—and yet but a tenth part of what might fairly be estimated as the probable ultimate expense of their metropolitan survey. The meeting was ably and warmly addressed by the Chairman, who assured them of strong support in the Commons, and by various other gentlemen who accompanied him to the hall, by members of the association, rate-payers, local authorities, &c. Mr. Clout entered into a minute detail connected with the expense and nature of the Ordnance surveys, shewing not only that the actual charges and expenses far exceeded the estimates,—as at Southampton, where hundreds of pounds were augmented into thousands,—but that the expense of, and the time occupied with, the national surveys, were rapidly, immensely, and inexplicably on the increase, even in districts most favourable for survey. Attention was also pointedly drawn to the great impropriety of suspending the national military survey itself, as intended, and, indeed, necessary and unavoidable, should the Sappers and Miners be allowed to amuse themselves for an indefinite time with a survey in the metropolis, while complaints and petitions were already so frequently made against their past and present procrastination in the provinces.

CAREFUL THOUGH NOT CORRECT.—We have received the following copy of a genuine letter from a churchwarden in Surrey to a well-known antiquary, who had requested the loan of a brass monumental plate in his church to make a drawing of it:—"Sir, I am sorry I can't be agreeable to what you ax me to do, but by the canonical laws nobody must not presume to let nothing out of the church, particularly the sacred utensils, under pain of blasphemy; therefore can't let you have the brass tombstone you desire; but you are welcome to come into the church, and draw it as much as you plaze."

THE GUTTA PERCHA TRADE at Singapore is becoming of so much importance that the native rulers of Johore have attempted to monopolize it, by intercepting the boats loaded with it and compelling the owners to pass it through their hands at some arbitrary price; so that 9-10ths of the whole are thus unnecessarily taxed before reaching Singapore, and the Chamber of Commerce there have appealed to the authorities on behalf of a source of traffic which now yields between 10,000 and 12,000 piculs, valued at from 150,000 dollars to 200,000 dollars per annum.

BURNING OF A BUILDER'S PREMISES.—The premises of Mr. G. Cooper, carpenter and builder, in George-street, New Peckham, were destroyed by fire a few days ago, by which a loss of several thousand pounds has been incurred. The origin of the fire is not known. Every such disaster should serve as a warning, and induce care on the part of those who look after the glue-pots in large establishments.

IMPROVEMENT OF BILLINGSGATE MARKET.—The report of the Markets' Committee, on the enlargement, &c., of Billingsgate Market, at a cost of 15,000*l.*, has been unanimously agreed to by the Common Council, and the report ordered to be printed. Mr. H. L. Taylor remarked that the alteration would amply repay the proposed expenditure on this 'crying evil and disgrace to the city.'

THE BRITTON CLUB.—On Tuesday a dinner was given to this club by Mr. Gould, F.S.A., the treasurer of the Britton Testimonial Fund, and included Mr. John Barrow, Captain Beecher, Mr. Britton, Mr. Sheriff Cubitt, M.P., Mr. P. Cunningham, Mr. Grissell, Mr. Godwin, Mr. W. Jerdan, Mr. Sheriff Hill, Capt. Hood, Mr. Makinley, Dr. Roots, Capt. Smyth, R.N., Lieut. Waghorn, Mr. Wansey, &c. The previous dinner was given by Mr. L. C. Humphrey, Q.C. Mr. Britton's last bantling, "Junius Elucidated," has just issued, and appears vigorous and healthful.

THE NEW STEAM BASIN AT PORTSMOUTH was opened on Thursday week with great eclat by her Majesty and Prince Albert, who entered it with the royal yacht tender, when Colonel Irvine, C.B., the chief director of engineering and architectural works, by the royal command placed the last stone in its position. The entire cost of this work, which has been executed, under the immediate superintendence of Captain H. James, R.E., by Mr. P. Rolt, as contractor, has, up to the present time, been 400,000*l.* The basin will accommodate nine first class frigates. It was begun on 10th June, 1843, and the first stone was laid on 15th January, 1845. The average mean length is 774 feet; width 400 feet; depth from coping 31 feet; area about 7¼ acres. The entrance is 80 feet wide. There are two inlets 300 feet long and 70 wide, and a graving dock 300 by 80. A storehouse 687 feet long, 48 feet wide, and 51 feet high, and a brass foundry 110 feet by 90, with various other buildings, such as mills, smitheries, &c., have also been erected. The quantity of granite, Portland, and Purbec stone used in the construction is 1,155,208 cubic feet; of bricks 7,696,000 cubic feet; of memel and beech timber 735,700 cubic feet: excavations removed 959,500 tons; clay for dam 25,000 tons. Average number of men employed 1,500: quarriers and conveyers of material 1,000. After the ceremonial of the opening was concluded, 1,050 of Mr. Rolt's workmen and 2,185 of the dockyard men were provided with dinner on the premises.

THE MISCELLANEOUS ESTIMATES for the year ending March 31, 1849, as laid before Parliament, comprise, amongst other items, that of "Public Works and Buildings," to which it was proposed to appropriate 483,976*l.* (against 589,253*l.* in 1847-8); 120,923*l.* of this sum to public buildings and royal palaces, 30,000*l.* to the enlargement of Buckingham Palace, 8,410*l.* to the Palm House at Kew, 4,234*l.* to the expenses of the temporary Houses of Parliament, 120,000*l.* to those of the new Houses of Parliament, 21,300*l.* to the Insolvent Debtors' Court. 4,050*l.* to Courts of Law in the Isle of Man, 12,792*l.* to Holyhead Harbour, 131,000*l.* to harbours of refuge, 23,167*l.* to public buildings, &c. in Ireland, and 8,100*l.* to Kingstown Harbour. The sums applied to the encouragement and promotion of education, science, and art, estimate 397,520*l.* (against 351,243*l.* in 1847, and 325,908*l.* in 1846), included 99,249*l.* to the British Museum, 1,500 to the National Gallery, 10,788*l.* to the Museum of Practical Geology and Geological Survey, 5,627*l.* to scientific works and experiments, and 2,000*l.* to the completion of the Nelson Monument. The following, among other votes, have since been agreed to in the Commons:—20,000*l.* towards defraying the expense of buildings and repairs; 25,000*l.* towards the new Houses of Parliament; 10,000*l.* towards enlarging Buckingham Palace; 14,000*l.* towards the expenses of the Board of Public Works in Ireland; 3,000*l.* for the School of Design and to aid provincial schools.

SMALL PIPE DRAINAGE.—Sir: Cardiff Union Workhouse is built to contain 250 persons. It is now being drained with glazed earthenware pipes, 6-inch bore, the distance being 2,550 feet, having a fall of 5 feet 3 inches in the whole length, or a quarter of an inch in 10 feet. Twenty privies empty themselves into this pipe, and all the water and slops from the whole house and yards go into this pipe. There is a tank, 10 feet square by 10 feet deep, fixed 8 feet above the ground, and supplied by a pump, as a force to scour the same upon stated times. I, and other ratepayers, want an opinion upon the above system of draining, as to the probability of its answering the purposes intended. A.

ELECTRO-TELEGRAPHIC PROGRESS.—Mr. Francis Wishaw, C.E., has registered his design for the 'telekouphenon,' or pneumatic telegraph. If the proposal to telegraph through water-pipes prove successful (by the bye, how will the precise locality of leakage be detected?), we should not wonder to hear of a proposal to send written slips of paper themselves through tubes exhausted of air by the air-pump, and thus to save at once all signs and symbols, all interpretations and transcriptions. Such a telegraphic *converser* might prove occasionally a little 'asthmatic,' or stammer and stutter now and then as the words went through the wind-pipe, but doubtless its defects might at length be oratorically doctored.

GLASS WATER-PIPES.—The Town Council of Plymouth have resolved on laying down glass pipes for the supply of water to the town. The average duration of pipes made of cast-iron is about ten years, it is said; while glass is not liable to corrosion or abrasion at all, and will thus, it is calculated, more than repay its original cost.

CONVERSAZIONE OF THE PRESIDENT OF THE CIVIL ENGINEERS.—On Tuesday evening last Mr. Field, the president of the Institution of Civil Engineers, received the members, his own friends, and other men distinguished in science, art, and literature, at the society's house in Great George-street. The attendance was very numerous; there were many models and machines of various kinds to engage the attention of his visitors, and make the evening instructive as well as gratifying.

ST. PAUL'S CHURCH, Nelson-street, Bermondsey, lately consecrated, has been erected at a cost of about 5,400*l.* It is of course in the pointed style, with accommodation for 1,200 persons, and a school attached. It is the first built from the Southwark Church Erection Fund, partially assisted by grants from Government and the Church Commissioners. Two other churches are now nearly completed, from the same funds, viz., St. Stephen's, in Kent-street, and Christ Church, at Dockhead.

SCHOOL OF DESIGN, SOMERSET HOUSE. The lectures which are proceeding here are well attended. On the 5th ult. Mr. H. J. Townsend lectured on the "Anatomy of the Human Head," and on the 26th ult. Mr. R. Burchett lectured on the "Studies of the Section of Free-hand Drawing in the Class of Form."

TENDERS.

For extension of goods warehouses at Petley-street, for the Eastern Counties Railway: Mr. H. A. Hunt, architect:—

Jackson	£11,856
Messrs. Lucas	11,831
Messrs. Baker	11,447
Messrs. Cubitt	11,300
Hicks	11,000
Messrs. Piper	10,970
Messrs. Little and Son	10,933
Grimsdell	10,467
Messrs. Curtis	10,384
Jay	9,413

For the Greek church to be built in London-wall: Mr. Owen, architect:—

Kelk	£6,183
W. Cubitt and Co.	6,130
Piper	5,978
Lee	5,630
Grimsdell	5,343
Jay	5,230

For a house at Sunbury, Middlesex: Mr. Richard Tress architect:—

Dove	£2,089
Aunell	2,084
Cooper	2,028
Bass	2,013
Patience	1,918
Higgs	1,849
Patrick	1,819
Pollock and McLellan	1,775
Underhill	1,740
Glen	1,596
Taylor (Sunbury)	1,487

For enlarging the Women's Infirmary at the St. Pancras Workhouse:—

Burton	£1,131
Dove	1,020
Pilbeam	997
Judd	977
Higgs	957
Cooper	948
Pollock and McLellan	937
Crane (accepted)	887

For the new West London Synagogue of British Jews, in Margaret-street, Cavendish-square: Mr. D. Mocatta, architect:—

Jackson	£2,543 0
Mansfield and Sons	2,301 0
Lindsey	2,294 0
Armstrong and Smith	2,257 10
Grimsdell	1,945 0

For the Epping new church: Mr. Butterfield, architect:—

Kelk	6,626
Ashby	6,471
Hayward and Co.	6,320
Curtis	6,094

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, JUNE 6.—Institution of Civil Engineers, 8 P.M.
WEDNESDAY, 7.—Society of Arts, 8 P.M.
THURSDAY, 8.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.
FRIDAY, 9.—Archæological Association, 8½ P.M.; Architectural Association.
SATURDAY, 10.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"Subscriber from the first."—There are several machines for making bricks, but we must be excused from recommending one in particular.

"Subscriber."—The *Belgique Commerciale* could doubtless be obtained through any of the foreign booksellers in London.

"View of the new Houses of Parliament."—We have received a communication from Mr. T. H. Ellis, in reply to Mr. Barry's letter in our last, denying that Mr. B. was ignorant of his intention to publish the view. The statement that the print does not represent the tower as intended by the architect remains just where it was.

"Archi."—The arch on examination appears to be sound.

"An Architectural Exhibitions" next week.

Received.—"G. M. G." (next week), "R. B." (ditto), "J. L.," "W. M." (Leeds), "C. W." (shall hear from us), "O. O. T. I. P." "H. M." Canterbury (thanks, we have not room) Friend to the BUILDER," "T. S" "G. C.," "Baron," "A.," "Old Mr. P." "I. E." (thanks) "C. G." "G. N. S." (a notice has appeared). "P. S." "D. P." "Practical Essays on the Fine Arts," by John Burnett, F.R.S.: Bogue, Fleet-street. "Dolman's Magazine," for June. "Blackwood's Edinburgh Magazine," for June. "A Descriptive Atlas of Astronomy," by Rev. Thomas Milner, M.A.: Orr and Co. "Penning's New and Economical System of Slating:" Office of the BUILDER, 2, York-street, Covent Garden.

ADVERTISEMENTS.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
77, York road, Lambeth, and 38, Cross-street, Blackfriars-road

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, and at half the usual price. 23, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

J. MEACOCK, GAS FITTER, LANTERN MAKER, and METER MANUFACTURER. No. 7, Snowhill, London, late of No. 3, same hill, begs respectfully to inform Carpenters and Builders, and the Public in general, that in consequence of his increasing business, he has been induced to take the above extensive premises, and having purchased Machinery at considerable cost for the manufacture of Metal Sash Bars and Stall Board Plates, is enabled to offer them a considerable reduction of the present prices.—Estimates given to any amount for the above, in Town and Country.

Cleanliness is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead,

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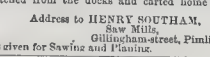


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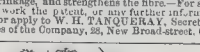
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BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

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Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 20, Lombard-street, London; and at the Works, Deptford, Kent.

TO ARCHITECTS AND BUILDERS.

THE SOCIETY of ARTS has awarded an HONORARY TESTIMONIAL to GEORGE JENNINGS, the Inventor of the SHOP-SHUTTER, SHOE, and FASTENER, for having INVENTED the INDIA-RUBBER TUBE COCK.

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TO PLASTERERS and ARTIFICIAL STONE MANUFACTURERS.—A large quantity of BATH and CAEN STONE DUST for SALE.—Apply at the above Works.

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GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

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MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

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Duchesses, per M of 1,200 slates	£10	0	0
Marchionesses, ditto	8	10	0
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Wide Ladies, Ladies, &c. &c.			

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It is a cheap and both ornamental substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it effectually excludes dirt, and all kinds of Vermin.

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CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. plc lge them-selves that MARTINS CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is entirely free from those dangerous alkaline substances with which it may come in contact, but completely resists the action of the strongest acids. They further beg to draw attention to the following properties which it exclusively possesses:—

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It is per fectly adapted as an internal stucco for walls, cornices, architraves, mouldings, and ornaments of all kinds, for all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

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EMERSON'S PATENT CEMENT PAINT. —This VALUABLE AND ECONOMIC PAINT is ready for use, laid on in any shade, and only ONE-NINTH the cost of oil paint; for beauty it is pre-eminent over all other materials, and on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at boiling heat, and removed at any time by the application of Cement Paint Remover, that will not injure the most delicate tint; it can be used in any climate, and will not change in any weather, at a more trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each

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A brilliant black, which, though it has a casting for SHIPS SIDES, AND BOTTOMS, also for all kinds of WOOD or METAL work, or for the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence. It requires no preparation, and will dry in a few hours.—Price 3s. per gallon.

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Best Sheet Floor Brad 1½ per cwt. Best Patent Sash Line.

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Manufacturer of WOLPASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To secure its adoption

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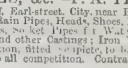
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Drawing-Room Fenders in each, supplied at 1[illegible]

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RAIN PIPES, &c.—F. A. TIDDEMA Purfleet Wharf, Earl-street, City, near Blackfriars-bri[illegible] keeps a large assortment of Rain Heads, Shoes, Elbows, &c., round and O G Gutters, Socket Pipes for Water or Gas, Flat Pipes, Sash Weights, and other Castings; Iron Work for Bakers' Ovens of every description, fitted complete, or delivered in sets or parts. Prices equal to all competition. Contracts taken to any extent.

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COPPER GOODS.—Two-quart copper tea-kettle, 4s. 6d.; washing, brewing, and dyer's coppers, 10s. per lb.; two quart copper oval tea-kettle, 4s. 6d.; the [illegible] and fountain for ditto, 2s. 6d.; copper coffee pots, 3s. 6d., with handle and feltal lids, 4s. An assortment of the above always on hand, and all sent carriage paid to any railway station in London. Also every description of copper goods, such as tea kettles, brewing-pans, and baking-plates, at 2s. 3d. per lb.; [illegible] pans, 4s.; frying-pans, 10s.; copper oblong or oval Bath, Japanned tea trays, 10s. the set; copper, tin, and iron shower [illegible] look over their stock, and see the advantage of copper work, [illegible] repaired, and retinned. at J. & J. ANDREWS'S Factory, 71, Tottenham-court-road. Old metals bought or exchanged.

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CHUBB'S WROUGHT-IRON and FIRE PROOF DOORS and FRAMES, for strong Rooms, large stock of the above, of all sizes, made in the best manner, and of full strength, always on hand, at CHUBB'S FIRE and THIEF PROOF SAFE WAREHOUSE, 57, St. Paul's church-yard, London.

CAUTION to Purchasers of FIRE-PROO DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c.—MILNER'S SAFE and LOCK COMPANY, 28, Wellington-street, North, Strand, and 50, Lombard-street, City, have supplied upwards of 500 IRON FIRE PROOF DOORS, SAFES, and CHESTS, combining all the principles now considered necessary to render property secure from FIRE and THIEVES, with a sheet iron shape stew-pans, all sizes, 4d. per lb.; fish kettles, braising-pans, and baking-plates, at 2s. 3d. per lb.; [illegible] pans, 4s.; frying-pans, 10s.; copper oblong or oval Bath, Japanned tea trays, 10s. the set; copper, tin, and iron shower [illegible] look over their stock, and see the advantage of copper work, [illegible] repaired, and retinned. at J. & J. ANDREWS'S Factory, 71, Tottenham-court-road. Old metals bought or exchanged.

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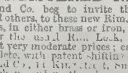
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By Her Majesty's Royal Letters Patent

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SET FIRE KEYS.

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T. PUGH'S REGISTERED RIM LOCK —T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to these new Rim, Drawback, and Dead Locks and Latches, in either Brass or Iron, possessing great advantages from over the usual Rim Locks, and also in cheapness and portability at very moderate prices; each lock is warranted perfect and complete, with patent shifting keys. They had only of PUGH and Co., 14, Kirby-st., Hatton-garden, London, where Wards and all other parts of Locks can be had, and the trade supplied on the most liberal terms. Also, a large stock of Iron and Brass Locks, Latches, Bolts, Hinges, &c. Also for Hutchinson's Marble and Stone Sawing Frames. For further particulars apply to Messrs. HUTCHISON, WILLIS and Co., East Temple Chambers, Whitefriars-street, London.

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The Builder.

No. CCLXXIX.

SATURDAY, JUNE 10, 1848.

PUBLIC notice has been given that the principal ironmongers of London, being anxious *to contribute to the comfort and welfare of those in their employ*, purpose closing their establishments henceforth at seven o'clock in the evening; and our co-operation in carrying out this object has been solicited.

Most readily we give it: most readily and most earnestly we appeal to our readers in favour of the intention, and we entreat them to aid in giving effect to a change so important—so imperatively demanded. It is a measure of amelioration, not simply to be advocated as desirable, but to be called for as a duty owing to society. We have so often urged the importance of steady application to business, and shewn the pleasure as well as advantage to be derived from the efficient discharge of duties in that respect,—the gratification which the good workman, or the intelligent and assiduous trader, may find in the exercise of his calling,—that we are not likely to be misunderstood, when we say that devotion to trade is not to be regarded as the chief aim of life,—that the cares of business ought not to absorb all our time and thoughts, and that to condemn those beneath us to ceaseless drudgery, is but ill following out a great command. To make a pains-taking, honest, and able ironmonger, is something, but to develop an intelligent, reasoning, enjoying man, is more, much more; and for this we would have time afforded wherever it is possible. We would not have men work to work, if we may use the expression, but work to understand, to enjoy, to praise, and to be happy: and this applies as well to masters as to men. Labour is the necessary condition of our well-being,—the condition not merely of our material comfort and prosperity, but of our intellectual and moral elevation. To advance and improve we must labour, as we must to support and accumulate: and what we earnestly desire is, that time may be afforded for both sorts of labour,—that the labour to live and accumulate may not be regarded as all-important, and that the opportunity to labour for development be afforded.

The time for this becomes necessarily less in each class as we descend in society: the tendency of machinery and social progress, happily, is to increase this, and all who desire the general advancement and the well being of society, should aid in extending the advantages of mental cultivation, the first step towards which is to give time for improvement.

A large number of the assistants and operatives in trading establishments are in a miserably low state in an intellectual and moral point of view,—the intelligent exceptions, of which there are many, will confirm this statement,—and under existing circumstances, improvement is almost out of the question. The contemplated change in the hours of business would give them a little more time for improvement and recreation (which, when innocent and healthful, is itself improvement), and would be sure to fail to have a considerable effect advantageously on the present generation, and a much greater on the generation to come. We sincerely hope that the proposed arrangement will be widely adopted on the part of the masters, and wisely availed of on the part of the men.

Man is not to be treated as a mere machine. He has within him powers, affections, and means of enjoyment, through the beneficence of his Creator, which only need development; and although all cannot hope, under the circumstances in which they are placed, to have the same opportunities as others, the general endeavour should be to assist in getting for all, so far as may be, the means for their cultivation:—

> "Sure, he that made us with such large discourse,
> Looking before and after, gave us not
> That capability and God-like reason
> To rust in us unused."

To give time for the mind to commune with itself, to enjoy a healthful ramble in the green fields, or to gaze upon the representations of great men and noble actions on the speaking canvas, is no unimportant boon, even should no other advantage be taken of the change.

How many great things have been produced in what the careless spectator would call idleness! Amidst the constant bustle for bread, the mind has scarcely fair play. In solitude, quiet, and *laziness*, some of the noblest ideas (ideas which have served as sparks of light to illume a thousand souls), have been eliminated, and some of the most useful inventions shadowed out. A ramble through the forests may lead to more than might a month's study:—

> "One impulse from a vernal wood
> May teach you more of man,
> Of moral evil and of good,
> Than all the sages can:"

And the fields may show to the properly observant mind,—

> —— "How skill and beauty dwell
> In the smallest floral cell."

Not that this remark is intended to justify a habit in life of waiting for such inspiration,—a departure from the region of reality and execution to that of reverie and maze—and touching which we met with a passage in a new novel the other day, which it may not be useless to quote.* The writer inquires who there is who, having indulged in the enchantment of the world of reverie, and found his thoughts take shape without an effort, passing from the creative mind into the creative act, without the hard obstacle of a medium, has not felt humbled and discouraged when he has become aware of the immensity of labour, of hard resolute labour to be undergone before he can incarnate his ideas into works? "The unwritten poems,"—he remarks,—"the unpainted pictures—the unnoted melodies are, it is often said, transcendantly superior to those poems, pictures, and melodies which artists succeed in producing. Perhaps so; but the world justly takes no account of unaccomplished promises, of unfought victories. What it applauds is the actual victory won in earnest struggle with difficulty; the heroes it crowns are those who have enriched them with trophies, not those who *might* have done so. Would Michaelangelo have built St. Peter's, sculptured the Moses, and made the walls of the Vatican sacred with the presence of his gigantic pencil, had he awaited inspiration while his works were in progress? Would Rubens have dazzled all the galleries of Europe, had he allowed his brush to hesitate? Would Beethoven and Mozart have poured out their souls into such abundant melodies? Would Göethe have written the sixty volumes of his works—had they not often, very often, sat down like drudges to an unwilling task, and found themselves speedily engrossed with that to which they were so averse?" 'Use the pen,' says a thoughtful and subtle author, 'there is no magic in it; *but it keeps the mind from staggering about.*' This is an aphorism which should be printed in letters of gold over the studio door of every artist. "Use the pen or the pencil; do not pause, do not trifle, have no misgivings; but keep your mind from staggering about by fixing it resolutely on the matter before you, and then all that you *can* do you *will* do; inspiration will not enable you to do more. Write or draw; act, do not hesitate. If what you have written or painted should turn out imperfect, you can correct it, and the correction will be more efficient than that correction which takes place in the shifting thoughts of hesitation." The magic of the pen lies in the concentration of your thoughts upon one object. Let your pen fall, begin to trifle with blotting-paper, look at the ceiling, bite your nails, and otherwise dally with your purpose, and you waste your time, scatter your thoughts, and repress the nervous energy necessary for your task. To pursue this further, however, would lead us from our present purpose, which is to induce co-operation with those masters who, "anxious to contribute to the comfort and welfare of the persons in their employ," propose henceforth to close their establishments early in the evening.

*"Rose, Blanche, and Violet."—By G. H. Lewes.

ON ARCHITECTURAL EXHIBITIONS.

In continuation of former remarks on this subject,* we have now to consider — what is the present condition of our national exhibition of architectural designs, and the cause and consequence of that position? The first point requires but very brief notice; but let it be fully borne in mind that this results from the notoriety of the facts connected with it, and consequently furnishes a convincing proof of the necessity for some attention being paid to them.

A hanging committee is by rotation annually appointed from among the members of the Royal Academy, this committee being year after year (as a matter of course, from their superiority in numbers) composed almost exclusively of painters. Such architectural drawings as they select from the number sent, are deposited, with a multitude of subjects in oil, in a small room, which is naturally visited by the public after the great galleries have been examined, and consequently when the eye and mind, being filled with beauty of form developed with all that richness and depth of colour of which oil is capable, are both entirely unfitted for the proper appreciation of harmony of outline, grandeur of proportion, or delicacy of light and shade embodied in small slight drawings, intended to be viewed as indices to these and similar ideas only, and not as specimens of rich and forcible colour, which latter, though liberally enough supplied by nature to architecture, *should not in honour* be brought prominently into notice by any architect in a representation of *his design*, because he has no real control over it. Add to this, that many of the subjects are placed in positions so high or low that it is impossible to arrive at any correct idea of their merits, and we have a true representation of the only architectural exhibition room at the Academy, or any where else in England.

The cause of this want of success may perhaps in a measure arise from the small number of architects compared with painters in the Academy, but yet the want of a proper spirit on the subject seems very evident even in this minority, a strong proof of which is that no one of its constituents considers himself called upon or chooses to give the public any idea of the subjects to which his

* See p. 255, *ante*.

energies have been directed during the past year.

The chief cause however of the failure may be traced to the continued inaction of the leading architects out of the Academy, and it is a matter as much of surprise as of regret that these should at the present time contentedly allow things to remain as they are, and not endeavour to obtain more attention to their interests.

The consequence of this, with reference to the general profession and the public, is simply this. Very few architects care to be at the trouble of making and sending valuable drawings to an exhibition so badly managed, and it passes almost unheeded by the public, who naturally settle poverty in a collection, under such circumstances, to be the result of meagreness of general interest in its subject, and want of ability in the profession.

To whom, then, are we to look for the remedy, and what course appears most advisable to pursue?

No exhibition of subjects purely architectural can be expected to thrive, or render itself worthy of general notice, without the concurrence of the leading members of the profession in the principle of its plan and arrangement; and as we find the names of the majority of these in the member list of the Institute of British Architects, it is to be hoped that this body may be induced to consider seriously the feasibility of establishing such an exhibition, under its own immediate superintendence. It has a Royal charter, the only one that can be granted to the profession exclusively, and is therefore bound to act according to the spirit of that charter, and to facilitate the promotion of the interests of the art as much as possible. It is not the first time THE BUILDER has urged the Institute to do this. The activity lately evinced by some of its members with reference to architectural literature, is a satisfactory evidence that they have a proper sense of the responsibilities attached to their honourable position, and that they are open to conviction on such points. Some hopes of success may therefore be entertained.

It would seem advisable that the exhibition should be partially permanent and partially annual. A properly classified and gradually increasing collection of drawings, of the best modern examples, arranged round a commodious apartment, lighted from above, should remain always on view, and a selection, made by the acting council from those designs that would be sent for approval every year, should be annually hung for a certain time on both sides of a temporary screen, traversing this room longitudinally. By this means an advantageous standard of taste would be constituted, and the merits of the new works could be judged of more critically. It is conceived that such an arrangement would continue to increase in general interest, and if the public were admitted free on certain days, and at other times at a moderate charge, might be made to pay its working expenses. However, this is more as a hint than anything else,—the Institute itself, should it once take up the subject, being perfectly qualified to decide on the best arrangements to be adopted in carrying out the idea.

FALSE QUANTITIES.—Sir: I beg to ask the favour of an answer to the following question, viz., who is liable for deficiency in quantities under the following circumstances?—A committee advertise for tenders to be sent in for erecting a building, the quantities are taken out by a regular surveyor, employed by the architect, and lithographed, and a copy of these quantities is furnished *by the clerk of the committee* to each of the contractors, upon payment of 10s., and the successful contractor had to pay a further sum to the surveyor for taking out the same upon signing the contract. By so doing you will greatly oblige

A CONSTANT SUBSCRIBER.

Bristol, May 31, 1848.

*** Much depends on the wording of the "conditions." If the contractor have not bound himself to receive the quantities as *correct*, he would probably be able to substantiate a claim for any excesses, as extras, against the committee; and they would fall back upon the surveyor who took out the quantities for them.

ON THE APPLICATION OF SCULPTURE AND SCULPTURED ORNAMENT TO ARCHITECTURE.

ROYAL INSTITUTE OF ARCHITECTS.

AT an ordinary meeting of the Institute, held on Monday evening, the 29th ult., Mr. A. Poynter, vice-president, in the chair, the paper read was the following "Essay on the Application of Sculpture and Sculptured Ornament to Architecture, and the Principles which should regulate their introduction into Buildings generally, both with regard to Beauty of Embellishment and Propriety of Style," by Mr. H. B. Garling; to which the silver medal of the institute was awarded in February last.

If from the study of some individual branch of fine art, we proceed to consider how to combine any two or more of them in the same composition with the greatest effect,—in investigating the relation they bear each other, the means by which the impressions conveyed by the one are influenced by its connection with the other, and the sources from whence our ideas of beauty or grandeur in each department result, we cannot fail to remark the close and striking analogy which exists between all the various branches into which fine art is divided, whether by the impressions they produce upon the mind, or the means by which those impressions are effected. We shall find that though varying in the organ by which they address the imagination, or the vehicle by which they convey their impressions to the mind, they influence the same feelings, strike as it were the same chords, and depend upon causes varying in form only, to produce effects substantially the same.

Whether it be architecture or sculpture, painting, music, or poetry that engages our attention, it is but the expression of one and the same sentiment—the collecting and arranging in the most effective manner, the giving form and substance, as it were, to those ideas and images, from which result our impressions of the sublime and beautiful.

Though we may discover in all, this common origin and aim, yet between some the connection is more obvious; and the assistance they afford to each other, when skilfully combined, more natural and effective.

Thus, if to the symmetry and proportion of architecture we add the graceful terminations and flowing lines of sculpture, or the relief and rich variety of pictorial embellishment, we enhance the value of each by placing it in its most effective position, and surrounding it with suitable and appropriate accessories.

To the artist it is, therefore, an important as well as an interesting investigation to consider how the architect and the sculptor may unite their labours with the most successful result; and what rules we must observe in the treatment of each department to produce a harmonious and effective combination.

If we commence our investigation by tracing the distinguishing features of the various styles of art as each rose in succession from the materials bequeathed by its predecessor, the first that engages our attention is the colossal architecture of the Egyptians. The distinguishing features of these extraordinary edifices are so well known as scarcely to need description: interesting as they may be to antiquarian research, and rich in matter for reflection and speculation on other points, to the artist they afford but scanty materials for study, and still less for imitation and example. That the germs of beauty and proportion may be traced in a certain propriety of decoration and regular disposition of parts may not, perhaps, be denied; as also that a certain effect of grandeur has been attained; the results of colossal size both in the general mass, and also in the details of the composition. Yet they exhibit a style of art so circumscribed in its object, so limited in its resources, and so much fettered by conventional ideas and principles, as to limit its advancement beyond a certain point—forming, in fact, a perfect reflection of the social condition of the people with whom it originated.

If from Egypt we turn to Greece (where exquisite refinement of taste and feeling were combined with a social condition more favourable to progress than in the former country), we shall find the powers of the artist rapidly increasing with the demand for their employment, and the scope afforded for their exercise. Aiming at the attainment of beauty by nicely adjusted proportions and propriety of decoration, and attaining grandeur and dignity of effect, not by actual size, but by simplicity of parts and regularity of design, we observe even in their earliest efforts the germs of that perfect mastery of all the resources of art which subsequently ripened and expanded into the inimitable productions of the age of Pericles.

Apart from the merits of each in its particular department, the principles they observed in combining architecture and sculpture in one composition claim our most careful attention. Whether forming the graceful terminations of the acroteria, or filling up the voids of the pediments, or metopes of the Doric entablature, or decorating the walls in long continuous friezes of elaborate design, we observe how admirably the sculptural accessories complete the general outline of the masses, fill up every void space with rich and appropriate decoration, and relieve the more regular forms of the architecture with the most pleasing variety of lines; imparting poetry of feeling to the whole composition, and assisting in a most important degree the character aimed at by the architect.

The rules observed in the treatment and distribution of sculpture by the artists of Greece obtained throughout the whole of the best period of classic art.

The triumphal and monumental buildings of antiquity are particularly interesting, as exemplifying the views and ideas of artists of the most acknowledged skill and judgment. The mausolea of Halicarnassus, of Hadrian, and of Augustus, the Antonine and Trajan columns, the triumphal arches on the Via Sacra, the commemorative monuments in short of every class, when carefully considered, will be found to possess a character admirably adapted to the purposes of their erection: but in the application of these ideas to our own times we must ever keep carefully in view the particular circumstances which guided them in the forms and arrangement they adopted. As art degenerated towards the decline of the Roman empire, the abandonment of true principles became apparent in all its departments—in none more so than in the treatment of sculptural accessories,—their meretricious character and the profusion of ornament (often exceedingly coarse and inelegant) destroying that repose and chaste simplicity so essential to true dignity of style and happily attained in the works of a better period. Of these abuses the later examples of Roman architecture, particularly the baths and even to a greater degree the gorgeous remains at Balbec and Palmyra, afford remarkable instances.

The political convulsions which for centuries distracted the world, so completely buried in barbarism and ignorance, every class of literature and every vestige of art, that scarcely any production worthy of the name can be recorded. This destruction of art seems to have been completed at a period when the true principles of taste being abandoned, and its most essential rules being completely lost sight of, all hope of further progress was stayed; and thus, though for a time its extinction was most complete, this very circumstance may be said to have paved the way for its regeneration on better principles, at a subsequent period. By it was annihilated all mere conventional rules, and as it was destroyed every false standard of excellence; and the absence of precedent compelled the artist to go back to the study of nature, the only source from which, in each ages, he can, and in all ages, he should, derive his ideas, however he may seek to form his taste, mature his judgment, or collect experience from the works of others: and from this constant reference to nature alone, must trace that freshness of feeling and vigour of conception with which the early productions of art and literature teem, and which strive in vain to catch when the feelings of society have become more refined and elevated, and its structure more artificial and complicated. Art will invariably take its tone and expression from the character of the mind in which it is produced; it is an influence the artist cannot resist; it forms the very atmosphere he breathes; and from it the constitution of his mind takes its tone: the experience

the past offers no exception, the character of art at the present day confirms it.

As the arts gradually emerged from the obscurity in which they were buried (fostered by a patronage peculiarly favourable for the development of their loftiest powers), they began to assert their true position and exercise their legitimate influence on society; and while the monuments of classic art were rapidly falling to decay, another style of architecture arose, based on principles of construction and of composition almost as diametrically opposite to those of classic art as the source from whence it sprung, the purposes to which it was dedicated, and the character of the age and people amongst whom it originated. The sculptural accessories are no less different in character than the architecture with which they are associated. These sculptural accessories often vigorous in design and well conceived, consisting principally of isolated figures, stiff and constrained, distributed and arranged rather by conventional and prescribed ideas of symbolism than by rules of artistic composition), convey ideas more by symbolical arrangement than by a combination of action and expression; of this perhaps the fronts of Wells and Exeter Cathedrals may be adduced as the most striking examples. Thus in the sculptural decoration of mediæval architecture we observe a style of art too subordinate in its character, too circumscribed in its views, and too much fettered by conventional forms to expand and assert an independent position; aiming solely at the expression of devotional feeling by the adoption of the most simple forms. These remarks do not apply to the artists of the revival in Italy; who, forming their taste on the model of the antique, united to these sentiments the lofty expression of intellect and ideal perfection; and thus produced a distinguishing merit and charm in their works. In the revival of the classic styles in Italy, we, in the treatment of the two arts of architecture and sculpture, meet with the observance of the same principles which guided the artists of classic times; but not, however, carried out with the same refinement of feeling and correctness of taste. The vigorous and fertile imagination of the great Italian masters (though it enabled them to trace out their own path, and to imitate the example and catch the feeling without tamely copying their model) often betrayed them into irregularity, which marred the effect of their most successful works; while by artists of inferior talent, exaggerated action and expression, eccentricity, and extravagant conceits, were too often confounded with the bold originality and vigorous conceptions of true genius. If these defects the palaces and churches of Italy afford innumerable instances, which will immediately occur to those acquainted with the works of these masters. It cannot, indeed, be denied, that the peculiar character of the Italian style admitted a freedom of treatment in the sculptural accessories which would be offensive and inadmissible in more correct and regular compositions, but at the same time it will be obvious that there is a limit to these irregularities, which can only be assigned by good taste and discriminating judgment on the part of the artist himself.

The first and most important point is to observe a perfect accordance in style and character with that of the building to which we apply it, that it not only should illustrate its object and purpose, by intelligible and appropriate allegory, but convey it also with congruity of feeling and sentiment, even to the minutiæ of execution, (for the skilful architect not only adapts the main features of his building to the purpose for which it is designed, but so expresses it in every member, and moulds every detail in exact accordance). But to produce that harmony and propriety (which is the source of our most agreeable sensations in contemplating the productions of art), we must in addition, distribute it so judiciously through the composition, and so nicely adjust it in proportion and position, that it shall appear an integral portion of the design,—the work as it were of the hand, and so completely the expression of the idea, that a chasm and void would be created by its removal: that neither by disproportionate size, nor too prominent a position, it should obtrude offensively on the eye; nor by the opposite extreme appear to retire too much and lose its legitimate effect and place in the composition. The regulation and nice adjustment of these points cannot, however, be determined by rule, since every individual case will require a different treatment, but it must altogether be attained by that refinement and correctness of taste on the part of the artist which can only result from a careful and accurate study of the best models, united with the greatest judgement and discrimination.

As a subordinate and purely decorative feature, it will be of the utmost importance that the outline of the sculpture should be regulated by, and accord most accurately with, that of the architecture; and that it fill up with precision those circumscribing lines within which it is placed; that there be no protuberance, undue projection, or ungraceful deflection in the contour, either in itself, or in combination; and that it do not interfere with, or break off those main lines which indicate the constructive features of the building, or the continuity of which expresses the arrangement and proportions of the composition.

It will also be found a point of considerable importance, in combining sculpture with architecture, to adopt a sober and subdued style of composition in the position and arrangement, and particularly in the treatment, of the draperies and accessories, not only in isolated figures and in those which form the terminations and crowning members, but also in the composition of the friezes and pediments. The confusion produced by exaggerated action or intricate grouping will be immediately detected by its discomposing and harshly contrasting, without relieving, the lines of the architecture; though on the other hand must be avoided a meagre and straggling arrangement, and the stiff effect arising from perpendicular and horizontal lines. The value of sculpture as a decoration (independent of the sentiment it conveys) consists much in the relief it affords by carrying up the eye with its graceful terminations; filling up what would otherwise be void and blank, with varied and undulating lines and forms of the most exquisite beauty. The success with which the artists of Greece moulded and adapted these requirements will prove that, when properly treated, they tend neither to cramp the ideas nor to shackle the invention of the artist.

If it be necessary to observe these rules in the treatment of groups, it will be found still more so in the case of isolated figures; and the infringement of them produces still more ungraceful effects. On the revival of art in Italy, distortion and exaggerated action and expression were too frequently confounded with originality and vigour of execution; and we are continually meeting in their works with the most striking instances both of the infringement of these rules and the ungraceful effects resulting therefrom.

In placing sculpture in juxta-position with architecture, it is obviously a point of no small importance to consider the scale thereby imparted to the composition. It will hardly be necessary to demonstrate with argument, that with which every artist must be acquainted; viz., that magnitude is relative rather than actual, and that by skilfully proportioning details, or by placing in juxta-position features, with the size of which, by habit, experience, or instinct, we are acquainted, with those of which we have no other data for determining the magnitude, he can impart a fictitious scale to his composition; or that by diminishing one feature and exaggerating another, he can, by this comparison, produce an idea of magnitude which the actual size does not possess. In practice, this, nevertheless, has but too frequently been lost sight of; and in many instances, where circumstances institute the comparison, it has been rather the result of accident than design. Perhaps this remark might be more justly restricted to the revival and later productions of art; since, in the works of the antique, we continually observe not only its application, but the success with which it has been attended. The principle must, however, obviously become of peculiar importance in the case of sculpture, since the proportion of the human figure is that with which we are most naturally and necessarily acquainted, and one which we perhaps more readily apply than any other (adjusting everything to this scale instinctively), and although, to a certain extent, the scale of the sculptural accessories, particularly the isolated figures, will be indicated by various circumstances in the proportions of the architecture, it is not absolutely or invariably so, and the advantage to be gained by skilfully adjusting this scale must never be lost sight of. When, by being in due proportion to the members of the architecture, it would become too colossal, it might be preferable to adopt a different species of decoration; since, where the ordinary features of the composition are merely increased in actual size, and the same relative proportions observed, the scale by which we measure is increased in nearly the same ratio. We may also observe, that the undue exaggeration of the human figure beyond its natural proportions, so far from invariably producing an effect of grandeur, is sometimes productive of impressions akin to those resulting from actual deformity; the proportioning these parts is, however, a point which must depend solely upon the judgment of the artist, and one for which no rule can be laid down: a careful study of the best models and an accurate observation of works already executed, will form the best and perhaps the only guide.

When we observe how necessary to produce a pleasing and harmonious effect (even in isolated works, which are to be considered as complete in themselves and not affected by external circumstances) are the duly balancing the corresponding parts of the composition; the skilfully contrasting and combining forms and lines of varying contour; the duly filling in and adjusting every part so as to give one outline to the mass, however varied in detail,—it is obvious, that in combination with architecture, the slightest discrepancy or failing in this respect will be exaggerated, by contrast with the regularity of the lines and masses with which it is associated; and to this point, therefore, the artist must direct his most diligent attention.

In designing groups and figures which crown and form the termination of the composition, it will be found of the greatest importance that the figures in every aspect appear in perfect equilibrium, and firmly planted and balanced on the pedestal on which they stand, devoid of any protuberance or projection, either in limb or drapery, which may appear to throw the mass more on one side than on the other. It will for this purpose be found necessary carefully to study the work from every possible point of sight from which it can be seen; since we have continually to observe that though perfect when viewed in some positions, this due equilibrium of the mass is disturbed when seen in others, and that even, when, in reality and mechanically speaking, it is duly poised.

Of the ill effects resulting from an imperfect or partial study of this important point, the works of the artists of the revival above alluded to (though masters of perspective and perspective effects) afford innumerable instances; while of consummate skill and science in meeting these requirements, the inimitable productions of the Grecian chisel afford at once a most striking example, and to the artist an invaluable model for study.

An important part of the subject of the application of sculpture to architecture is the employment of caryatides in the place of the column to support the entablature of the orders. Whether the origin of this feature be that related by Vitruvius, or whether it resulted merely in the fertile and lively imagination of the artist adopting this form for variety only, it will hardly be worth our while to consider; though the employment of the human figure combined with massive columns, but not aiding in the support of the mass above, occurring in the Egyptian temples, might induce the belief that the idea has been already suggested by precedent, and that the character it assumed in Grecian architecture was merely the result of the more refined taste of the artist. The instances in which they were employed, and the manner in which they have been treated, has been already considered, as also that of the same feature by the artists of the revival in Italy. It has elsewhere been but very sparingly adopted. Jean Goujon has left us some admirable specimens of his taste and skill in the Louvre at Paris, which exhibit all the chaste and refined feeling of the antique combined with the freedom of the revival. Inigo Jones's circular court of caryatides, in the Palace at Whitehall, though not executed,

yet forms so beautiful a feature in the design that we must not omit to notice it, and to observe with what peculiar judgment the architect has treated this feature of his design: by applying it to an interior court a perfectly unique effect is preserved, undisturbed by comparison in size with the columnar arrangement.

It is obvious that, in a great measure, the same rules will regulate the treatment of caryatides which govern the application of sculpture generally to architecture; viz., a general sobriety of treatment; the avoiding all strained and unnatural positions of the limbs; no flutter or discomposure of the drapery; the figure balancing itself most accurately, and appearing in every position in the most perfect equilibrium; the outline of the limbs being clearly developed through the folds of the drapery; and, lastly, the absence of the idea of forced and laborious exertion on the one hand, and of positive inaction on the other, that the figure appear easily and naturally to support its superincumbent members, and that they be so treated that the same outline and position do not recur too often. If engaged with the wall, as is frequently the case, a greater freedom of treatment may undoubtedly be adopted, since the outline of the figure will not vary much in the different points from which it can be seen.

It might at first be supposed that the study and practice of two arts, so intimately connected with each other, and so naturally and readily combined, might have been united with advantage in the same artist. If, however, we look back upon the history of art, more particularly to the era of the revival in Italy, at which time they were not uncommonly united in the same individual, we cannot but observe that the abuses and deformities are principally to be met with in the works of the architect-sculptors; and that in artistic effect and arrangement, as well as in appropriate and characteristic detail, they were surpassed by their brethren, the architect-painters of the same period. However, they both fall short of those whose whole attention was devoted to architecture alone; shewing, more conclusively than argument, that the rules of the artist must, in these points, be *his non imperitus*; that to compass more than one to its fullest extent—to attain to or approach perfection, where the attention is divided upon two objects of equal importance and scope,—is beyond the grasp of the most powerful intellect, and that the attempt can only be attended with failure in one, or mediocrity in both. There may be quoted a few brilliant exceptions; yet, if these even be fairly balanced upon their own merits, irrespective of the authority of great names, the observation may apply to them.

In conclusion, although it might seem that the rules to be observed in applying sculpture to architecture are rigid, and calculated to trammel the artist with restrictions incompatible with the free exercise of his genius, there is, in reality, perhaps no point on which the invention of the artist is less fettered, or on which so wide a field is left for the exercise of his own discretion, since they determine no fixed proportions, prescribe no particular form, arrangement, or detail, and their very application must depend on the artist's discernment and taste. How little these rules are calculated to induce poverty and tameness of design, or confine the free exercise of the imagination, the example of the gifted artists of Greece will sufficiently prove. The rules of art, so called, are not arbitrary restrictions founded on the caprice of fashion, the authority of precedent, or the practice of approved masters,—but those immutable laws, upon the observance of which beauty, grandeur, and harmony most depend (which admit of no exception), apply to every variation of circumstances; are ascertained by an accurate observation of the effects of certain combinations; and are as inseparably connected with the productions of certain results as cause and effect in mechanical appliances in the physical world. It is the attribute and characteristic of true genius intuitively to know, and instinctively to apply them, however necessary experience, careful observation, and diligent study may be to mature the judgment and refine the taste. To conform to them will exercise its ingenuity rather than restrict its powers, while their due observance will give force and precision to its efforts, by directing them in the right channel, and by preserving it from those irregularities which mar the productions of genius unaided by experience and education.

PROPOSED ARCHITECTURAL PUBLISHING SOCIETY.

THE list of members enrolled now includes 110 names,—a satisfactory commencement, but not commensurate with the value of the scheme. We hope those who have been holding back to "see what others do," will at once forward their names, even if unable to give active assistance. It is scarcely necessary for us to say that it is not by any means desired to confine the society to architects: the general public ought to, and doubtless will, supply many subscribers, and we hope to find the builders, in particular, mustering strongly. Amongst the supporters of the project, in addition to those already printed, we may name Messrs. W. R. Hamilton, F. R. S., Fulljambes (Gloucester), Lee, H. B. Ricardo, Stevens (Tunbridge Wells), Dangerfield (Cheltenham), A. Ashpitel, T. Little, Ed. Nash, Martyr, Jos. Neeld, M.P., G. R. French, R. Tress, Jas. Wilson (Bath), Stevens (Derby), Dr. Cowie, Principal, Putney College; J. A. Picton (Liverpool), Donthorn, Davis, G. Mair, Bellamy, J. B. Gardiner, Thos. Hayne, Angell, Pownall, Ed. l'Anson, jun., Sancton Wood, Aitchison. Fifty of the 110 are from the country. A meeting will be called in a short time to commence operations in earnest,—the first acts must be to give the society a distinctive name, and appoint a working committee.

DANGEROUS CONDITION OF THE SERPENTINE RIVER IN HYDE PARK.

ON Monday evening last a very numerous meeting of the inhabitants of Chelsea and the neighbourhood assembled at the Literary Institution in Sloane-street, for the purpose of taking steps to remedy an evil especially annoying to the bathers in the Serpentine and to the promenaders in Hyde-park, viz., the fœtid exhalations caused by the decaying vegetable matter at present so abundant in that ornamental water.

The chair was taken by the Earl of Harrowby, who said he had chiefly been induced to aid the present movement by considerations connected with the "early closing" question, as he thought that their success in inducing the shutting of the shops at a reasonable hour, ought to be followed by an immediate attempt to provide rational and healthful occupation and amusement for the hours so obtained for young men, which might otherwise be ill spent. His lordship then read a note he had received from Lord Morpeth, the Chief Commissioner of Woods and Forests, explaining the steps taken by the Crown, in conjunction with the Commissioners of Sewers, in 1834, to keep out the sewer water from the Serpentine River, by means of a catchwater sewer, at an expense of 7,000*l.*, and expressing his Lordship's great anxiety to assist by every means in his power to effect the remedy of the evil; the note concluded by thanking the noble chairman for strengthening Lord Morpeth's hands by the agitation of the subject.

Mr. Hertslet, the chief clerk to the Metropolitan Commissioners of Sewers, who was present, explained, at the request of the chairman, the course of the sewers, and from his statement it appeared that the formerly clear streams running from Hampstead by Kilburn and Bayswater, through Hyde-park, had become contaminated in consequence of the increase of the town north-westward, and that the source having been thus corrupted, the stream, together with the Serpentine itself, had become a common sewer, until the alteration in 1834 alluded to in the note from Lord Morpeth. He suggested, however, that the real source of the evil was not, as might be supposed, attributable to the overflow from the Bayswater Sewer, which happened only after very heavy rains when the sewer water was consequently much diluted, but that the true cause was to be found in the stagnation of the so-called "river" itself; and from the numerous cries of "hear, hear," and the subsequent tenor of the observations of all the speakers, this appeared to be the received opinion.

Drs. Copeland, Hodgkin, and Lancaster, addressed the meeting at some length, all agreeing that the cause of the evil was decomposing vegetable matter, the well known cause of fever on the coast of Africa, and the worst possible enemy to human existence. The former gentleman stated that he knew an instance of a young man, a habitual bather, who was taken seriously ill after bathing in the Serpentine, and that he had had under his care a case of ague, attributable to nothing else that he could discover, than evening walks on its banks. A bottle of water taken from the river was exhibited, to which the meeting as one man gave the appellation of "green pea soup." This bottle when opened gave out the most pestiferous fumes and it was stated by some of the bathers present, that, to get a clean bath, it was necessary to wade through four feet of this disgusting mass.

Dr. Hodgkin likened the probable effect he had himself experienced sensibly while crossing the park, to those of the marshes in the neighbourhood of Rome, and gave various instances of disease and deaths from similarly situated stagnant pools.—Dr. Lancaster said that he had analysed the filthy contents of a bottle of the water, and that they were full of minute plants, the natural result of stagnant water.

Mr. Woolley, the medical officer of the Royal Humane Society, stated that the effects of the water upon submerged cases was found to be highly deleterious, the depression caused to the system by such a draught greatly weakening the chance of recovery. He also described the extremely dangerous state of several parts of the river from the sudden pits and accidescents, a short distance from the shore acting as traps upon the unwary or unskilful bather. From his statement, it appeared that the river, formed out of a series of ponds 100 years ago, had for the most part of its extent never been cleaned out, and that there might now prove to be twenty feet deep of mud, in addition to 20 feet deep of water in some portions of its extent, as it was said to have been in places 40 feet deep.

The worthy rector of Chelsea, Mr. Bugress, came in towards the close of the meeting, and, together with Mr. Hall and Mr. Lilwall, the able agent of the early-closing movement, made some pleasant and practical remarks, which were well received; and the meeting broke up after having appointed a deputation to wait on the Commissioners of Woods, &c.,—fully confident that so glaring an evil had only to be mentioned to be removed.

MILITARY SURVEYORS.

COST OF ORDNANCE SURVEYS.

SIR,—It appears by the reports in the public papers, that a recently organized body calling itself the "Association of Civil Surveyors," has within the last few weeks held several meetings, at which the most extravagant misstatements respecting the cost and other particulars relating to the government surveys and the persons employed upon them have been made by the speakers. As many of these misstatements must, in the mind of every person, competent from professional knowledge to form an opinion on the subject under discussion, have carried their own refutation; and as the papers in which reports of the proceedings of the meeting usually appeared, merely gave them as part of the current events of the day, without vouching for, or at all entering into the question of the correctness or incorrectness, truth or falsehood of what they must have known to be at least *ex-parte* evidence, would probably have been attaching undue importance to the proceedings to have noticed them.

A meeting, however, of this body is reported to have taken place on last Wednesday, presided over by a member of the House of Commons, and an abstract of its proceedings appeared in THE BUILDER of the 3rd inst., which should not be allowed to pass unnoticed. The position of the chairman, and the established character of THE BUILDER

(the only journal in which I have seen the meeting noticed), for fairness in its statements, for general correctness of information, and for its impartial advocacy of the true and legitimate interests of the professions, many of the views and opinions of which it ably and candidly represents, attach to the proceedings of this meeting an appearance of something more than usual importance.

One of the speakers is reported to have said that the Ordnance Survey of the city of Dublin cost 200,000*l.*, and it does not appear by the report that this and other very extraordinary statements were contradicted by the hon. chairman, although he must have previously seen a parliamentary paper, moved for by Mr. Hume, and published last month, in which the total cost of the Ordnance Survey of Ireland, including all military pay and allowance of officers and men employed on it, from its commencement to its completion, amounted to 863,206*l.*; that this sum paid for the surveying, mapping, and engraving of the total area of the country, namely 20,875,482 acres, on the scale of 6 inches to a mile, occupying 1,921 copper plates, each 3 feet by 2, or equal to a surface of 11,526 square feet of copper,—also for the mapping on the scale of 60 inches to a mile of no less than 95 of the principal towns, including Dublin, and for the mapping and engraving of 32 county maps, serving as indexes for the 6-inch maps. If the parties making the absurd and unfounded statements at the meeting of Wednesday evening, to which I have already alluded, will take the trouble of dividing the total cost by the total area, they will find that the expense per acre is rather under 10d., for which exceedingly moderate cost a national survey has been made, which, with all its faults, is unequalled by any similar work in Europe.

It will probably puzzle the hon. chairman to shew how the surveying and mapping of 94 towns, on the 60-inch scale, comprising an area of 27,855 acres, and including such places as Cork, Limerick, Waterford, &c.; the surveying, mapping, and engraving of the entire country, including Dublin, on the 6-inch scale, and the mapping and engraving of the county maps,—could have been executed for little more than three times the sum which he is reported to have stated in his place in the House of Commons, and permitted that statement to be repeated uncontradicted at a meeting over which he presided—that the survey of the city of Dublin, comprising only 5,140 acres, alone cost. Such statements are so utterly preposterous, that it appears almost puerile to dignify them by a contradiction.

It may be quite right that the "civil surveyors" shall associate and combine by every lawful means to obtain Government or other employment. It may also be perfectly justifiable, or even laudable, to endeavour to bring the Government round to the opinion that by employing its own officers, &c., in the execution of its own work, injustice is done to a numerous and respectable body of men, but they (the civil surveyors) may rest assured, that by indulging in unprovoked vituperation against "military surveyors," who, if a judgment may be formed from the past works of both parties, are "abler than themselves to make conditions," and who feel, in reality, no antagonism of interests; or if, by dealing in reckless statements, which, so far from having any semblance of foundation in fact, are manifestly absurd and untrue, they rouse the common sense as well as sense of propriety of the Government and its agents against them, they take the most effectual steps for defeating the objects they may have in view.

To the "military surveyors" it is obviously, so far, at least, as their personal interests are concerned, a matter of perfect indifference who the parties are that shall be selected or recommended by the Sewers Commissioners to execute the metropolitan survey. If the "civil surveyors" should succeed in convincing the Government that they are the most suitable persons for the performance of a work of such unprecedented magnitude, they shall receive the responsibility without exciting the envy of those whom they have latterly been so sedulously employed in traducing. It is, however, probable, that the Sewers Commissioners, as men of business, and as public servants, will require a sufficient guarantee for the proper execution of a work involving the expenditure of so large a sum of public money. In urging their claims, therefore, the "civil surveyors" may be required to give the truest test, and the best evidence of their competency, by shewing that they have been successfully employed, either individually or collectively, on similar works. If they succeed in shewing such results of their labours, the public will then be enabled to discover, what they are now ignorant of, where the documents of these valuable surveys have been concealed. If any "civil surveyor" can furnish satisfactory evidence that he has been intrusted with the survey of a second or third-rate town for sanitary or other purpose, and that he has completed from his survey the map of such town on a scale equal in magnitude to that intended for the map of the metropolis, having regard to minuteness of detail and scientific accuracy of combination, I, for one, hope that the commissioners will be induced to intrust the execution of their vast work to that person. Let me, however, assure these gentlemen, that their past experience in loose parish surveying for tithe commutation purposes, or in still looser railway surveying, will afford them very inadequate data for forming a correct estimate of the cost, time, and labour, of a rigidly correct survey of the metropolis and its vicinity, to be projected on a connected series of sheets, which, when combined, will occupy a space of 5,400 square feet. They will do well also to bear in mind that there is a considerable difference between finding fault with the works of others and excelling these works themselves. The ascerbity of feeling apparent in the one is by no means a conclusive proof of the possession of ability to do the other.

I have to apologise for the length of this letter, but trust you will do justice to a numerous body of public servants, which contains many admirers of your excellent journal, by its insertion.—I am, Sir, &c., W. C.

5th June, 1848.

RAILWAY JOTTINGS.

THERE is evidence of more things than one in the eagerness and anxiety with which every renewed opportunity, in every new accident, calls forth remonstrances and suggestions from all quarters. Our own correspondents, and those of our contemporaries of every class, have been but too ready thus to avail themselves of the recent deplorable occurrence on the Great Western, the deaths resulting from which have since been ever and anon striking harshly on one's renewed attention, like the slow tolling of some funeral knell. It requires little penetration to perceive that the public are but too well convinced that unless, and until, and only while, the most fearful accidents are in the very act of occurring, there is not the least hope of railway directors, as a body, taking even the slightest pains to obviate those remediable causes which render accidents not only possible but perpetually imminent; and that, accordingly, this hopeless apathy in railway direction has actually induced a subconscious wish, not even to be consciously whispered, that the apathy itself and the negligence systematically displayed, would be forthwith thoroughly and at once dispelled, by the concentration, and yet limitation, into some *one* tremendous catastrophe, of even one-half of the scores, aye, hundreds of deaths which they do, at any rate, every year occasion. And blood-thirsty as the thought may appear, it is merciful in the extreme compared with the callous and guilty indifference and passivity with which every minor recurrence of the peacemeal manslaughter is met by the railway direction as a body. Juries must be perseveringly incited to make an example of some few of the class, as *the* really responsible agents in every case where rules of ordinary prudence, and arrangements or apparatus of ordinary practicability, *would have* plainly obviated, or have shewn their readiness to obviate, the reckless and guilty destruction of human life. A serious question, too, suggests itself, whether the mere "money directors," as a correspondent ("Archi") styles them, ought to be allowed to continue to hold that post of public responsibility. "So long as brewers, shoemakers, tailors, and such like men have the management," he remarks, "so long will there be accidents. What do you think of a decayed brewer as an inspector of a line? If money make the ordinary railway directors, let professional talent constitute a special board of mechanical directors, and then, perhaps, the lives of the public will be made secure." In the meantime, however, we are convinced that if the juridical eye were once fairly, or rather scowlingly, bent in the *direction* already pointed out, with something like an expressed determination in the flash of it to look for safety to the public specially in that direction, at the peril of private safety from personal verdicts of culpable homicide, we would soon see a wonderful fertility of invention and alacrity of conduct. In more special allusion to the culpable negligence of railway managements in such cases as those in which trains run one into another, the same correspondent points attention to the slovenly circumstance that, "whenever such an accident occurs, the company's servants are asked for their book of instructions for the men to work by; and if an improper rule is pointed out by the coroner, the gentlemen attending on behalf of the company always say we are having fresh rules made, and the bad, as inserted, will be done away with, or altered."——A correspondent of the *Oxford Journal*, subscribing himself as "W. I. Cole, R.N., K.H.," draws attention to the extreme curve of the rail to the westward of Shrivenham station as highly and plainly objectionable, the possibility of the engine-driver seeing that the station is clear from obstruction, till close upon it, being thus entirely precluded. "I think every one will allow," he adds, "that all stations should be placed where the road or line is straight for a considerable distance, so as to ensure the engine-drivers, both up and down, to see that the station is clear before they approach it, which, in my humble opinion, should be done at all times, and under all circumstances, at an easy pace, and never more rapid than at the rate of 8 or 10 miles an hour; though I believe that nine-tenths of the thinking population of this country would hail with joy and satisfaction the prospect of every train coming to a dead stop at every station; for it has been at the stations where the awful accidents have happened.——A powerful alarum whistle, rapidly worked with a crank and handle, driving a strong current of air from a diaphragm and cylinder through a couple of tubes, so as to keep up a loud and continuous signal between guards and drivers, has been patented by a Mr. G. Wells, Walworth.——The amount of railway calls in January was 4,868,130*l.*; in February, 2,272,541*l.*; in March, 3,135,922*l.*; in April, 2,759,795*l.*; and in May, 3,246,848*l.*——The new wooden bridge, about 400 yards in length, which crossed the Usk on the South Wales line, was entirely burnt on Wednesday week. The timber was Kyanized, and the accidental, or rather careless introduction of too hot an iron bolt, produced so sudden a blaze, that the destruction of the whole fabric unavoidably followed, and "it was as physical an impossibility to save even a fragment as it would be to save a portion of a barrel of gunpowder once ignited." The structure had been almost completed by Messrs. Rennie, Logan, and Co., at a cost of more than 20,000*l.*, but it was insured to the full amount, and "at a high premium, owing to the enormous risk incurred." A stone structure it is thought will be substituted, but a delay of two years will be incurred.——In a compensation case at Newcastle, the York, Newcastle, and Berwick Company, offered a Mr. Ross, a leaseholder for some property for two lives, the sum of 52*l.* 10s. for his interest, but after they had summoned a jury, he received from their solicitor an offer of 1,000*l.* His witnesses, however, estimated it respectively at 1,136*l.* 12s. 3d., 1,070*l.*, or 1,162*l.* 2s. The Under Sheriff having summed up, the jury returned a verdict for 1,000*l.*

VALUE OF A REFRESHMENT-ROOM.—We understand that the Swindon refreshment rooms on the Great Western Railway, held of the Company for ninety years at a nominal rent, were put up to auction at Garraway's Coffee-house last week, and sold to Mr. Phillips, of the Virginia Coffee-house, Cornhill, for 20,000*l.*

FONT IN THE BAPTISTERY OF SIENNA.



E.MORAN, V.L.B. LAING, Sc.

BAPTISTERY IN THE CATHEDRAL OF SIENNA.—THE FONT.

The baptistery of Sienna, attached to the absis of the cathedral, is situated, in consequence of the picturesque position of the edifice, about 60 feet below the floor of the church, and is reached by a large lateral staircase outside the absis. The interior decoration of the baptistery, arranged in modern style, offers nothing remarkable, and contrasts strikingly with the richness and elegance of the graceful specimen of the Italian *renaissance* which our engraving illustrates, namely, the font.

This is composed of an hexagonal cube of marble (each face of which is 3 feet wide) 3 feet 4 inches high above the two steps on which it is elevated. The angles of this cube are occupied by Gothic niches, which contain beautiful statuettes of bronze, gilt, attributed to John of Bologna, as are the bas-reliefs on the faces, which recal, by the composition and the perfection of the details, the beautiful gates of the baptistery of Florence.

The frieze of the upper part and that of the plinth are in blue enamel; the upper frieze bears a consecratory inscription in gold, and the lower one a running ornament, also in gold.

In the centre of the cube rises an hexagonal group of white marble columns, supporting a tabernacle of the same form, enriched with sculptured figures, and above at the angles of the entablature are six statuettes of angels: the whole is terminated by the statue of St. John in marble. The height to the foot of the statue is 16 feet 2 inches; to the cornice of the tabernacle 9 feet.

ARCHITECTURE AT THE ROYAL ACADEMY.

The review of the Academy exhibition in the *Art-Journal* contains this remark:—"On the subject of architecture, as shown in the Royal Academy, we refer our readers to a series of able articles in our zealous and judicious contemporary, The Builder, again, however, expressing our opinion that *these works have no business here.*"

A correspondent, apparently much excited by this, says—"I hope the compliment thrown out to yourself in the *Art-Journal* will not deter you from standing up boldly for your own 'order,' and censuring the cool impudence of that publication when it goes so far as to say that architectural designs ought not to find a place in the Royal Academy's exhibitions. It is matter which you ought to take up strenuously, and speak out fearlessly upon. You will surely not allow such a slur to be cast upon a branch of art, that your own journal professes to support and encourage, without reprobating the insult in the severest terms?"

We need no such incentive to our duty, still less such ill-natured and foolish remarks as follow in the letter,—nor are we likely to be prevented from saying what we think right, even by the kind expressions of our friend of the *Art-Journal*. We are not of those, however, who go into a passion because all will not think as we do. We believe that the *Art-Journal* is as wrong in the opinion referred to as ever it was right in others, and the same was said in our pages some time ago, when the journal in question objected to the election of architects as academicians. But this opinion, being honestly formed, deserves fair treatment, and may surely be discussed without calling names, or imputing motives.

The Britton Club.—A dinner was given to the club on Monday last by Mr. Thomas Cubitt, at Clapham, and as it included several of the principal builders of the metropolis, Mr. Sheriff Cubitt, M.P., Mr. Cuthill, Mr. Grissell, Mr. Herbert, and Mr. Piper, deserves especially a brief record in our pages. The other guests were the Rev. Mr. Andrews, Mr. Britton, Mr. Gibbon, Mr. Godwin, Mr. Sheriff Hill, Mr. Hopgood, Mr. L. C. Humfrey, Q.C., Mr. W. Jerdan, and Mr. W. Tooke, F.R.S. Without intending to repeat what is said at meetings which are private, rather than public, we may mention that "The prosperity of the Building Interests" was nicely given by Mr. Jerdan, and responded to by Mr. Grissell.

ENRICHED DOORWAY, GENOA.



RENAISSANCE DOORWAY, GENOA.

The beautiful doorway represented above is in the *Place St. Ambroise*, Genoa, and belongs to the period of the *renaissance*. The material is marble, and it is very elegantly sculptured. It is surmounted by a bas-relief, representing St. George and the dragon.

ON DECORATIONS IN TEMPERA.

DECORATIVE ART SOCIETY.

At a recent meeting of this society, a paper "On Decorations in Tempera" was read by Mr. Dwyer, V.P. This paper, it was said, emanated through a necessity which exists for a more definite classification of various methods of painting as applied to the decorative arts; and the example set by the Fine Arts Commission, in pointing out for notice and practice certain methods seldom adopted in modern times, was mentioned as being a step in the right direction. The evils resulting from the present partial system of education in the arts, were alluded to as being generally evident in the professional practice of our artists, and it was contended that more ample and varied means for study should be made accessible to all who require to understand the subject. It was urged that such a system would not engender superficiality, nor would it induce a waste of the student's time in fruitless speculations to a mischievous extent, but it would inevitably establish an enlarged circle of information upon the arts. He desired to have a general system of education in arts, as in literature, for all who require to understand the variety of means by which to best attain a given end. A knowledge of different materials must, he said, increase the powers of expression; for by simply extending an acquaintance with the materials, facilities for correct and forcible expression must occur, and the artist of general acquirements would ordinarily adopt that method which is the most suitable for his purpose.

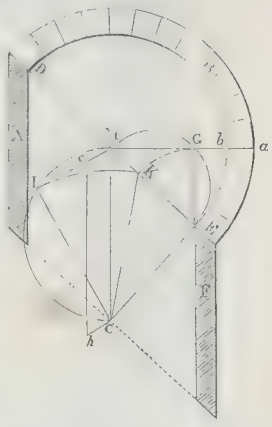
The manner of applying colours in the arts has varied much in the different epochs of history, and it is not difficult to trace therefore those distinctive qualities in which may be recognised relative fitness of purpose. Mr. Dwyer described the method of colouring "in tempera," and the various vehicles or media used for rendering the colours adhesive and permanent. Some useful details respecting the practical management of the colours were mentioned, and the treatment of them in application with gums, &c., to produce certain glazed effects, was explained. Among the advantages assumed for painting in tempera, that of readily and economically producing upon a large surface an even colour and texture, was especially adverted to, and its application, as seen in the form of paper-hangings, was said to equal in effect that of any other medium whatever. The scenery of theatres (always painted in tempera), it was observed, illustrated the power and richness of effects obtainable, as well as the rapid facility with which decorations of a refined and picturesque character might be produced for domestic interiors. It was contended that the opportunities for introducing artistic refinement through such simple and economical additions to our ordinary wall decorations, ought not to be any longer overlooked, as vignettes, landscapes, &c. can be produced easily, quickly, cheaply, and well, in this manner. He did not wish to have coarseness mistaken for boldness, but to re-

cognise that spirit which evinces the vitality of art, by imparting to decorations in tempera the fire and soul-inspiring vigour of the best and time-honoured frescoes of Italy. He remarked that the artist's labour might advantageously be employed on walls in combination with borders and enrichments printed upon paper, and that elevated and important results would thus ensue from displacing much of the insipidity in the general aspect of paperhangings. It was mentioned that, with the present available resources arising from the schools of design, our house decorators might safely venture upon undertakings which would be readily appreciated by the public. He referred to the now well-known decorations of Pompeii, as illustrating in a modified degree the proper starting point; and to the Vatican, and works in Italian palaces, for specimens for emulation of a loftier range. A greater amount of attention to the importance of colour upon our walls, it was said, was certainly necessary when we find the tame mistaken for the chaste, and artistic energies are being as it were dried up, through the prevalent use of tints (stimulative in name only), such as lemon, salmon, sage-green, &c. It was further observed that painting in tempera being absorbent of light, admits with great freedom the broad style of treatment which is essential to the decorations of the walls in large rooms, and the necessity for greater breadth and force in the designs for such purposes was strongly urged. Stencilling, although despised by many, owing to the imperfect manner in which it has usually been applied in this country, was described as a very useful medium, and, it was said, that effects in borders, after the manner of Tesseræ, would, if judiciously wrought, be duly appreciated. The reader wished it to be understood that he regulated his suggestions with equal regard to economy as to the advance of artistic achievements. He regretted that decorative painters have rarely the opportunity of seeing walls in tempera executed by men of superior attainments,—as he felt assured that, if they saw the exceptions to their customary practice which artists, such as Stanfield, Danson, and others, had produced upon the walls of a few private mansions, their mental powers of appreciation would induce them to exercise that description of art. Watteau had, he said, last imparted to this manner of painting a popularity in this country; but there was little in those works beyond the ability of many ornamental painters of the present day. The absurdity of painting in oil and varnishing the walls, and often the ceilings, in small rooms, was mentioned in contrast to the light and agreeable result of colouring in tempera, while the general absence of gloss permits perspective and other details to be properly represented at any angle to the surface; and, with reference to durability, that it is quite possible to produce works of enduring brilliancy, as illustrated by Egyptian antiquities in the British Museum, the series of cartoons for a frieze by A. Montegna, now at Hampton Court. It was remarked, respecting the latter examples, that the manner of laying on the colours in their washes shewed that care was taken to prevent the peeling off which a careless method gives rise to.

ANOTHER BOILER EXPLOSION.—At Brierly-hill, near Dudley, on Friday last, one of the boilers at the Heart's-hill Works burst with a terrific noise, "smashing the brickwork surrounding it, destroying a great part of the buildings adjacent, and unfortunately killing all who were near it, and many at a considerable distance from the place." As it is, ten dead bodies have been found, but it is deemed fortunate that the "day men" were not assembled, otherwise "the loss of life would have been immense." How many lives, we wonder, is it *necessary* or *desirable* that boiler explosions should destroy ere inspectors be appointed to prevent such retail, if not wholesale, massacre? One is almost tempted to wish the sacrifice were for once "immense," in order at once to consummate or compromise the full amount of victims that appear to be necessary, or called for, in order to justify the trouble and expense of putting a stop to the butchery. "The cause of this explosion is of course as yet unknown." Poison or the dagger would be ready enough to tell their own tales, but inefficient boilers have a license to kill.

THE SKEW ARCH.

In practical masonry the following problem relative to the skew arch may not be uninteresting to many of your readers, though it has been made a subject of many concise theories entirely depending on the dispositions of the different courses; but in this case it is not my intention to go into detail of any of those theories, but simply to solve a problem that will at once illustrate the application of the same.



In the annexed figure let D E be the span of a semi-circular arch, D B E the elevation, A F the abutments of the arch; then the point M will be the centre, from which draw a straight line to C, which will be directly in a line with the abutments; consequently EMC will be an oblique angle, and MC the line of intersection of the various courses. In the lines drawn between the points EM, CM, joining at M, considering the face of the arch to be perpendicular to the plan, M being the vertex, it will then be seen that portion is a perpendicular plane which is at once convertible into a right-angled trehedral solid forming one side. Another plane is likewise formed between that portion of the face from springing point E and the joint *ab* in the lines *a*M, ME; the plan being ME and the vertex M, which will also be the centre of the arch; in like manner, if the line intersecting the plane of the joint *a*M, and a line be drawn between the points *a*C, to intersect the plan MC, the portion between those points forms the third side, or right angle of the trehedral solid, the vertex and the centre of the arch being at M.

In the construction of the arch, EMC will be the angle of obliquity which equals the angle *b*EM, and *b*E that part of the arch for which the moulds are required; these two angles are at the vertices of the perpendicular planes of the solid, the angle EMC being the base, and *b*EM the perpendicular.

The next step to be taken is to find the inclination between the face of the arch and the coursing or joint at any given point, the inclination between the line of the joint in the face and the corresponding joint along the soffit, for which I will proceed in the following manner:—

Let *ab* be the joints of arch for which the moulds are to be found; join *a*M, and in MC take any point C, from which let fall CE, meeting the span DE in E, and upon ME describe the semi-circle MGE intersecting *a*M in G, then the line EG will be perpendicular to *a*M. Make EK equal to EG, and draw a line between the points CK, then the angle EKC, or its opposite angle AKC, as the case may be, is the inclination between the face of the arch and the coursing-joint, passing along *ab*, or the angle which measures the inclination of the hypothenusal and perpendicular planes.

Again, upon the straight line MC describe the semi-circle CIM, and on C as a centre, with the distance CK as a radius, describe the circular arc KI, intersecting the semi-circle CIM in the point I, and draw a line from the points MI CI, and then the angle CMI is the inclination between *ab*, the joint line in the face of the arch, and the corresponding line along the soffit. Make Mc equal to the depth of the arch stone *ab*, and complete the parallelogram M*c*hC, which will be the mould for the bed of the course at *ab*, the angle EKC, as already observed, being the opposite mould for the same joint, giving the bevel between the face of the stone and its bed in the course.

The same process of construction will answer for any other joint of the arch. G. I. R.

NOTES IN THE PROVINCES.

THE Upper Chapel in Norfolk-street, Sheffield, which has been rebuilt in the Italian style, from a plan by Mr. J. Frith, of Sheffield, architect, was opened on Sunday week. It comprises a central elevation and two wings, and is divided interiorly into three compartments by two aisles, with an elliptical gallery of radiating pews. There is some stained glass in the windows; sittings upwards of 1,000. ——St. Mary's Church, Nottingham, the restoration of which has been in progress for upwards of five years, at a cost of above 7,000*l.*, is now completed.——The *Ten Towns Messenger* states that the church chancel of Rowley-Regis has been decorated with three stained glass windows, a marriage offering by the Rev. W. A. Newman, and Miss Beet of Rowley Hall.——The side entrances to the Corn-Exchange at Winchester are being improved, by the substitution of wider and lower iron gates, and an iron fence instead of the cumbrous narrow gates and curved walls originally erected. The alteration will give an additional space to the pavement at points where it was much required.——The first stone of Meanwood Church, says the *Leeds Intelligencer*, was laid on 20th May, by one of the Beckett family, of Meanwood Park, the founders and endowers of the edifice, which is to be cruciform, with a central tower and spire, in the later 'Early English' style, from designs by Mr. Railton. The builder is Mr. George Bridgart, of Derby; clerk of works, Mr. Boumphrey. It will be built of a stone selected in the vicinity, and will accommodate 400 persons. ——The new church of St. James, at Wednesbury, was consecrated on Wednesday week. It consists of a nave, 70 feet by 48 feet 3 inches, with an open roof fitted in with ornamental timbers. The chancel is 22 feet by 12 feet, the vestry and porch being on either side. The tower is 65 feet high, with an embattled top, surmounted by four octagonal pinnacles. On each side is fixed a gurgoyle. The east window is triple lancet. There is a gallery at the west end, fitted to accommodate 210 children. The church contains 855 sittings, 566 free. It is built so that side galleries may be added at a trifling cost. The seats are of deal, with stall-ends and poppy heads. The doors are 2 feet 2 inches high. The church was designed by Mr. William Horton, of Wednesbury, architect, in the style of the thirteenth century, and has been built by Mr. J. Highway, of Walsall. The material consists of Pelding stone, with Weston stone dressings. The cost, excluding site and architect's commission, is 2,500*l.*, partly contributed by the ecclesiastical commissioners and societies, Sir R. Peel, &c.——The Hull Railway Dock has been finished for 55,159*l.*, in place of 60,397*l.*, the estimate of the engineer.——In the little affair of the Gateshead lockup, says the local *Observer*, there was a difference of nearly 200*l.* between the highest and lowest tenders. There were five offers, viz., 499*l.*, 630*l.*, 645*l.*, 656*l.*, and 690*l.*——The town-council of Newcastle have caused juries to be summoned to assess the value of properties in Sandgate, required for the new quay improvements. A conveyance of the site for the new church at Walker has also been sealed.——The repairs and restorations of Peterborough Cathedral have now been brought to a completion.——The committee of the Newark Corn Exchange have kindly presented the fifty workmen employed in building it with a roof-rearing supper on the completion of their labours, and, "although a meeting of workmen connected with the building trade, good order was kept." What *does* the *Lincolnshire Times'* correspondent mean by so equivocal a compliment as this, to 'workmen connected with the building trade?' A mere 'slip of the pen' it may be, but he had better mind his antecedents, as mistakes of 'the pen' lead sometimes into rather

awkward *scrapes* in their *correction*. Mr. Henry Duesbury was the architect of this Exchange, and Mr. I. W. Stevenson the clerk of works.——The first stone of a new methodist chapel was laid in Hobson-street, Cambridge, on Thursday week. It is to accommodate upwards of 1,000 persons, with a school-room and vestry beneath, and "will have some architectural pretensions."——The Chichester Cathedral restorations are progressing. The window of three lights over the western porch, blocked up for some years, has been filled with painted glass.——A new lantern, with much more slender bars than the thick ones which heretofore obstructed the light, is being constructed for Eddystone Lighthouse.—— The foundation stone of the Victoria Tower at Guernsey, in commemoration of her Majesty's visit, in August, 1846, was laid on Saturday last, with great ceremony, in presence of the royal court, and by the governor of the island.

ERPINGHAM UNION COMPETITION.

Sir,—As it is too much to expect that everything passing should force itself upon your notice, I beg to recommend to your attention (as I see it is not mentioned in your paper of this week), a step towards the furtherance of the dignity and well-doing of the professors of the art in England. The guardians of the Erpingham Union (it is a pity that the locality is at present not more known to fame) are in want of a workhouse for their Poor-law Union, with about forty district wards, and three residences; and in their address to the architects of England they advertise that a sum shall be paid to the "persons whose plans* shall be approved by the guardians and the Poor-law board, unless the architect shall hereafter be employed in the erection of such workhouse, in which case he shall be paid a commission for his services as the guardians *may then* determine."

The shortness of the time, three weeks, allowed for the requisite study and preparation of drawings, which are to be so perfect as to meet the views of the two boards (and as you know, Sir, boards too often disagree) must have been the reason for this uncommon, this magnificent liberality.

The guardians are evidently in no want of funds (no limit of expenditure is suggested), and are desirous that the most practised talent of the country shall be invited to enter the arena of competition in this instance; it is to be hoped they may meet with the success they merit—of course treble or quadruple the usual pecuniary payment may be given, but as the competitors are to do their work, and then arrange about payment, it is no slight matter of anxiety that there should be no self-delusion. Ought not every competitor to send an open written declaration with his work of the amount he modestly expects, and will insist upon considering a condition of "employment?"

Every one will be glad that it should be known beforehand that these unnamed Mæcenases are all "honourable men." Indeed I have seen a note from the clerk of the Board, in which he states that 5 per cent. will not be paid, but the guardians will decide what per centage they will allow, which is so cleverly put, that the competitors place themselves in the dark at the discretion of the guardians, for an appreciation of the money value of their labours. What if 2 or 3 per cent. be meant? This, of course, is an absurd suggestion.

An exhibition of this model of a workhouse for 500 persons, with its necessary arrangements, will be so valuable, that no doubt the architect who nobly refuses, or is refused the sum proposed, and thus is liable to be called upon to attend to the erection of the building (for *nothing* if the guardians like, or worse, at an outlay of his own money,) will be found to explain to his brethren the peculiarities which inspiration almost must have directed him to adopt. Surely the board does not want drawings and no architect.

Some people wonder whether, if the guardians were to be so lost to the "proprieties" as to say nothing about the douceur, and to offer 2 per cent. (is not this the allowance of the Poor-law board?) the unhappy architect could find any mode of eliciting a better offer. I think that he certainly could not help himself, for they would have the design, and he would be somewhat in the position of another professional man, whose designs for a church, also "a hundred miles from town," was adopted, who was engaged to provide specifications and contracts, and who, rashly agreeing to receive payment for his services proportionately with his certificates, found that, from a want of sufficient funds from the beginning of the competition, his applications for some remuneration were adjourned "till better times." Y. Z.

* Somebody said somewhere that a plan only is asked for now-a-days, and that a plan does not include elevations, sections, or showy perspective drawings. How good of the guardians to want none of these.

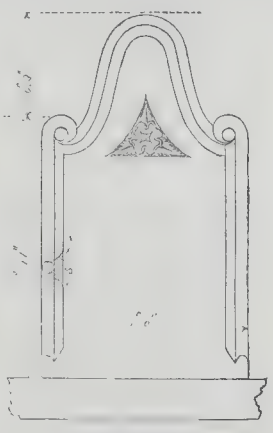
MITCHEL DEAN CHURCH.

Mitchel Dean lies on the road from Gloucester to Coleford, at the north-east corner of the Forest of Dean. Some years back before the establishment of the market at Ross, it had a considerable trade, and the market then was well attended: it has now dwindled down to a very poor village.

The church, however, still renders the town worth a visit; it is of considerable size, consisting of a nave and three aisles, with tower and spire at the south-west angle.

The chancel and tower are of decorated date, and the south aisle appears to be of the same period, as, though the windows are now filled in with perpendicular tracery, the decorated labels still remain. The rest of the church is perpendicular, with the exception of a cusped early English triplet, at the west end of the first north aisle (nearest nave). There are not, however, any further traces of early work perceptible, which would lead to the belief that this aisle had been the former nave of church. This aisle has a beautiful flat panelled perpendicular roof. The other north aisle roof is very good, but similar to those usually found. The roof of nave is semicircular, of plaster, with wood ribs and bosses. The roof of south aisle has been destroyed.

Some few years ago a painting was discovered over the chancel arch; it appears to be painted on wood, in panels, and to represent the sufferings of our Lord.



The accompanying sketch of one of the seat ends is rather peculiar: they are all covered in with ugly high-backed deal pews. Probably a sufficient number might be found to reseat the nave and one of the aisles. They appear to be perpendicular work. There is also a handsome perpendicular pulpit, but it cannot be seen if it has any stem left, so effectually is it hid. The piscina is in decorated work, and no doubt belongs to that date.

C. H. Whatley.

Ingenious Table.—Mr. Jackson, of Leicester, has registered an ingenious table for finding the day of the week or month at sight, from the year 1840 to 1900.* It is very useful in many cases.

* Letts and Co., Royal Exchange.

SUPPLY OF WATER — INTERMITTENT AND CONSTANT.

Sir,—Having lately had my attention called to a work, entitled "The Engineer's Reply to Dr. Southwood Smith's Questions respecting constant Supply, published by order of the Directors of the East London Water Works," in which the engineer has attempted to shew the great advantages of an intermittent, and the practical difficulties and enormous additional expenditure attendant on the "constant supply of water,"—it has occurred to me that a few lines in your valuable journal may be of service in dispelling the doubt which it is possible may linger in the minds of some parties on this subject, in exposing the fallacy on which the engineer appears to have founded his arguments, but more especially as a warning to the public against placing confidence in views so injurious to an important and universal benefit as that of a "constant supply of water."

Having been placed in a position for many years where I have had an opportunity of witnessing the *working* of the intermittent system, in an extensive town where the yearly rental is near thirty thousand pounds, I feel myself equally qualified with Mr. Wickstead in forming an opinion of its efficacy in comparison to that of "constant supply," and I have no hesitation in expressing my unqualified disapprobation of the views he has advocated, and in dissenting entirely from the validity of his conclusions. Dr. Southwood Smith is too well versed in the subject not to see the sophisms involved in the arguments adduced in favour of the "intermittent system," and knows well these are not times to be wasted in frivolous twisted arguments to suit a particular purpose, when the general health of the population is the sacrifice.

In the town to which I have alluded, where the intermittent system is fully carried out, there are from ten to fifteen thousand houses, varying considerably in the levels, supplied with water at the *same time*, in the few hours the water is kept on the pipes (the other parts of the town being supplied afterwards), and this without that awful consequence which the East London Water Works engineer contemplates in the water rushing from the higher into the lower districts, and leaving the upper parts without any supply of water. If, therefore, this number of houses *can* be supplied with water, when all may be presumed to be drawing at the same time, is it not manifestly absurd to say they cannot be supplied when that supply is spread over the twenty-four hours, and they are not drawing at the same time?

If this argument, which the engineer so strenuously holds, of the water going headlong, like "Hyperion down the eastern steeps," into the lower districts, be correct with regard to the constant supply, it would hold equally with the intermittent system, and we should have found in the case to which I have alluded, not a drop of water received by parties in the higher districts, but which, of course, it is unnecessary for me to remark upon.

In conclusion, I will only say, I consider a "constant supply," under proper systematic arrangements, the most economical and decidedly effectual method of supplying a town with water: it is sheer nonsense to talk of engineering difficulties—there are no such things in a case like this. J. P.

Life Assurance in Firms.—Joint assurances are occasionally effected by the partners in a trading firm, and at the charge of the company. They are marked by consummate prudence and foresight, and we should greatly rejoice to know that this practice was extending. It enables mercantile firms, on a partner's death, to put aside at once, if that be desirable, the capital that he may have invested or formed in their trading. Many circumstances, within the last eighteen months, have convinced us that this scheme should be universally adopted. The annual charge to the company is limited, and its payment should be easily practicable in ordinary circumstances. We urge this matter on the mercantile and trading community, from a belief that it has been generally overlooked, and that life assurance has greater benefits to yield to society in this department, than have been hitherto anticipated.—*Tait's Magazine.*

Miscellanea.

THE SOCIETY OF ARTS AND SCHOOL OF DESIGN AT BIRMINGHAM. — The annual meeting of this twofold institution was held on Monday last in the rotunda of the establishment,—the Hon. F. Gough in the chair,—supported by the mayor, high bailiff, Mr. Wilson, inspector of the Government School of Design, &c. The attendance was very numerous, and the walls of the room were decorated with the drawings and models of the pupils, and shewed, it was thought, a very marked improvement. The mayor regretted that neither he nor the manufacturers of the town in general had hitherto afforded the institution that support to which it was entitled, especially from the manufacturers, the taste and skill of whose workmen, and the sale of whose goods, might be so much improved by its means. The exhibition then before them, however, would, he trust, greatly stimulate their further exertions as it would his own. Various other speakers addressed the meeting on the merits of such institutions, and a distribution of prizes took place, during which Mr. Wilson adverted to the most meritorious specimens exhibited, and said that all of them were equal, and several of them superior, to any of those produced in the Schools of Design throughout the kingdom. The Bishop of Manchester was voted president by acclamation. The treasurer stated the income for the past year had only been 275*l.*, whereas it was necessary to use every exertion to increase it to 500*l.* The chairman finally addressed the meeting on the advantages of the institution, and expressed his astonishment that the Birmingham masters were only now beginning to appreciate these advantages, knowing, as they must, that their power of competing with their neighbours depended on correctness and elegance of design. Foreigners might gain advantages in some manufactures from climate, but the varied trades of Birmingham had nothing to do with that ingredient, and to taste in form and design they must look solely for their superiority. He trusted that the inhabitants would consider the importance of the establishment, and relieve it from the debt which now pressed upon it.

ELECTRO-TELEGRAPHIC. — There have been more than one claim to, and account of, the origin of this miracle of an age of miracles, as every habitual reader of THE BUILDER must be well aware. Here is a French version of it, or rather an Englishman's account of its French original, from the "London Anecdoctes:"—"Upwards of sixty years ago (in 1787-9) when Arthur Young was travelling in France, he met with a Monsieur Lemond, 'a very ingenious and inventing mechanic,' who had made a remarkable discovery in electricity. 'You write two or three words on a piece of paper,' says Young; 'he takes it with him into a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer, a small fine pith ball. A wire connects with a similar cylinder and electrometer in a distant apartment, and his wife, by remarking the corresponding motions of the ball, writes down the words they indicate, from which it appears he has formed an alphabet of motions. As the length of the wire makes no difference in the effect, a correspondence might be carried on at any distance. Whatever the use may be, the invention is beautiful."

SWANSEA PATENT FUEL WORKS, under Warlich's patent, have shipped their first cargo of the contract with Government for 30,000 tons. The works cover between three and four acres of ground, and contain eight presses worked by steam, each press having twelve revolving moulds. There are also thirty double retorts, each holding one ton of fuel. Two iron tanks contain 500,000 gallons. The machinery is ranged under an iron roof, now 300 feet by 47, to be extended 60 or 70 feet. When in full operation 2,000 tons per week will be manufactured.

PROPOSED NEW RECORD OFFICE.—We learn from a reply to Mr. Milnes in the House of Commons the other night, that no determination has yet been come to as to the erection of the proposed new Record office on part of the Rolls' estate, concerning which we gave particulars some time since.

TESTIMONIAL TO MR. CUBITT.—We informed our readers, some time since, of the intention of the Builders' Society to present to Mr. Thos. Cubitt his portrait, in testimony of their high esteem and respect for his character. For some time the choice of an artist, to execute the commission, has wavered between Mr. Pickersgill, R.A., and Mr. J. P. Knight, R.A., both good men and true. On Monday last, however, it was decided in favour of the senior, and Mr. Pickersgill will forthwith commence the painting. It will afterwards be engraved, and a copy presented to each subscriber. We have but one fault to find with the arrangement, and that is, that participation in the testimonial appears to be confined to members of the craft.

LAMP-LIGHTING BY ELECTRICITY.—Doubts have been suggested as to the possibility of extinguishing the lights once struck, unless by turning off the gas either generally and inconveniently, or particularly and by the usual lamp-lighters, whose services and expenses, therefore, would still be required. But, though in originally throwing out the idea, we had no design to propose any one practical invention, we may just remark on this suggestion that as a magnet can be readily made to rotate by the electric power, we can see no difficulty in turning the gas either *on or off* by such means, one semi-rotation turning it on, to be lit, and the next semi-rotation turning it off again. In this way, too, the lamps of any one district, or any series of alternate lamps, or, in fact, any particular congeries of them, might be separately organised from head-quarters, and *managed* with the utmost facility. A series of rapid rotations of the magnet, we may add, might be made to operate in connection with proper apparatus attached so as to clean the surfaces of properly formed lamp-glasses simultaneously, and thus probably remove the last and only remaining objection, or shadow of an objection, to the practical and economical working of the original idea.

CHELMSFORD POLYTECHNIC EXHIBITION.—A very interesting exhibition of works of art, models of scientific inventions, natural curiosities, &c., has been opened at the Chelmsford Shire Hall, by the Mechanics' Institution, for the gratification and instruction of the town. The catalogue extends to forty-two quarto pages, and includes no less than 1,500 different articles. Great credit is due to the members of the society for the energy and skill with which they have carried out the idea, and to the neighbouring gentry for the liberal manner in which they placed their collections at the service of the committee. Great good is done by such exhibitions: we hope, before it closes, that it will be made accessible for a time to those who may be unable to *pay* for the enjoyment.

LITTLE DUNMOW CHURCH, ESSEX.—Sir: Chancing to be at Dunmow, in Essex, for the first time a few days ago, curiosity led me to visit Little Dunmow, famous for the custom introduced in the reign of Henry III., by Robert de Fitzwalter, in reference to the "Flitch of Bacon." The present church consists of the south aisle only, of an ancient church; though much decayed, the beautiful outlines of the windows which remain are well worthy of being illustrated in THE BUILDER, but the principal object of this communication is to call your attention to the extraordinary fact, that the tomb and statue of the above-named Robert de Fitzwalter, with that of his lady, which, through a long series of years, stood in the chancel of the present church, have lately been removed, and the reading-desk, which stood in the middle of the church, has been placed in their stead. The statues, as well as some portions of the tomb, have been *placed unprotected on the floor*, inside the door, at the entrance to the church. A portion of one of the statues, which has been broken, has been put underneath the staircase, as well as parts of the tomb. Probably such proceedings may have been adopted through inadvertence, or without premeditation, but whatever the cause, pray inquire into the matter, and call for the restoration of the tomb and statues of those whose memories have been hallowed by the kindly recollections of ages.—I am, &c., R. B.

Surbiton-hill, Surrey, May 30, 1848.

PUBLIC BATHS AND WASHHOUSES.—Last week a dinner was given at the London Tavern in aid of the model establishment of baths and washhouses in Goulston-square, when subscriptions were announced by the secretary to the amount of 4,400*l.*, which, with loans effected, and which it is calculated the profits of the establishment at Goulston-square will repay, make up a sum of 7,450*l.* The total amount required to pay off the debt of the undertaking is 10,500*l.*, so that its supporters still require to make up the sum of 3,000*l.* Great exertions have been made by many members of the committee; to Mr. John Bullar, the honorary secretary, in particular, the public are much indebted; nevertheless we are compelled to think as we have on more than one occasion said, that there has been inefficiency somewhere,—both time and money have been sadly wasted. At the dinner, Lord Ashley, the Rev. Sydney Godolphin Osborne, Mr. Chadwick, and others, ably advocated the sanitary movement.——We are glad to hear, and will mention it, as a good example, that the East London Waterworks Company and the British Gaslight Company have generously afforded gratuitous supplies of water and gas to the model establishment.——The committee of the baths and washhouses in George-street, Euston-square, have issued a further appeal to the public for aid.

CATLIN'S INDIAN COLLECTION.—Mr. Catlin has opened, for a short time, his very curious North American Indian collection in Waterloo-place, and has added to it an interesting model, made by himself from personal observation, of the Niagara falls. The American papers, by the way, describe these falls as being, at the time of writing, quite without water,—a mere milldam, to witness which hundreds of people have been collected. All the mills fed by the river were stopped, and two men had driven partly across in a gig. The generally received conjecture is, that Lake Erie must be making a grand delivery of ice, and that the mouth of the Niagara, although large, is not quite enough to take in the whole at once, and that the consequence is back water.

THE NELSON COLUMN.—Mr. Woodington has completed his model for one of the compartments of the base of the Nelson column in Trafalgar-square. The incident the artist has chosen for representation is one that occurred at the battle of the Nile, where Nelson, being wounded in the forehead by a musket ball and carried down into the cockpit, declined the immediate care of the surgeon, directing that officer to attend to the rest of the wounded, and to take him in his turn.

THE EUSTON-SQUARE PASSENGER STATION.—Enormous works are going on here. *Both* ends of the large passenger-hall have been rebuilt (as we said should be the case), as well that which remained sound as that to which the accident occurred. Each brick column now contains a strong iron core. The general meeting room, adjoining the hall, and of which there is a drawing in the Academy exhibition, is nearly finished. Of covered-ways, with light iron roofing, there would seem to be some acres.

CAMBRIDGE ANTIQUARIAN SOCIETY.—On the 29th ult., the anniversary meeting of this society was held, when the report of the council was read, and officers elected for the ensuing year. A paper was read by C. W. Goodwin, M.A., on an Anglo-Saxon legend, and Mr. Franks drew attention to a fine pavement of encaustic tiles, of which a representation was in the rooms.

STRENGTH OF CURVED BEAMS.—Sir: If any of your correspondents will give me the following information, I shall feel extremely obliged. The formula for the strength of beams subjected to transverse pressure when they are curved between the bearings in form of an arch; or the difference in strength between beams of this kind and straight beams, the formula for which is, $\frac{d^2\ b}{l}$ when d = depth, b = breadth, and l = length of bearing. Or, again, how am I to calculate the length of bearing in arched girders which have not a straight tie? I shall also be glad to have a formula for the deflection, in the case of a beam being curved in this manner.—J. T., Yarmouth, June 3rd, 1848.

PROJECTED WORKS.—Advertisements have been issued for tenders by the 1st July, for the erection of a school-house and master's dwelling at Isleham, Cambridge; by 16th June (extension of time), for works at Halstead Union Workhouse; by 13th, for baths and washing places at said workhouse; by same date for iron railings for same; by 21st, for the erection of a school-house and master's house at Newmarket; by 15th, for the erection of two artillery stores at Portsea, and a palisade fence and warden's house at Southsea Common; by a time not specified, for finishing carcases a few miles from town; by 15th, for dredging the Grand Surrey Canal basin; and by 12th, for painting at Loughborough Union Workhouse.

CONSTANTINOPLE AT VAUXHALL.—Having taken scenery and decoration under our supervision, we looked in at the "Royal Property," a few nights ago, to see the view in Constantinople, which has been painted by Mr. Battie and others, for the display of fireworks, with which the entertainments at Vauxhall conclude, and were sufficiently repaid for the journey. Constiantinople, with its dome-covered mosques and its minarets, is delineated with considerable skill and good effect. A song, which formed part of the concert on this occasion, appeared to have been written on the text of one of our own recent articles, and pleased us mightily. It appealed to the discontented (many, we will not shut our eyes to the fact, have too much cause to be so), and the burden was "A good time is coming boys,—*wait* a little longer." We would not mind hearing that it was sung at the termination of every Trades' Union meeting in the country. Earnestly we repeat "*Wait a little longer.*"

THE SHEFFIELD MASTER BUILDERS' ASSOCIATION.—We understand that the members of this society are making arrangements for the establishment of a School of Architecture; for the purpose of providing both historical, theoretical, and practical instruction in the art and science of architecture, building, &c., for the use of the members of the association, and the workmen and youths of the various branches connected with the building trade, and offer every inducement for the practice and inculcation of fine art as a primary element in the execution of good works. Mr. W. R. Harrison, architect, is appointed professor of architecture and general director to the institution.

TO BUILDERS, ENGINEERS, AND OTHER EMPLOYERS.—"An Engineer" in the *Times* of Thursday says, relative to the threatened Chartist demonstration on Whit-Monday and the approaching holidays:—"Let each master call his men together, reason with them, and advise them, or even ask them as a favour to continue at work during the whole of next week. These are not times for playing when work can be got; and this will tend very considerably to lessen the multitude which will doubtless have to be met by the authorities: let each do his little. I employ some 200 or 300, and intend to ask them all to work, and also give them a supper each of the three or four eventful days for so doing."

LORD ROSSE A MECHANIC.—On one occasion, when he was but a youth, he went to an exhibition at the Adelaide Gallery, where some kind of London steam-engine was being exhibited. By some means or other the exhibitor could not set his engine going; all his efforts to effect it were in vain, and he was about to give it up in despair, when Lord Rosse stepped forward and said he thought he could make it work. No sooner said than done. He put his hand to the work, discovered by an instant's look where the machinery was out of order, and made a few turns, put all to rights, and then the machine, to the admiration of the company, worked beautifully. Lord Oxmantown (for that was then his only title) was dressed rather roughly, and not in drawing-room habiliments, so that he might be mistaken for what he was not—a poor mechanic. He had already, however, proved himself a first-rate one. Led by his rather rude appearance to suppose that he was a workman who would be glad of a job, a gentleman accosted him, and, saying he was in want of a man of talent like him, offered to employ him at a liberal salary. Lord Rosse, of course, politely declined the offer, which, however, was perhaps as honourable to him who made it as to him to whom it was made.—*Leicester Journal.*

TENDERS.

For the New Library, Staircase, &c., at the London University; Mr. T. L. Donaldson, architect:—

Hicks	£6,973
Lawrence	6,878
Kelk	6,641
Rigby	6,614
Locke and Co.	6,477
Jay	6,359
Cubitt and Co.	6,270
Grimsdell	6,173

For the Governesses' Institution, Kentish Town; Messrs. Wyatt and Brandon, hon. architects:—

Danger and Co.	£3,529 0 0
Armstrong and Smith	3,412 10 0
Holland	3,167 0 0
Piper	3,154 0 0
Kelk	3,075 0 0
Grimsdell	2,953 0 0

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, JUNE 12.—Institute of Architects, 8 P.M.
WEDNESDAY, 14.—Society of Arts, 8 P.M.
SATURDAY, 17.—Institute of Fine Arts, 8 P.M.

TO CORRESPONDENTS.

"*J. G.*" shall hear from us professionally.

"*Tenders.*"—We are unable to find room for lists of tenders of small amount, unless they present peculiar circumstances.

Received.—"C. R.," "J. L.," "T. M.," "W. A." (shall appear); "B. B.," "J. J." (shall appear); "Enquirer" (we will refer to the subject shortly); "C. E. M.," "N. R.," "C. W. O.," "Wellwisher," "Capt. B.," "Aristo," "W. A.," "B.," "C. L.," "C. B.," "C. E. D." (shall hear from us); "Lieut. W.," "Passer-by," "Constant Reader," "On the fitness of Gothic Architecture for Modern Churches;" by J. P. Harrison, B.A. (J. H. Parker). Wood's "Songs of Scotland," Nos. XV. and XVI. (Simpkin and Marshall).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

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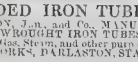
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HHH for architectural use	F for general use.
HH for engineering,	B black for shading,
H for sketching.	BB ditto ditto
HB hard and black for drawing.	BBB ditto ditto.
M medium.	BBBB ditto ditto.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Dru,ton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the paper mache ornaments, with a tariff, price £1.—Works, 15, Wellington-street North, Strand.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEPRIES, 16, Hampstead-road, 67, St. Martin's-lane, and 118, Argyll-street, Glasgow, having proved by eight years' experience his DRY METER, to be unrivalled begs to say that meters 2½ feet are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory



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ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
168, DRURY-LANE, and 1 CHARLES-STREET.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than is hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.
They fit up Laundries with Hot Water Apparatus, for Drying in a speedy, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO ARCHITECTS, BUILDERS, &c.
R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 19½, Blackfriars-road, and 147, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 12s.	£3. 18s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 15s.	£7.

Best Register Stoves, at 7d., 8d. and 9d. per inch.
Do. Elliptic do., 8d. 9½d., and 4d. do.
Manufacturer of WOLFANTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Cottage Ranges, with Oven and Back Boiler, 3 ft., 33s.; 3 ft. 2 42s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £4. 12s. 6d.	4 ft., £4.

Best Patent Cut Cramp.

5d.	6d.	8d.	1id.	1s. 4d.	1s. 10d. per 1,000.
3d.	4d.	6d	8d.	10d.	20d.

Best Sheet Floor Brads 1s. per cwt.
Best Town Glue 33s. Do. Scotch, 32s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 48, China-walk-street, Finsbury-square.
Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.
N.B. Warehouse closes at seven o'clock

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6d. per in. and upwards.
Bright ditto with Black and Bright Bars, 8d. per inch and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 8s.	3l. 14s.	4l. 0s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Ball-hanging a superior style, hung in secret, 9s. per pull.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 89, WEST SMITHFIELD.
Register Stoves, 6d. per inch.
Elliptic Stoves, 3½d. per inch.
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3l. 5s.
Drawing Room Fenders, 14s. each, usually sold at 1l. 1s.
All Goods Warranted.
J. and J. Hartill are Ironfounders, Fender and Fire Iron Manufacturers at Dudley. Established 1825.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Parks, Gardens, and for Liquid Manures, &c. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron. HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural Purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature—but are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass caps, copper branch and rose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.
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ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTREY'S Foundry, Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, DOULTON'S BITUMEN PAVEMENT OFFICE, 15, WHARF ROAD, CITY ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

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P. FOUCARD, rue des Abattoirs Caen propriétaire des Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has on the above-mentioned wharf, 80,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantity.
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L. B. and Co. invite inspection of it, as capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.
Orders executed with dispatch to all parts of the United Kingdom.
Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

BUILDERS, MASONS, &c., will realise a great reduction in the COST of MARBLE WORK, by sending their orders to the WESTMINSTER MARBLE COMPANY'S WORKS for Working and Polishing Marble by Patent Machinery
The Trade will find a great advantage from this Establishment equal to the cost of the labour, as Vein Marble Chimney-pieces are sold at the small charge of 20s. each, which will enable the Mason to reduce a great Bill: also a liberal Commission to Persons acting as Agents, for Monuments and large Chimney-pieces.—Direct, Westminster Marble Company, Earl street, Holywell street, Millbank, Lond n.

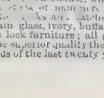
SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS. A piece 8 feet long, squared both faces at the price that inferior Slabs in the rough (self-faced) are currently selling. These reduced prices are also subject to a very large trade discount. These Slabs have been extensively used at the Royal Palaces, Strathfield-saye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone-square, Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Wholesale orders direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.
GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.
FONTS from £4 upwards.
MONUMENTS and TOMBS in great variety of design.
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.
Stone-box Chimney-pieces, from ..... 12s.
Vein-Marble " ..... 40s.
RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.
Goods Landed, Housed, and Delivered.

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CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes and patterns, always on hand, of different prices, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size and Patent Detector Locks for all purposes.—CHUBB and SON, Safe Manufacturers, 57, St Paul's Church-yard, London.

By Her Majesty's Royal Letters Patent.
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WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and inaccuracies of the common rim lock, can be obtained of the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 63, St. Martin's-le-Grand, London, opposite the new Money-Order Office.



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CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from FIVEPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200-feet cases, delivered in London for 28s. 6d. per case, or cut to size, 9d. per foot.—Address, 57, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.
THOS MILLINGTON, 87, Bishopsgate street Without, London, begs to inform the Trade and consumers in town, that he is supplying the above articles of the best make as cut upon the lowest terms for cash
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 8os; Lifting Pumps and Cocks of every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

GREAT REDUCTION IN THE PRICE OF PLATE-GLASS.
THE UNION PLATE-GLASS COMPANY.—Pocket-book, St Helen's, E., Hatton-garden, London; No. 13, York-street, Mosley-street, Manchester; and 26, North John street, Liverpool; inform Builders and the public generally, that they are now selling ordinary glazing-sizes of plate glass from 9s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot. RICHARD YATES, Secretary.

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ROUGH PLATE GLASS supplied 3, 3-8, 4, and 4 inch thick. Particular attention is requested to the superior colour and evenness of this article
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By Her Majesty's Royal Letters Patent.
GLASS VENTILATORS FOR WINDOWS.
BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility.—Coloured Glass of every tint at wholesale prices. Designs and estimates for church and memorial windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 19a, Queensland Market, Regent's park, London, where specimens are to be seen.



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F. EDWARDS, 46, Storte Street, by her Majesty's Patent, 20, Parliament Street, Oxford street, begs to call the attention of Architects, Builders, Upholsterers, and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.
SMOKY CHIMNEYS NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above reasonable terms.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS. The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and the Building Trade in particular, to whom they are now enabled to offer greater inducements for its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough, effectual, and agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Institution, Colleges, and in the living rooms and Establishments of numerous Members of the Nobility and gentry, are sufficient evidence of its efficacy.
Orders received by FAIRS and Co., No. 134, New Road-street, BUNNETT and Co., No. 86, Leonard-street, and at the Manufactory, 15, Gillingham-street, Pimlico.
N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last five years, and has proved to be an effectual remedy
The Patent Pot cannot corroke or get out of order, and can be effectually swept by the sweep's machine
It will answer in the worst situations in which any other Pot or Ventilator has failed, as artificial Smoke Conducts, in the chimneys of Buckingham Palace, since which a number have been fixed at Windsor Castle
The Patent Pots have proved to be the most effectual means ever yet discovered, and also unrivalled for their ornamental appearance; they are made in cast ornamental Stone, Cement, Iron, or Zinc.
The Trade supplied with them at the Manufactory.
VALE PLACE, HAMMERSMITH, MIDDLESEX.
Inquiries from the Country post paid addressed to Messrs Wilson and Co., at their Manufactory, as above, will have Prices and Prospectuses forwarded by return of post.
N.B. Licenses granted to Manufacturers.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, and are now selling them at the following prices, war aute quite sweet and free from dust, being purified by steam with patent machinery

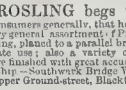
Poultry	6s. 10d. per lb.	Best Grey Goose	2s. 0d. per lb
Grey Goose	1s. 2d. "	White Goose	3s. 6d. "
Foreign Grey do.	1s. 6d. "	Best Dantzic do.	3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196, opposite the Chapel, Tottenham-court-road.

PREPARED FLOORING BOARDS.
AT REDUCED PRICES.
ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1¼ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c
Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico, late of Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

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SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
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Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process causes the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or licence to work the patent, or any further information, apply at the Patent Desiccating Company's Offices, 17, NICHOLAS LANE, LOMBARD-STREET, CITY.
The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 17, GRACECHURCH STREET, CITY.

BY BRITISH and FOREIGN LETTERS PATENT.—To Builders, Masons, and Others. LICENCES GRANTED for the use of HUTCHISON'S PATENT, for Indurating Stone, Chalk, Plaster of Paris Works, Carton, Roof Sheeting, &c.; also for Hutchison's Marble and Stone Sawing Frame.—For further particulars apply to Messrs. HUTCHISON, WILFORD, and Co., East Temple Chambers, Whitefriars-street, London.

ROOFING SLATES.—Present Cash Prices for the best BANGOR BLUE SLATES on the Wharf, viz.:

Duchesses, per M of 1,200 slates	£10	0	0
Marchionesses, ditto	8	10	0
Countesses, ditto	6	10	0
Viscounte-ses ditto	4	17	6
Wide Ladies, Ladies, &c. &c.			

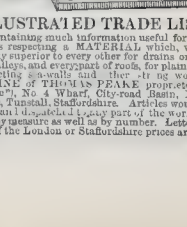
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N.B. Bricks, Tiles, Chimney-pots, Cement, Lime, Stone, &c. &c.

TAAFFE'S PATENT SLATING and ROOFING, unequalled for lightness, elegance, durability, and economy.—The Proprietor will attend every day (Sundays excepted), from Four o'Clock to Six, at the Royal Humane Society's new Boat-house, Hyde park, for the purpose of explaining the great saving in Timber and Slates; also the advantages and its use in various ways; to grant licenses, and to execute work. Prospectus may be had during every day on application in writing, to 5, Edward-street, Portman-square, London; and to 168, Great Brunswick-street, Dublin. A full description of the "principle" is to be seen in the last Number of "The Builder."

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouses, 9, Alfred-place, Surrey side of Blackfriars-bridge, and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Floor Furniture, &c.

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will direct the machine at work at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Paling station of the Great Western Railway.—Sales at the Victoria Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly, March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pankridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Coon's, Newton Lindvach, County Derry.

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The Builder.

No. CCLXXX.

SATURDAY, JUNE 17, 1848.

IN a maritime country like England, the construction of LIGHT-HOUSES is a subject of great importance, and it becomes of the utmost consequence that the details of such works should be carefully recorded, including the relation of failures as well as successes, and when completed, that they should be made public to the utmost possible extent. So, indeed, it should be with all great works of the architect and engineer,—important buildings, public and private, railways, bridges, docks, &c.,—so as to facilitate to the utmost the progress towards perfection. The disinclination towards this publication on the part of contemporaries, of architects even more than of engineers, is much to be regretted, and in many cases reprobated. Such books, it is true, are costly, and the certainty of a return not always clear; but it is not this which usually weighs, as has been proved again and again. Still we would have even the pretext removed in the case of really important works, by the certainty of receiving such aid from public bodies as would lessen the risk and encourage the attempt. What is for national service might justly expect to receive national aid. The requirement of a number of copies for certain public libraries is a heavy and most unjust tax on the producers of costly books, and ought to have been abolished long ago,—the books being of course still deposited, but paid for out of funds provided for that purpose.

Regarding the publication of ample details of structural works as of this great importance, then, and regretting that they are seldom given to us, our praises are eminently due to those who, not afraid of "making others as wise as themselves," or of affording grounds for criticism, furnish information of this character. Amongst these we will place Mr. Alan Stevenson, whose "Account of the Skerryvore Lighthouse; with Notes on the Illumination of Lighthouses," has been before us for some little time, and has afforded us much gratification and instruction.* Before endeavouring to give our readers a general notion of the contents of this volume,—a large quarto, containing 440 pages and 33 plates,—let us remark, that in our last volume will be found a valuable account of the construction of the lighthouse recently erected at the port of Havana,† and in the present volume a brief notice of the history of lighthouses.‡ Their early history is very obscure, though allusions to the subject of beacon-lights are to be found in many ancient writings. The celebrated Colossus of Rhodes, constructed about 300 years before our era, was probably a lighthouse. The Pharos of Alexandria, built about the same time, was regarded as one of the wonders of the ancient world. Strabo, who describes it, gives the impression that it must have been of immense size: he says *Sostratus* was the architect, and Pliny states that it cost a sum equal to either 390,000*l.* of our money, or 195,000*l.*, probably the former, but depending upon whether he was speaking of the Egyptian talent or the Attic talent. Mr. Stevenson gives some curious particulars of this structure. Lucian, in his art of writing history, accuses Sostratus of a fraud, in cutting his own name on the solid wall of the tower, and covering the inscription with plaster on which he carved the name of his royal master, Ptolemy. Pliny, on the contrary, expressly states, as a proof of Ptolemy's magnanimity, that he gave the architect liberty to inscribe his own name. Enough, however, of this, simply adding the note, that the Latin words *turris* and *columna* have been supposed, primarily, to signify a lighthouse, the first being written *tor-is*, the tower of fire; and the *col-on*, the pillar of the sun!

The most important lighthouse, in point of architectural splendour, is the *Tour de Cordouan*, on the coast of France, commenced in 1584, but not finished till 1610. *Belidor* describes it fully in the "Architecture Hydraulique." It stands upon a solid mass of masonry, consists of four stories 169 feet high, and displays pilasters, entablatures, pinnacles, dormers, and stone dome. The lowest story is Doric, the second Ionic, the third Corinthian, and the lantern Composite. Some of the interior apartments are very fine, and exhibit paintings and mosaics.*

Our famous Eddystone Lighthouse is well known from Smeaton's own valuable and interesting narrative,† as is also the second in importance, the Bell Rock Lighthouse, from the account of its architect, Mr. Robert Stevenson, father of the gentleman whose work is before us, and to which we now again turn.

Neither of these which we have last-named are so lofty as the Skerryvore Tower, which we should say is situated near the island of Tyree and the island of Iona.

The first stone was formally laid on the 7th of July, 1840, and the last in August, 1842, although the operations were commenced in 1838, and the men were on the rock six seasons. Only those who know the difficulties and dangers of such works will sufficiently appreciate the fact that, during the whole of that time, there was no loss of either life or limb. "Those who best know the nature of the service in which we were engaged," says our author, "the daily jeopardy connected with landing weighty materials in a heavy surf and transporting the workmen in boats through a boisterous sea, the risks to so many men, involved in mining the foundations of the Tower in a space so limited, and above all, the destruction, in a single night, by the violence of the waves, of our temporary barrack on the rock, which had cost the toils of a whole season, will not wonder that I am anxious to express,—what I know to have been a general feeling amongst those engaged in the work, that of—heartfelt thankfulness to Almighty God for merciful preservation in danger, and for the final success which terminated our arduous and protracted labours."

The barrack which they first erected on the rock, for the protection of the workmen, was washed away, as above noted, in a night; but, with this exception, they appear to have gone on from the commencement to the end, steadily preparing for any coming difficulties, and always successfully meeting them.

The third chapter of the work treats of the construction of lighthouse towers generally, and involves two considerations:—1. Those which refer to elements common to lighthouses in all situations, and differ only in amount,—such as the height of the tower necessary for commanding a given visible horizon, and the accommodation required for keepers and stores; and, 2nd, those which are peculiar to towers in exposed situations, and refer solely to their fitness to resist the force of the waves, which tend to destroy them. Under the second head our author remarks, that we know little of the nature, amount, and modification of the forces, on the proper investigation of which the application of the principle which regulates the construction must be based. There have been few experiments to measure the force of the waves: we cannot be said to possess the elements of exact investigation, and must, consequently, be guided chiefly by "the result of those numerous cases which observation collects and which reason arranges, in the form which constitutes what is called *professional experience*." Our author remarks:—

"We must not, however, in any case, venture to approach too near the limit of stability, so long as we continue to labour under our present disadvantages of defective information on some of the most important elements in the inquiry. If it be asked, therefore, how the size and form of buildings exposed to the shock of the waves are to be determined, the answer must be, that, in any given case, the problem is to be solved chiefly by the union of an extensive knowledge of what the sea has done against man, and how, and to what extent, man has succeeded in controlling the sea; together with a cautious comparison of the circumstances which modify and affect any given case which has not been the object of direct experience; nor does it seem possible as yet to found the art of engineering, in so far as it refers to this class of works, upon any more exact basis. The uncertainty which must ever attend such reasoning can only, it is obvious, be dispelled by actual experience of the result; and time only can test the success of our schemes in cases of difficulty.

A primary inquiry, in regard to towers in an exposed situation, is the question, whether their stability should depend upon their strength or their weight; or, in other words, on their cohesion, or their inertia? In prefering weight to strength, we more closely follow the course pointed out by the analogy of nature; and this must not be regarded as a mere notional advantage, for the more close the analogy between nature and our works, the less difficulty we shall experience in passing from nature to art, and the more directly will our observations on natural phenomena bear upon the artificial project."

In respect of form, he says:—

"The sum of our knowledge appears to be contained in this proposition—That, as the stability of a sea-tower depends, *cæteris paribus*, on the lowness of its centre of gravity, the general notion of its form is that of a cone; but that, as the forces to which its several horizontal sections are opposed decrease towards its top in a rapid ratio, the solid should be generated by the revolution of some curve line convex to the axis of the tower, and gradually approaching to parallelism with it. And this is, in fact, a general description of the Eddystone Tower devised by Smeaton."

Our author's inquiry into the best form to be adopted is interesting, but we have not space to follow him in it: suffice it to say, that the outline of the Skerryvore column is generated by the revolution of a rectangular hyperbola about its assymptote as a vertical axis. The whole height is 138½ feet; its diameter, at the base, 42 feet; and at the top 16 feet.

"The first 26 feet of height is a solid frustrum, containing about 27,110 cubic feet, and weighing about 1,990 tons.* Immediately

* "Account of the Skerryvore Lighthouse; with Notes on the Illumination of Lighthouses. By Alan Stevenson, F.R.S.E., &c. By order of the Commissioners of Northern Lighthouses." Adam Black and Co., Edinburgh; Longman and Co., London. 1848.

† See Vol. V., p. 527.

‡ See p. 33, *ante*.

* Mr. Cresy, in his "Encyclopædia of Civil Engineering," gives some particulars, and several engraved illustrations, of this structure.

† Condensed by Cresy, in his "Encyclopædia,"

* At the rate of 13.62 cubic feet of granite to a ton.

above this level the walls are 9.58 feet thick, whence they gradually decrease throughout the whole height of the shaft, until at the belt they are reduced to 2 feet in thickness. Above the shaft rests a cylindric belt 18 inches deep; and this is surmounted by a cavetto 6 feet high, and having 3 feet of projection. The contour of this cavetto is that resulting from a quadrant of an ellipse revolving about the centre of the tower, with a radius of 8 feet on the level of its transverse axis; and the moulds for this curve were drawn at full size from co-ordinates calculated for the purpose. The cavetto supports an abacus 3 feet deep, the upper surface of which forms the balcony of the tower, and above it rest the parapet-wall and lantern."

In the Eddystone and Bell Rock lighthouses the stones were dovetailed throughout the building. In the upper part of the Bell Rock a kind of band joggle was introduced, which consisted of a flat riband of stone raised upon the upper bed of one course, and fitting in to a corresponding groove cut into the under bed of the course above. Mr. Stevenson says—

"In the lower parts of the Skerryvore Tower, I entirely dispensed with dovetailing and joggles between the courses, and thus avoided much expensive dressing of materials. The stones were retained in their places during the early progress of the work, chiefly by common diamond joggles, and the courses were temporarily united to each other by wooden treenails, like those used in the Eddystone and Bell Rock. These treenails had split ends, with small wedges of hardwood loosely inserted, which, being forced against the bottom of the holes in the course below, into which the treenails were driven, expanded their lower ends until they pressed against the sides of the holes; while their tops were made tight by similar wedges driven into them with a mallet. I have, however, adopted the ribband-joggle in the higher part of the tower, where the walls begin to get thin in the very same manner as at the Bell Rock, where it was used, partly that it might counteract any tendency to a spreading outwards of the stones, and partly that it might operate as a kind of false joint to exclude the water which, when pressed with great violence against the Tower, is apt to be forced through a straight or plain joint. The stones in the higher courses throughout each ring are also connected at the ends by double dovetailed joggles, which unite the two adjoining stones; and the walls are, besides, tied together at various points by means of the floor stones, which are all connected by dovetails let into large circular stones which form the centres of the floors."

The operations of each year are given in detail, a chapter being appropriated to each. The granite was from the quarry of the Ross of Mull. The freight usually paid was 5s. a ton, and yet the whole of the blocks for the lighthouse tower were laid down at the rate of 2s. 1½d. per cubic foot, including all the expense of building barracks, opening quarries, freight of stones, and the expense of building and maintaining a vessel. Some particulars are given of quarrying granite.

All the materials required for the tower were dressed in such a manner as to avoid any fitting on the rock, and the greatest accuracy was therefore required in the formation of the mould from which the stones were shaped. A *trainer*, or radius, was made with a moveable vernier, capable of sliding along it, so as to give the differences between the readings of the feet as far as to the thirtieth part of an inch, and the architect was thus enabled to lay off the batter or slope on each course, according to a table of co-ordinates, with great nicety, and so as to trace very distinctly the contour of the intended column. Such nicety, as the author observes, "was by no means superfluous, because the arrangements of the tower precluded the possibility of using a trainer in building; and as the whole was done by means of *plumb-templets*, the greatest accuracy in tracing the curve of the tower became necessary, as the only true basis of good workmanship on the rock." The masonry of the tower contains 58,580 cubic feet, or about 4,308 tons.* The mortar used was composed of equal parts of Aberdda lime and Pozzolano earth.

We congratulate Mr. Alan Stevenson and the country on the successful completion of an arduous and important undertaking, and thank him much for his clear and interesting account of it.

REMARKS ON "ARCHITECTURAL MAXIMS AND THEOREMS."†

CONSTRUCTION.

"It will be perceived," says Mr. Donaldson in his preface, "that the subject has been divided into two parts — the art and the science; or, if it may be said with the schoolmen, into the metaphysics and physics of architecture: the one comprehending the abstract principles of taste in the combination of masses or substances, and the reason and understanding of the causes of certain emotions produced by them in the mind; the other treating on the qualities inherent in matter, and the proper application and combination of such materials in reference to construction."—(p. viii.) The discussion of that part of the work treating of architecture the fine-art I completed in my former paper; and I promised in the present continuation to take up the part treating of architecture the science—or what I would rather call constructive housebuilding, and the lecture on the practice, the "walk and conversation" (as the old writers would have said) of the architect.

Of course we were not to look for, in the sixty "maxims" under the head *construction*, anything approximating or pretending to a system of constructive science; all that appears to have been aimed at is simply the jotting down of a few valuable hints, axioms, facts,—a few pages contributed to the architect's stock of scientific knowledge.

These maxims, however, are systematically arranged according to the several departments into which the subject is divisible; and, so far as they go, there is a completeness about them, constituted by your having laid before you, with respect to every branch, some few notable points. But I rise from the perusal of them with disappointment: not that I can blame them for a deficiency which arises only from their fewness,—sure enough they pretend to be no more than "in elucidation of *some* of the principles" of the subject; but the disappointment is none the less keen which springs from their suggestion of the fact of how lamentably deficient our system of constructive science is altogether and at its best. Constructive science is a subject so complex, copious, diffusive,—a subject so very inadequately represented in the library,—withal a subject so very little really rationally, practically, known as it ought to be, that the great magnitude of the theme and the great need for the treatise together make these sixty maxims of Mr. Donaldson's only a sort of sixty crumbs to a hungry man. Very good crumbs they may be, and frequently of substance salutary and satisfying; but they are insufficient, and do little more than remind us of our wants.

I doubt not that such a thing as a thorough and perfect system of constructive building would be, at the present day, one of the most eagerly-purchased works that could be written in connection with our profession; and one would think that there are few subjects which offer to a scientific man of leisure so many promises of satisfaction. All we want is a diligent and clear-headed compiler of evidence and collector of facts; the materials are to be found anywhere, all ready to his hand,—stones upon the highway,—his work merely to collect, arrange, describe. It would not be amiss if certain energetic minds amongst us, instead of labouring to reduce to rule and order that which has no rule and order but in far deeper and more subtle elements than they seem capable of attaining to, would rather devote themselves to the investigation of useful truth in this less ambitious but more profitable path: verily, it is a pity that some of the spare enthusiasm, which has been of late years expending itself so earnestly and withal so noisily in measurements of crumbled walls, and rubbings of brasses, and torturings of the plans of old churches to reduce them to what is considered "geometrical proportion" (regarding which I would only suggest that it is quite possible, and there is no harm in admitting, that the old monks schemed their plans by all those ingenious fancies, provided you do not lose sight of the circumstance that in so doing they schemed their plans very foolishly, and wasted their ingenuity upon a very wild chimera)*—verily it is a pity, I say, that some of this spare enthusiasm should not now, by way of change and relaxation, if nothing else, attach itself to measuring principles of science, and rubbing down facts into system, and reducing plain, honest, useful knowledge to its plain, honest philosophy.

But I must pause to say that, perhaps, I am wrong in thus attributing to the construction of an encyclopædia of building so small an amount of difficulty. The task, if not one of deep thinking, as thinking goes now-a-days, would still be found in amount of research sufficiently laborious, and in variety and extent of comprehensiveness sufficiently perplexing, and demandant of scientific discernment and care, to entitle a properly completed and minute fulfilment of it to all the fame and merit of a great work: for, to be useful, it must be complete and minute, elementary and of thorough explication; not such a treatise as those of Gwilt and Bartholomew, although these are very praiseworthy in their way—so far as they go; but investigation of a more precise and painstaking manner, in a more formal and logical way, as if Professor Willis taught, or Dr. Arnott, or John Stuart Mill, or Linnæus, or Bacon, or Euclid of old. And in passing I would say that I have often regretted that the explications of Professors Donaldson and Hosking in the routine of their professorships should not be in some measure published, although it were merely in abstracts of what may happen to be novelties; without any chance of evil that I can think of, the suggestions and acquisitions of our two professed systematizers of the science, might, in such a way, most honourably to themselves, be made of important use, in reducing to a standard and authority what at present is too much left floating about in all the uncertainty of crude opinions, experiments, secrets, and tricks of trade.

The Encyclopædia of Building I would have to commence, of course, at the fundamental and primary. First, a somewhat voluminous subject, if rightly and fully discussed, is that of *plan*, an investigation of the arrangement of buildings in all departments of requirement and circumstance,—the explanation of *the system of buildings* fundamentally—the laying down and determining, as the commencement of the first proposition, what a building is. In the question of *site*, next, there is a good deal of philosophy to be opened up; climate, soil, level, access, approach, aspect, view, water, air, drainage, foundation, are subjects capable, every one, of considerable discussion. After which come the long array of *building operations and materials*—the digger, well-sinker, bricklayer, stone-builder, lime-maker, mason, pavier, slater, thatcher, carpenter, plasterer, joiner, plumber, smith, carver, glazier, painter, paperer; the brick and tile maker, quarrier, lime-burner, timber dealer, founder, ironmonger, glass-maker, and the rest in connection: all these in all the departments of their crafts,—not merely the tools they work with and the descriptions of work they do,—but the intricacies of what they themselves do not attain to—the science and *rationale* of their work and all their doings,—every process and every purpose and every preference and every piece traced logically to its principles and its science,—not a mere hasty statement of general axioms of practice, a mere dictionary o

* The cubic contents of the Eddystone are 13,343 feet.

† Read at a meeting of the Architectural Association, June 9th. For former portion see p. 265, *ante*.

* The harmonious result of this "foolish" scheming induces in us a very different opinion of it.—ED.

terms and description of common self-evident operations, but a thorough and complete discussion of the philosophy of the thing—a searching inquiry into the elements of its cause and effect, its right and wrong, its better and worse.

Still, if all this appear complex, the complexity is only seeming; greater complexity than this is every day reduced to system in other knowledges; a clear head and precise pen would soon sort it into simplicity; and I can only say that I wish it were fairly and diligently and knowingly attempted. The successful result would be a benefit immensely to the learner as his most valuable teacher, and by no means inconsiderably to the most experienced practitioner as his standard of reference for guidance, suggestion, explanation.

Although I have stated my fancy of Mr. Donaldson's constructional maxims carrying with them a sort of disappointment from their fewness, yet it does not follow that we neglect the appreciation of them individually. Many of them present to the attention sound principles much neglected; in some those intimate with the subject will find the merit of valuable and suggestive novelty; while, generally, if they do not attract us more forcibly, they attract us thus, that they are good hints for inquiry; excellent texts, for instance, to found illustration, discussion, conversation, upon. If I could sufficiently depend upon my own judgment in minutiæ, there are several of these maxims upon which I should like to offer illustration and suggestion; but I will rather beg you to be contented with a more general notice.

Maxim 106.—"The rot in timber germinates in damp, expands in heat, but shrinks and dies in perfect ventilation," struck me as carrying, under very much the semblance of a truism, a valuable precept of practical application—the need for, providing much more than is generally done for the ventilation of timber-work in a building. When we lay the end of a girder, with an inch or two of space round it, in the wall, we are only providing what, I apprehend, ought just as carefully to be provided in many cases where it seems to be never thought of. The decay which the opening up of an old house exposes, often even when it is not so very old after all, ought to set practical men thinking more than it seems to do.

No. 109. "Water is the most destructive agent to construction. There is no quantity so small which, if repeated, is not ultimately fatal." That buildings should be attentively kept water-tight cannot be too rigorously insisted upon. It is not sufficient that torrents of wet shall not be permitted to produce ruin in ten or twenty years; but drops are enemies, only differing in degree. What a pity it is, for instance, to see many of our mediæval churches in helpless ruin, through this insidious destroyer, beside others, where a little additional care—a stitch in time hundreds of years ago—results in preservation of the whole structure in its strength!

No. 110 relates to a similar subject,—"Our forefathers knew the connection between moisture and decay in soft material. Hence in the buildings of the districts where the soft stones prevail, the bottom courses of the walls will frequently be found to be formed of a hard and impervious stone, the strata of which are called by the quarrymen foundation-stone." Besides the injury which damp occasions in the structure of a wall, and the woodwork in connection with it, we have a more serious reason still for care in the prevention of the transmission of moisture from the ground, in the manifold discomforts so commonly to be met with in that *multum in parvo* of annoyances, a damp house. The precautions of eavesgutters, so that the roof-water may not drip on the foundations, dry areas round the basement walls to provide against the direct transmission of damp to apartments underground, sloping the surface up to the walls so as to draw the surface water off from the building, and so on, only the ordinary provisions in the case, though too frequently foolishly neglected; and, in all instances of general brick building, the common qualities of bricks are such excellent conductors of wet that there never can be dryness, when the soil is at all more damp than usual, in providing for the non-transmission of moisture by some such means as a couple of courses of slates in cement just above the ground, a cheap preventive of the chance of a most serious evil.

Some will also have hollow walling—the bond-skeleton of the brickwork without filling in—to provide against the transmission of damp directly through the wall from driving rain; but I should be disposed to question the efficacy of this, except the ventilation of the interior of the wall be more depended upon than the mere lessening of the quantity of conducting surface. In exposed situations, as on the coast, an approved method of building is in two distinct thicknesses of wall (as, for instance, a 9-inch wall outside and a 4½-inch wall inside) with a clear space of about 3 inches between them, the two thicknesses being connected together by iron bonding ties. Special care is insisted upon, not only that there shall be no brick connection of the two thicknesses (except, of course, in the jambs of openings), but that no bats or rubbish shall be let fall into the interior space, lest the moisture should be carried through by such means; and openings are provided to be left during building in the outer thickness at the ground for removing any pieces of mortar, or such like, which may happen to be allowed to drop down. If this should wear a little of the appearance of affectation in some respects, yet, after all, it is to be remembered that in the matter of a damp house a very small amount of prevention is better than a vast deal of cure. Battening is, of course, quite another subject, and the most effectual preserver of dryness provided it be itself kept dry.

Maxim 120—"The Freemasons of the middle ages have established this principle of construction, that, with equal quantities of material, a thin wall, with buttresses, has greater strength and stability than a thicker wall without,"—is worthy of being kept in view in these days of economy.

Maxim 136—"The material available must frequently have determined the style of art;"—"the like consideration controls the introduction of more or less ornamental detail in edifices," deserves to be taken very much to heart by those who would aim at a true spirit of design. How seldom do we find an architect regulating his design by his materials; his principle is rather to choose his design from the standards, and then do a world of scheming to carry it out with the material prescribed! To keep strictly to the facts of the nature of the material is, one would think, a rule so merely axiomatic as to scarcely need mention; but in our day architects in general never think of it, their axiom is rather always to disguise your material in the likeness of a better—a fallacy most gross and unworthy of intellect!

A few good sentences are given on mortars, timber, and iron; but it is manifest that little can be compassed on subjects like these in space so small; the architectural world requires treatises on such subjects like those of Pasley on the first, and Tredgold on the others, simply professionalized.

Let me pass now from constructive science to the walk and conversation of the architect. And upon this and Mr. Donaldson's valuable lecture on it, I must be content to speak very briefly. In fact, I can do little more than reiterate his excellent precepts. In acquiring the knowledge of a profession, whose knowledges are so many and comprehensive, diligence, attention, perpetual inquiry, persevering research, are merely the absolute necessaries of advancement. In assuming the position of a practitioner in a profession, where shortcoming and makeshift and empiricism are so much more prevalent than sound knowledge and good confidence of skill, the utmost endeavour, after thorough and systematic acquirement, is what alone can produce honourable standing. And in self-advancement in a profession, where such a custom as our competition-system gives so many (too eagerly embraced) opportunities for self-advancement by dishonour, such counsel as Mr. Donaldson's to highmindedness, integrity, and ambition for true fame, is the surest in the end to be the best to follow. Everyone knows Professor Donaldson to be eminently the friend of the student; and he possesses not a prouder diploma in his collection than the acknowledgment of this. I will therefore conclude with the sentiment of my commencement, that in laying before you the remarks now completed, I have the advantage of feeling that my subject must have been to you most interesting; and when we thus favourably end our examination of his work, there is no harm, perhaps, in calling to remembrance, that we owe Mr. Donaldson additional honour for the kind countenance which our own Architectural Association obtained from him at its beginning, and the hearty expression of goodwill by which he inspired us with confidence, and in no small degree contributed important help.

ROBERT KERR.

WHAT ARE THE CROWS' NESTS FOR?

ORDNANCE SURVEY OF THE METROPOLIS.

THE Ordnance survey observatories (humorously designated "crows' nests" by the metropolitan wags), on the tops of some of the highest buildings in the metropolis, have latterly attracted a good deal of attention, and given rise to inquiries which shew that considerable misapprehension exists respecting them: this the following remarks may probably dispel.

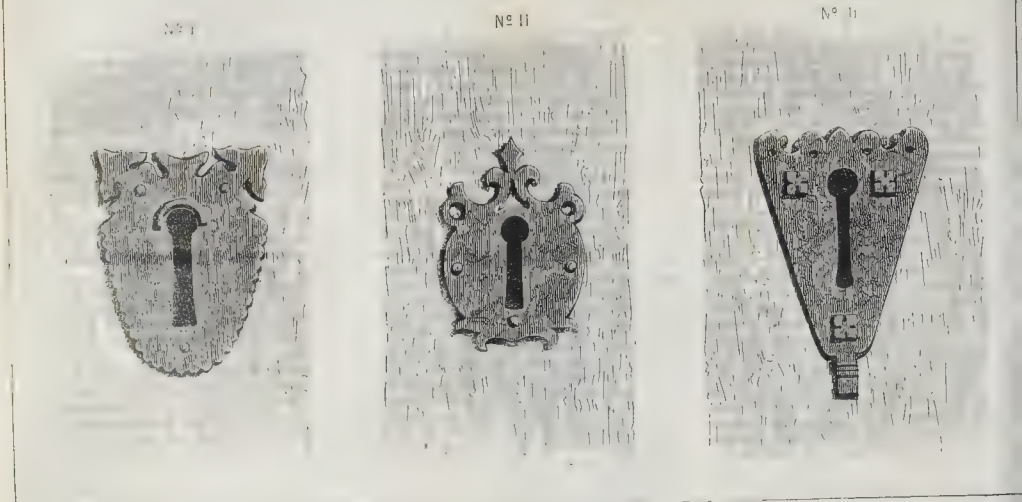
In every extensive survey, conducted with a due regard to scientific accuracy, it is a matter of the first importance to determine with unerring correctness the relative distances and bearings of the principal or most conspicuous objects within the country or district to be surveyed. To effect this, the first operation is to measure a "base line"—that is, a straight or right line between two points, varying in length according to the extent of the survey and the facilities afforded by the nature of the ground for the measurement. As the accuracy of all the subsequent operations of the survey must necessarily depend upon the correctness of the measurement of the base, the most scrupulous care and many ingenious expedients are resorted to in order that the utmost practicable degree of accuracy may be attained. It is not here intended to describe in detail any of the important base measurements that have taken place in this or other countries; suffice it to say, that glass rods, deal rods, steel bars, steel chains, compensation bars (that is, bars of different metals so arranged that, like Harrison's Gridiron Pendulum, they counteract each other's expansion during changes of temperature), have been severally used in different countries in the operation.

The base line being measured, the next step is to connect its extremities by means of angles taken with theodolites or other angular instruments, with all the conspicuous objects visible; the relative distances and bearings of which with each other, and with the base, become thus determinable, by means of certain well-known trigonometrical formulæ. By selecting the most suitable of these observed objects for new observing stations, the calculated distances become, in their turn, base lines for expanding the operations of the "triangulation," until the whole country, by a connected line of observing stations, becomes united or interlaced by a perfect net work of triangles, the distances and bearings, the latitudes and longitudes of which are all unerringly ascertained.

This "triangulation" forms the basis or groundwork for an accurate detailed survey of the entire district or country over which it has extended, and obviously affords accurate data for detecting or eliminating all practical errors of measurement or other *detail*—operations which may, and inevitably will, in the progress of extensive works, creep in, with the most careful surveyors. It also affords the means, and the only means, of making a connected survey of a country or extensive district; that is of making (or giving the means of doing so) the several parts of which it is composed harmonize and fit together, which, without the binding power of a general "triangulation," would be impossible.

These preliminary observations being understood, the mystery of the appearance of the present metropolitan aerial visiters will at once disappear. They are simply taking angles with theodolites from the most commanding objects to the other remarkable objects, such as church spires, or towers, cupolas, factory chimneys, &c. &c., within the visual range of their instruments, for the purpose of ascertaining their relative bearings and distances; and where these permanent objects are not suffi-

ANCIENT ESCUTCHEONS.



ciently numerous, or are unsuitable for the purpose, to form the basis or groundwork of the contemplated survey, artificial objects, such as poles with crosses, have to be erected to complete the necessary connection of accessible objects or stations.

The area intended to be comprised in the metropolitan survey is something above 200 square miles, or nearly 130,000 acres; and as the map is to be constructed on the very large scale (for a district of such an extent) of 60 inches to a mile, or 1 inch to 88 feet, which, when completed, will occupy about 900 sheets 3 feet by 2 feet, or about 5,400 square feet of paper or copper,—it would be utterly impossible to make the survey and project the map on such a scale, so that the several consecutive parts or sheets shall combine and fit together to form one entire map of unquestionable accuracy, if every possible precaution (and the number and extent of these precautions can only be known to practical professional men), were not rigidly attended to in the outset with the preliminary part of the work.

But what, ask some simple-minded men, have the "crows' nests" on the tops of the steeples to do with "levelling" the ground for sanitary improvement? Nothing whatever, directly; but everything as forming an essential part of an indivisible whole. These simple but inquiring men and local legislators, who appear to have cudgelled their brains more about this weighty matter than Shakespeare's gravedigger did *his* to fathom the profound depths of his companion's philosophy, should know that correct levels are comparatively useless without a correct map to insert them on; that a correct map cannot be produced without a correct survey; and that the essential preliminary part of this correct survey is the "triangulation," which has served during the last few weeks as a standing *butt* for the wit of some of the city deputies.

The London survey will be connected by its triangulation with the general survey of the country, and in its levelling with the one uniform datum plane to which the altitudes of the Ordnance six-inch map are referred. By this means, when the map is complete, the relative level of any two points within the eight mile radius of the metropolitan survey, or of any part of London, and any part of the north of England, may be seen at a glance by those who require and know how to look for the information.

SCARBOROUGH ARCHÆOLOGICAL SOCIETY.—A meeting of this society was held at the house of the president, Dr. Murray, on Thursday evening week, at which Dr. M. read an interesting paper on the history of coinage.

EXAMPLES OF OLD IRONWORK.

THE accompanying escutcheons may be useful for imitation; they are each simply formed out of the sheet-iron, without any chamfers whatever. No. 1 is from the church at Ixworth, in Suffolk; No. 2 from Westminster Abbey; and No. 3 from the south door of the little church in the grounds of Hengrave Hall, Suffolk. No. 2 is of the latter part of the fifteenth century, and Nos. 1 and 3 are rather earlier.

THE ORGANIZATION OF LABOUR IN FRANCE.

EVENTS in France have fully borne out the views we took in the first instance, and justified the advice we ventured to give. The installation of the workmen (pardon us—of the idlers) in the palace of the Luxembourg and in the national ateliers, was the grandest and most romantesque exemplification of the installation of "the beggar on horseback," that the wondering eye of the world ever saw. The profits of the ateliers ought at least to have paid for the luxuries of the Luxembourg; but the candle, the lux, burnt splendidly at both extremes, only the light of the Luxembourg-turned-upside-down was smothered in the streaming excess of its own incontinent fat. The luxurious lounging of the ouvriers on the lordly cushions of scarlet and gold in the palace of the peers, formed one of the most striking and picturesque *scenes* in the opening of the revolution. Evil omens were but too rife and but too truthful. In sheer consistence, it behoved the lordly table to be furnished and *set out* as nobly and luxuriously as the arm chairs were: and it was so. Monsieur Louis Blanc and his committee of labourers though not labouring committee, accomplished the laborious task of consuming 350,000 francs, in the shape of ros-biff and other *pieces de resistance*, fruits and cordials, ices and *Blancmanges*; or more properly, they chalked up a score to that amount, in a couple of months, to be settled out of the profits of the ateliers not yet reaped. We are not aware that they have done any thing else, but in all probability they have in this done even more than enough; and no one can deny that what they have thus done they have well done and quickly. "Oh sumptuous republicans and sybarites," said the *Constitutionnel*, in apostrophe, hopeful of a crop of figs from a bunch of thistles, "we shall say nothing about your luxurious habitation if you only refrain from encouraging chimerical hopes and dangerous and unjust demands. Let your leisure hour be charmed by the most varied amusement and by the arts, only do not in return reward us with *emeutes*." Voltaire exclaims, in one of his epistles—

'Rimons, chantons, buvons, mon cher Horace!'

Eh bien! dear Provisional Consuls, follow the counsel of Voltaire—rhyme, drink, but do not ruin us! Tolerate in others a little of the luxury you require for yourselves, and which employs so many hands. Let those palaces those *chefs d'œuvre* of statuary and painting elevate your minds and souls, and inspire you with dreams of days of concord prosperity, and grandeur, for France."

In the meantime, however, there has been little prospect of the advent of any such fruit. The fear of these very emeutes at this moment harasses the Government and the people large. The prospect of that very ruin stares them in the face. The expenses of the nation a large portion of them for the *ateliers nationaux* throughout the country, have exceeded its ordinary resources by no less than 2,600,000 f per day since the 25th of February, while the ordinary resources, from the suspension of industry mainly arising out of the illusory hope emanating from the Luxembourg, and the consequent refusal of the industrious classes to obey their normal leaders and guides, the masters, have been reduced to comparative nothing. The actual cost of the Paris *ateliers* alone has increased to 10,000*l.* sterling a-day. "The expenditure of these *ateliers*," says Paris correspondent of the *Globe*, "is frightful but it represents little more than one-twentieth of the total waste of money in France for the support of the working classes in idleness unprofitable labour. Let us suppose that directly and indirectly, the *ateliers nationaux* of Paris have cost the state in three months 90 millions—and this is an under estimate. Multiply this by 20 for the whole of France in Government grants, or by the votes of municipal councils, and we have a sum of millions expended, at least four-fifths of which was for idleness or unproductive labour. Paris, when the Government ordered preparations to be made for the fête, a certain number of carpenters was required. These men had been receiving 2f. a-day on earthwork; they were offered 5f. for the erection of the scaffolding for the statues and the illuminations; they refused to work under 8f., and the Government submitted to the extortion. * * *." In short, the enormity of the evils which we first the first prognosticated, as the inevitable fruits of the Luxembourg legislation, is only now being revealed. The National Assembly, however, have taken the bull by the horns, and they have an unruly and powerful monster

subdue. They have decreed a law for the *reformation* of the national *ateliers* by the substitution of *task work* for nominal day labour, and by the dispersion of provincial workmen; but they do not appear to contemplate the possibility of doing more, in the meantime at least, than merely re-organizing them, purging them of many idlers who have other resources, and thus reducing their numbers in Paris to about 90,000.* The Minister of Public Works is said to be preparing more detailed plans by which constant employment would be secured to this goodly number, and a sub-committee has been appointed to bring about a friendly arrangement between the masters of several branches of industry and their workmen. The Minister of Agriculture and Commerce has announced a Bill for the creation of fifty agricultural colonies *mobiles*, for undertaking, on a grand scale, works of irrigation and draining in different parts of the territory. The real workmen themselves, it is said, approve of all that is being done; but the idlers, the gamins, the paupers, the convicts and other thieves amongst them, of course deny the propriety of any thing likely to compel them to live upon the fruits of their own actual labour. They have made a handle, too, of the dismissal of their chief, leader, or 'father,' as they call him, namely, M. Emile Thomas,—a young man of five-and-twenty, whom the Government have seen fit to remove from his post, and send off to Bourdeaux on rather an equivocal 'mission.'† A general strike of the people employed on the railways was lately forming a new cause of anxiety at Paris. The Directors, however, backed by the Government, determined not to submit to the unreasonable demands of the engineers and firemen, who are bent on the discharge of all the remaining English workmen employed, and they meant to adopt the most energetic measures to defeat a personal attack threatened against the Englishmen employed on the Rouen railway.

THE DRAINAGE QUESTION.

DRAINAGE IN MANCHESTER, LIVERPOOL, AND CHESTER.

Sir,—The absorbing topic of the day is sanitary remedies, and it appears, now their importance becomes better understood, that towns are vieing with each other in carrying them into effect, so far as their means will allow.

The expense attending efficient sanitary arrangements will be the greatest obstacle to their extension; and when it is known that it will require at least fifty millions of money to carry them out, so far as the public purse is concerned, and an equal sum for the owners and occupiers of property for private sanitary arrangements, in Great Britain alone, we cannot wonder that the progress is slow, and that considerable opposition is thrown in the way.

This result has been obtained from approximate estimates and data from various towns.

In Manchester, a *radical* "change has come over the spirit of their dream." Sewers of brickwork are to be abandoned, and tubes, composed of fire clay, adopted in their stead. The sizes and relative cost of the two systems are as follow :—

TUBES.

Inches.	Cost.	
25×18	£0 8 0	per yard linear.
20×15	0 6 6	,,
16×12	0 3 9	,,
12× 9	0 2 0	,,
8× 6	0 1 4	,,
6× 4	0 1 0	,,
4× 2½		

Exclusive of excavation and setting.

OLD SEWERS.

Inches.	Cost.	
72×38	£2 0 0	per yard linear.
60×36	1 15 0	,,
42×24	0 17 3	,,
36×24	0 15 4	,,
33×22	0 15 0	,,
30×20	0 14 0	,,
24×18	0 13 4	,,
20×15	0 12 6	,,
15×12	0 8 3	,,

Excavation included.

Thus, it appears the area of the tubes is about one-sixth of the area of the old sewers.

Manchester has groundlessly set up a claim as the inventor of the egg-shaped tube for the purposes of drainage, and the terra-cotta syphon trap, notwithstanding the former was suggested in the Sanitary Report of 1844, page 363, and the latter in your journal for 1844, page 594; and it appears they were not introduced into Manchester until 1847. The invert of the Manchester tubular sewer is of the shape of a Gothic arch inverted, and, I understand, the *exterior* surface is glazed.

Before tubes can be generally introduced for the purposes of drainage, manufacturers must considerably reduce their prices, as I find sewers can be constructed of brickwork at a cheaper rate, even of one-third larger area. I cannot see the great objection to sewers composed of brickwork, provided there is no waste of material, and they are properly and substantially constructed — viz., with good radiated bricks set in cement or lias lime; for, when a good fall can be obtained, and a system of flushing adopted, I quite agree with Mr. Austin, in the Sanitary Report, "that, in such situations, all difficulty ceases." Again, tubes have not yet been manufactured larger than 25×18 inches. This is of sufficient size to drain only small areas; but main sewers to drain large areas must still be composed of brickwork or moulded blocks: the latter are the most costly. In Liverpool slow progress is made in the extension of their sewers; for, notwithstanding their great wealth, a difficulty is experienced, in these times of monetary depression, in procuring the "sinews of war," while they have ample powers, under an Act recently obtained, to carry out, to its fullest extent, sanitary remedies, and a large engineering staff, costing from 7,000*l.* to 8,000*l.* per annum.

In Liverpool, tubes are used for house drainage and the drainage of courts, and I understand it is intended to drain one of the smaller streets with glazed tubes. The sewers of the larger size are composed of brickwork, and in shape very much resemble those of Mr. Roe, in the Holborn district. The corporation of Liverpool having the water-works in their own hands, have now the means of flushing the sewers, whenever required, economically, though, I apprehend, a supply of water for that purpose might be obtained, at a cheaper rate, from the river Mersey, more particularly as it is stated there is deficiency of water now for domestic purposes. An interesting controversy is now going on relative to the better supply of Liverpool with water. The Rivington Pike scheme is condemned, and it is maintained that a sufficient supply can be obtained from the strata of the new red sandstone upon which Liverpool is founded. Another scheme is to obtain a supply from Bale lake; but I should conceive that a plentiful supply of water for Liverpool and other towns situated on the route, might be obtained from the river Dee, without ascending so high as Bale lake, and at much less cost. The street traps in use at Liverpool are the old valve trap, and Burton's registered trap: the syphon trap has not yet been introduced.

It has been recommended in the pages of the *Civil Engineers' Journal*, to erect large chimney shafts at elevated points, connected by tunnels with sewers, and the sewers with the flues of houses and factories, so as to afford a passage for smoke and offensive effluvia, and at the same time be the means of supplying pure air to the streets, courts, and houses. The principle of the plan is not new, as at some of the copper works in the manufacturing districts of South Wales subterranean shafts or tunnels are used for the purpose of collecting and conveying away the smoke and vitriolic fumes to the summit of the adjacent mountain, where it is dispersed in the atmosphere; this is the means of preventing considerable injury to vegetation that would otherwise take place, which travellers between Neath and Swansea cannot fail to have observed.

Birkenhead being comparatively a modern built town, more attention has been paid to the subject of sewage than in most other places; the sewers there are of an area equal in magnitude and strength equivalent to some of the London sewers, and, as a natural inference, must be quite as costly. In some instances, when rock has been found, the inverts of the sewers have been formed in it, and the arches only turned in brickwork. House drainage, I understand, is very deficient. Sanitary remedies have received a check in this town for the want of funds; the authorities, in evincing a spirit of economy, have recently reduced their staff of officers.

In Warrington, I understand, a sanitary survey is in course of execution, anticipatory of the Health Bill.

Chester has made considerable progress in sewages under a Sanitary Act recently obtained; the sewers are being constructed on a more economical system than that adopted in some towns, but the want of means is a great obstacle to their more rapid advancement.

Many of the old drains that were made previous to the Improvement Act coming into operation were so defective in levels, arrangement, and construction, as to render it necessary to take them up; in fact, the whole drainage of the old city nearly, required readjustment and reconstruction, founded upon a correct system of levels.

The main sewers in Chester are costing less per lineal yard, including materials and excavation, than the largest sized egg-shaped tubes advertised in your paper.

A system of flushing is adopted there in situations contiguous to the Chester and Ellesmere Canal, that Company having liberally placed at the disposal of the authorities a sufficient supply of water for that purpose. The sluices are fixed in the side walls of the canal, so that the sewers may be effectually cleansed whenever required. The sewers on the higher levels at present have not that advantage, in consequence of the supply of water being inadequate. A considerable extent of house drainage has been done; it is the practice, whenever a sewer is completed, to serve notices upon the owners of the property to drain their houses. Tubular pipes 4 inches, 6 inches, and 9 inches diameter, are used for the purpose of house drainage, and every house drain is effectually trapped. The traps in use are the syphon and the valve traps; the former have been extensively used for the last two years, and answer exceedingly well. Tubes of glazed stone ware have been introduced, also glazed junctions and syphon traps of different sizes for house drainage. These tubes are manufactured at Ruabon. Glass tubes (an excellent invention for drainage or water pipes) are being experimented upon, with the view of ascertaining their relative advantages over the pipes now in use.

An attempt was made to procure egg-shaped tubes (glazed), but it was abandoned, in consequence of the increased expenses attending them.

I cannot close this article without directing especial attention to the efforts now being made to reduce so *materially* the size of sewers for town drainage. Although no advocate for the expensive and wasteful system carried out in many towns, still I am not one of those that would recommend the other extreme to be adopted. One party advocates sewers of the tubular system of the bare minimum capacity for house drainage only, leaving rain and storm water to find vent how they can, which will occasionally cause serious inundations; another, a separate system of tubes for house drainage and rain and storm water. The former is so directly at variance with the practice of all our eminent hydraulic engineers in the construction of their river bridges, sluices, culverts, water works, &c., that it needs only to be named to be repudiated; the latter will entail a much larger expenditure even than the old system, in consequence of the high price of glazed tubes.

B. B.

Lithographic Stone.—Among the prizes offered by the Paris Society for the encouragement of Arts and Manufactures, is one of 1,500 fr. (60*l.*) for the discovery and practical working of new quarries of lithographic stones in France; the society being convinced that there exist in many localities of the country, places where lithographic stones may be quarried to advantage.

* The last inspection of the operatives in the national workshops fixes their number at 108,000, independent of 7,000 received on certificates from the Commissaries of Police

† The machinery of "organized labour" appears expensive at least. The *Journal des Débats* states, that "by the removal of M. Emile Thomas from the direction of the national workshops a saving of from 25,000 to 30,000 francs (from 1,000*l.* to 1,200*l.* a day) will be effected. M. Emile Thomas retained for his service five chariots, four cabriolets, fourteen tilburies, a caleche, and thirty-eight horses!"

THE CORN EXCHANGE, EDINBURGH.

MR. COUSIN, ARCHITECT.



NEW CORN EXCHANGE, EDINBURGH.

THE Edinburgh Corn-market is held weekly, and is both a stock and sample market. The great increase of trade in this market since the opening of the various railways, has rendered an enlargement in the accommodation a matter of urgent necessity. About a year ago, application was made to Parliament by the city of Edinburgh for an Act empowering them to purchase properties in the Grass-market—a large open square in the ancient part of the city—and to erect a new corn exchange of such dimensions as to meet the increased wants of the trade.

The area of the present corn-market buildings, including that of an additional temporary shed provided some years ago, is only about 4,300 superficial feet. The great hall of the new corn exchange is 152 feet by 92 feet 6 inches, containing an area of 14,060 feet, lighted from the roof. In addition to this, there is a large room in the first floor front of the building about 66 feet by 25 feet, for the settling of accounts and other transactions of those attending the markets, with a smaller adjoining room about 25 feet square, which may either be used as a bank, or for other similar purposes. Over these front rooms is a large granary for storing corn, or other seeds, not disposed of at the market.

The annexed engraving shews a perspective view of the front of the new exchange, which, it will be observed, is in the Italian style of architecture, and has a clock and bell tower at one end. Contracts have been entered into for the erection of the building; the estimated expense of which is about 7,800*l*. The design has been supplied by Mr. David Cousin, architect, superintendent of public works for the city of Edinburgh.

ENCLOSURE OF WASTE LANDS.

FORMATION OF EMBANKMENTS.

THE population of the country generally must view with pleasure and with hope the attention which is given in high quarters to the subject of the subsistence, the employment, and the comforts of the poor. Proposals have been made, and measures are carrying out, for transferring to distant climes our overflowing population; but whilst we are sending our able workmen out of the country, let us not lose sight of the important occupations wherein they and their families might be advantageously employed at home.

The waste lands of this country have been computed at 30,000,000 acres, the cultivation of which would support 5,000,000 persons, allowing to each six acres. In former times the Dutch navy disputed the empire of the seas with that of Great Britain; her seamen sprang from the barren sands and mud banks which they enclosed to form their country. How many thousands of cheeses, kegs of butter, and melons, they export to us, the product of these formerly submerged wastes, it is impossible to enumerate.

By Dr. Potts's recent improvement in hydraulic architecture, continuous lines of enclosure may be made on our coasts to an immense extent. At an expense comparatively trifling, cheap tubes may, by the action of the air-pump, be sunk with great rapidity into the sand or other soil, either perpendicularly or obliquely, the strength of a boy being sufficient to force a tube of 9 inches diameter many feet into the substratum. The tube being emptied of its contents by a similar process, is ready to receive bars of iron or wood, by which the embankment, consisting of mud or material brought by inclined planes or otherwise, may be retained. The iron thus employed may be removed when no longer required, and again applied for similar purposes. Cabins, houses, churches, as well as quays, batteries, and breakwaters may by this means be supplied with foundations. A bottomless tub or tube formed of straight staves, with its lower diameter somewhat larger than the upper, may, in one tide, be placed firmly in the sand-bank with its upper aperture above highwater-mark. These tubes may also be made of iron, stone, or composition, so as to form a dwelling for a family, vastly superior to the iron roller, described as an enviable retreat by Lord Ashley in his admirable speech in the House of Commons on Tuesday last. This power is applicable not only to the inclosure of land and the formation of dwellings, but to extensive draining and the deepening of sluices. By laterally restricting the extent of the current, its force, and consequent depth will be increased. By this means vessels of deep draught may conveniently be brought to the piers and wharfs of newly-constructed embankments and mosses, bogs and inland lakes converted into fertile regions.

THEORY OF THE ARCH.

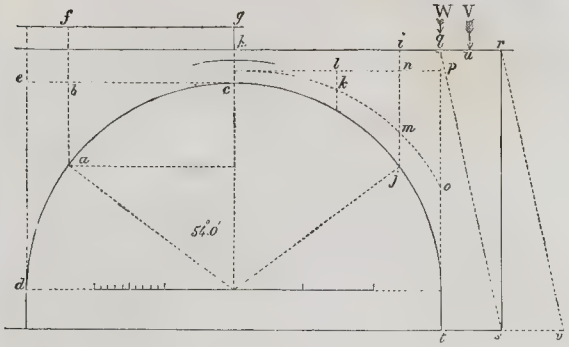


Fig. 1.

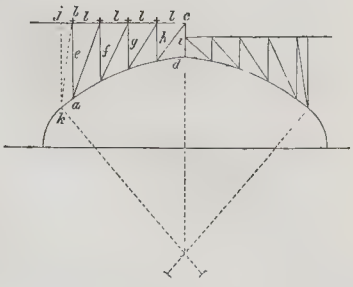


Fig. 5.

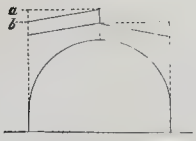


Fig. 2.

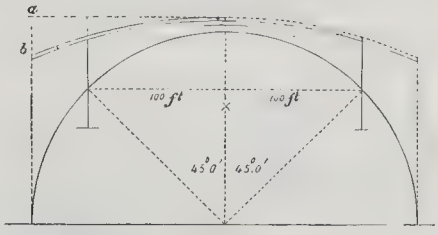


Fig. 3.

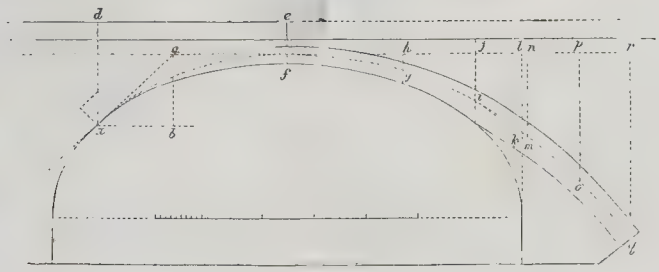


Fig. 4.

THEORY OF THE ARCH APPLIED.*

By means of the annexed table, the points of fracture, the horizontal stress, points in the curve of equilibrium, &c., of circular and elliptical arches, may be determined with considerable accuracy and facility. Its use in comparing bridges of different dimensions, and for other purposes, will be shewn by a few examples.

Table to aid in calculating the Horizontal Stress, &c., of Circular and Elliptical Arches, with various loads.

Circ. Ellip.	Ver-sine / R / H	Sine / R / R	Sine² / R² / R²	Sine³ / R³ / R³	Sine⁴ / R⁴ / R⁴	A / R² / RH	D / R / R	M / R³ / R²H
5°	·00381	·08716	·00760	·00066	·00006	·00011	·02171	·000003
10°	·01519	·17365	·03015	·00524	·00093	·00088	·04334	·00004
15°	·03407	·25882	·06699	·01734	·00449	·00292	·06446	·00019
20°	·06031	·34202	·11698	·04001	·01368	·00679	·08498	·00058
25°	·09369	·42262	·17861	·07548	·03190	·01294	·10464	·00135
30°	·13397	·50000	·25000	·12500	·06250	·02169	·12326	·00267
35°	·18085	·57358	·32899	·18870	·10823	·03322	·14067	·00467
40°	·23396	·64279	·41318	·26558	·17071	·04752	·15669	·00745
45°	·29289	·70711	·50000	·35355	·25000	·06441	·17235	·01102
46°	·30534	·71934	·51745	·37223	·26775	·06807	·17388	·01184
47°	·31800	·73135	·53488	·39119	·28609	·07181	·17651	·01268
48°	·33087	·74314	·55226	·41041	·30500	·07564	·17907	·01354
49°	·34394	·75471	·56959	·42987	·32443	·07954	·18157	·01444
50°	·35721	·76604	·58682	·44953	·34436	·08351	·18399	·01537
51°	·37068	·77715	·60396	·46936	·36476	·08755	·18635	·01632
52°	·38434	·78801	·62096	·48932	·38559	·09165	·18863	·01729
53°	·39818	·79864	·63782	·50938	·40681	·09581	·19084	·01828
54°	·41221	·80902	·65451	·52951	·42838	·10001	·19298	·01930
55°	·42642	·81915	·67101	·54966	·45026	·10426	·19504	·02033
56°	·44081	·82904	·68730	·56980	·47238	·10855	·19700	·02138
57°	·45536	·83867	·70336	·58989	·49473	·11287	·19883	·02245
58°	·47008	·84805	·71919	·60990	·51723	·11720	·20078	·02353
59°	·48496	·85717	·73474	·62979	·53984	·12156	·20254	·02462
60°	·50000	·86603	·75000	·64952	·56250	·12592	·20423	·02572
90°	1·0000	1·0000	1·0000	1·0000	1·0000	·21460	·22337	·04794

* For an explanation of the particular theory adopted and applied, see an article under the same title in the fourth volume of The Builder, page 619, to which this may be considered an appendix.

The second column of the table contains versed sines of arcs of a circle; the third, fourth, fifth, and sixth columns, the first, second, third, and fourth powers of sines. The seventh column, headed A, contains the areas of the curvilinear triangles (*a b c*), (*d e c*), &c., Fig. I.; the eighth, marked D, the distances of their centres of gravity from their vertical sides (*a b*), (*d e*), &c.; the ninth, marked M, their moments;—the whole corresponding to arcs of the number of degrees figured in the first column, the radius being unity. The values of the quantities corresponding to any other radius or semi-span, R, are to be obtained by multiplying the dimensions of the table by the powers of R, shewn in the first line under the heading of it. For elliptical arches, the quantities in the second line are to be used, in which R is the semi-span and H the rise. The values of A, D, and M were calculated by the following formulæ—

$$A = \frac{\text{sine} \times \text{ver-sine} + \text{sine} - \text{arc}}{2}$$

$$D = \frac{\text{sine} - \frac{\text{ver-sine}^2}{2} - \frac{\text{ver-sine}^3}{3}}{A}$$

$$M = A\ \text{sine} - \frac{\text{ver-sine}^2}{2} + \frac{\text{ver-sine}^3}{3}$$

To find the area proportional to the horizontal (S) of a semi-circular arch loaded as represented by Fig. 1. To the moment of (*f b c g*), add the moment of (*a b c*), and divide the sum by the versed sine (*c h*), added to half the depth of the key $\left(\frac{K}{2}\right)$. If the

centre of the motion (a), be so chosen, that the result obtained is greater than if any other point in the intrados were chosen for a centre of motion, it is the area sought for, and (a) is the point of fracture. If the whole thickness of the arch and load at the crown ($c\ g$) is called T,

$$S = \frac{T.R.^2 \frac{\sin^2}{2} + R.^3 M}{R.\text{ vers.} + \frac{K}{2}}$$

$$S = R^2 \frac{T.\frac{\sin^2}{2} + R.M}{R.\text{ vers.} + \frac{K}{2}} - \quad (1)$$

If the arch be loaded as represented by Fig. 2, the fall of the load ($a\ b$) over the springing being called F,

$$S = R^2 \frac{T\frac{\sin^2}{2} + R.M - F.\frac{\sin^3}{6}}{R.\text{ vers.} + \frac{K}{2}} \quad (2)$$

If the arch be loaded as represented by Fig. 3, the roadway being parabolic, and the ordinate of the parabola ($a\ b$) over the springing called F,

$$S = R^2 \frac{T.\frac{\sin^2}{2} + RM - \frac{F.\sin^4}{12}}{R.\text{ vers.} + \frac{K}{2}} \quad (3)$$

to find the values of S, for elliptical arches loaded in a corresponding manner to the above (compare Fig. 1 with Fig. 4), for RM and R versedsine in the formula 1, 2, and 3, substitute HM and H versedsine. In the formulæ so altered, R is the semi-span, and H the rise. Thus the rule for finding S for the bridge, represented by Fig. 4 is,

$$S = R^2 \frac{T.\frac{\sin^2}{2} + HM}{H\text{ vers.} + \frac{K}{2}} \quad (4)$$

In the absence of tables, or when the formulæ are intricate, the simplest way, perhaps, to make these calculations is to divide the area of the section into triangles by equidistant parallel vertical lines and diagonals, and to compute the contents and moments of the different triangles as though they were rectilinear; thus the area ($abcd$) Fig. 5 is nearly equal to

$$l \times \left(\frac{e}{2} + f + g + h + \frac{i}{2}\right) \quad (5)$$

Its moment nearly equal to

$$l^2 \times \left(\frac{e}{6} + f + 2g + 3h + \frac{3}{2}i + \frac{i}{3}\right) \quad (6)$$

and the distance of its centre of gravity from (ab) is nearly equal to the second of these two formulæ divided by the first. If the point in the intrados (a) first assumed be not near the point of fracture, let some other point, as (k), be assumed (above or below it, as the case may require), and let the moments of the two dotted triangles (abk) and (jkb) be added to (or deducted from, if necessary) the moment of ($abcd$) with regard to the point (k). By varying this point and using the moment so obtained, the horizontal stress may be arrived at quite near enough for practical purposes.

To find an ordinate to the line of equilibrium, divide the moment of any part of the section, as ($afgc$) or ($chij$), fig. 1, by S. Thus, the rule for finding the ordinate (kl) equal to Y, (ch) being called (t), is,

$$Y = \frac{\text{Moment of } (chij)}{S} =$$

$$R^2.\left(\frac{t.\frac{\sin^2}{2} + RM}{R^2.\left(\frac{T.\frac{\sin^2}{2} + RM}{R.\text{Vers.} + \frac{K}{2}}\right)}\right) = \left(\frac{t.\frac{\sin^2}{2} + RM}{\left(\frac{S}{R^2}\right)}\right) \quad (7)$$

To find the linear or columnal measure of the horizontal stress divide S by K.

$$C = \frac{S}{K} \quad (8)$$

To find the tangent to the curve of equilibrium at any point, as (a), fig. 4. Upon a horizontal line drawn from the point, set off with any convenient scale (ab) equal to S, and on a perpendicular line through (b), (eb) equal to the area ($adef$), the line between (a) and (e) is the tangent. When the tangent of the curve of equilibrium, at any point, agrees with the tangent of the intrados of an arch, at that point, it is a point of fracture.

Examples.—Required S the area proportional to the horizontal stress of a semicircular arch, loaded as shewn by Fig. 1. R = 30 feet, T = 7·7121, K = 3 feet. By the first formula, assuming the point of fracture to be at 54 degrees,

$$S = 30 \times 30 \times 7{\cdot}7121 \times \frac{{\cdot}65451}{2} + 30 \times {\cdot}0193 = \frac{}{30 \times {\cdot}41221 + \frac{3}{2}}$$

201·375 feet.

By a similar operation the value of S to 53 degrees was found to be 201·333, and to 54 dgrees 201.339. The point of fracture is very nearly at 54 degrees; the thickness at the crown having been previously calculated that it might be so. The trifling difference between these results shews that an error of a degree or two in determining the position of the points of fracture is of no importance.* This will appear more evident from the linear or columnal measure of the horizontal stress deduced from the above approximations to S. (8th) Rule.

$$C = \frac{201{\cdot}375}{3} = 67{\cdot}125$$

$$C = \frac{201{\cdot}333}{3} = 67{\cdot}111$$

$$C = \frac{201{\cdot}339}{3} = 67{\cdot}113$$

The greatest difference between these is only a sixth of an inch.

Required the ordinates (kl, mn, op) of the line of equilibrium, corresponding to 30, 54, and 90 degrees of the intrados; the depth of the permanent load and arch (t), at the crown, being 4·5 feet. By the seventh formula,

$$Y \text{ to } 30° = 4{\cdot}5 \times \frac{{\cdot}25}{2} + 30 \times {\cdot}00267 + \frac{\left(7{\cdot}7121 \times {\cdot}65415 + 30 \times {\cdot}0193\right)^2}{30 \times {\cdot}41221 + \frac{3}{2}} =$$

$$\frac{{\cdot}6246}{{\cdot}22375} = 2{\cdot}871 \text{ feet.}$$

$$Y \text{ to } 54° = \frac{2{\cdot}0516}{{\cdot}22375} = 9{\cdot}169 \text{ feet.}$$

$$Y \text{ to } 90° = \frac{3{\cdot}6882}{{\cdot}22375} = 16{\cdot}483 \text{ feet.}$$

Required S for an elliptical arch loaded as represented by Fig. 4, the semi-span R = 45 feet, the Rise H = 30 feet, T = 7·7121, K = 3 feet.

All the quantities forming the fractional part of the fourth formula are the same as in the previous example, the only difference is in the squares of the semi-spans.

$30 : 45 :: 1 : 1\frac{1}{2}$. $30^2 : 45^2 :: 1 : 2\frac{1}{4}$.
S = 201·375 × $2\frac{1}{4}$ = 453·093 feet.
C = 67.125 × $2\frac{1}{4}$ = 151·031 feet.

The ordinates ($g\ h$), ($i\ j$), ($k\ l$), are the same as those previously determined. The points of fracture have very nearly the position of those of the bridge of Nogent-sur-Seine, determined from observation by Peyronnet.

* M. Garidel has calculated the points of fracture and thrusts of various semicircular bridges, upon principles somewhat different from those here adopted—the points of fracture to a hundredth part of a degree. M. Garidel's thrust is the pressure which one part of an arch, with its load, will exert to overthrow the remaining part and the abutment wall, if the curve of equilibrium be supposed to touch the extrados of the arch at the crown, and the intrados at two points. The thrust so estimated does not appear to the writer to be the true stress or pressure upon the materials. The resistance is in every particle of the vertical section of the key, and the resultant resistance of the particles, if the section be rectangular, is at the middle of the depth; with this resultant, according to the principles first explained by Galileo in his dialogues on the resistance of solid bodies, the stress should be equated, otherwise the resistance of the materials must be supposed to exist in the upper edge of the arch alone, and consequently to be enormous, which is far from being the case; on the contrary, it does not require any great force to compress the hardest materials used in building—a slight tap will make a sound stone ring like a bell, and when vibration occurs, it is certain that there is an alternate compression and dilatation of the particles acted upon; a carriage passing over an arch will set it in motion, which must necessarily cause the full momentum of one part of it to act against its opposite part, and that to react in its turn, not through *imaginary* points or lines, but through the *natural* masses. M. Garidel's method, applied to determine the horizontal stress of a platband, will give less than half of that determined by the other. According to his tables, an arch with level roadway of 60 feet span, 18 inches thick, and the whole depth at the vertex 7 feet 6 inches, will have the point of fracture at 54·04 degrees, and the horizontal thrust proportional to 900 × ·21762 = 195·858 feet, which does not differ much from the ratio of the stress determined above for an arch of the same span 3 feet thick, with the loading rather greater.

If R be 60 feet, and the vertical dimensions be as before—

$30 : 60 :: 1 : 2$. $30^2 : 60^2 :: 1 : 4$.
S = 201·375 × 4 = 805·4.
C = 67·125 × 4 = 268·5.

If the span of a semi-elliptical bridge be the same as that of a semi-circular one, and the corresponding vertical dimensions have the same ratio, S is always the same, and the columnal measures are inversely as the depths of the keys. J. P. W.

NOTES IN THE PROVINCES.

THE two new ordnance stores in Portsea are to be built close to the ramparts, and an artesian well is to be sunk in one of them. The buildings, it is said, will be commenced immediately.——The contribution of 200*l.*, by Miss Littlehales, for a stained-glass window in St. Lawrence's Church, Winchester, has produced a strong inclination to realise, by rate, a further sum of 400*l.* to 500*l.*, in order to "befit the church for such a window."——The Bromsgrove vestry have under consideration plans and specifications, by Messrs. Rowlands and Day, of Worcester, architects, for the repairs of the church, at a cost of about 2,000*l.*——The first stone of the Southgate-street dock, at Gloucester basin, was laid on Tuesday week before last. The dock will be opened for business, it is thought, in March next.——The ancient houses in High-street, Old Cheltenham, opposite Cambray-place, supposed to have been in existence three centuries, have been levelled to the ground, to furnish a site for better buildings.——On Thursday week the gate of the new lock at Cumberland basin, Bristol, nearest the river, was hung. It is said to be quite a novelty. The span is 58 feet; depth, 29 feet; breadth at lower part, 12 feet, decreasing in a curved line to 3 feet. It is composed of many wrought iron plates, upon a frame of angle iron in three decks, forming water-tight compartments, and adding to its strength. The sluices are worked by right and left hand screws, and counterbalance each other. It opens as easily as an ordinary lock gate. There is a face of mahogany on the gate, which, when shut, bears upon a face of masonry, rendering the whole tight. The entire weight is about 95 tons. It was built at the Great Western Steam-ship works, under the superintendence of Mr. Jones.——The new entrance to Abergavenny is progressing; the foundation-stones of the bridge over the river Kenvy having been laid on Monday week. The contractor is Mr. Prosser. The new line of road from the bridge to its junction with Mill-street, forms an S curve. The works are superintended by Messrs. Sayce and Price, C.E., and will probably be completed by the end of the year.——A movement is to be commenced at Birmingham for the erection of model lodging-houses.——The Roman Catholic Church of St. Chad, in Bath-street, Birmingham, has been lately decorated under the superintendence of Mr. John Hardman, of that town, who, it is understood, has borne the whole expense. The roofs of the aisles are painted in a style corresponding to that of the nave; the decorations of the choir are specially noted. The screen and the rood have been cleaned, and the roof has been coloured. The beams springing from the arches are gilt, and the roof compartmented by gilded beams, each compartment coloured blue, and powdered with stars, with the emblem of the cherubim, set in a quatre-foil, in the centre of each. A double lancet decorated window has been introduced into the choir.——The vestry of St. Paul's, Bedford, have resolved to raise 1,500*l.* for repairs to the church generally, and particularly to the roof, which, according to the architects employed, Messrs. Wing and Jackson, stands much in need of it.——The first stone of the new church and school at Linslade, according to the *Northampton Herald*, was laid on Wednesday week.——The Romford vestry have resolved on erecting their proposed new church on the site of the present one, *alias* St. Edward's Chapel.——The new Corn Exchange at Lincoln, according to the local *Times*, is progressing rapidly towards completion. The clock turret is to cost about 1,000*l.*——The Victoria Promenade and Polytechnic Rooms, Bridlington Quay, have been thrown

open to the public. The suite of rooms consists of concert, promenade, polytechnic, news, and billiard rooms, and a tower, or observatory, in the castellated Gothic style. They have been erected by the Bridlington Quay Public Rooms Association, at an outlay of more than 7,000*l.* The site is at the north end of the stone pier and promenade. The architect was Mr. Worth, of Sheffield: Mr. Sissons, contractor, Wilson, stonemason, and Musgrave, bricklayer, all of Hull.——The lowest tender for the erection of the Hull baths and washhouses was that of Mr. Sissons. The Committee, however, says the *Hull Packet*, have adjourned their decision.——The new parish church of Aspatria was consecrated on Tuesday week. The rebuilding has been executed from designs by Messrs. Traviss and Mangnall, of Manchester, architects, at an estimated cost of 2,369*l.*, exclusive of extras. The foundations were laid on the site of the old building on 23rd July, 1846, and the style of the old edifice, the Early English, though on an enlarged scale, has been preserved. The material is the red freestone of the district. The length of the church, including the tower, is 118 feet 10 inches. The nave is 71 feet 10 inches by 40 feet; the chancel 30 feet by 15 feet 9 inches. The body of the church is divided into three aisles, the stone pillars which support the roof of the side aisles being all alternately circular, multangular, and of bold dimensions. There are stained-glass windows, executed by Mr. John Scott, of Carlisle. The roof is of open timber work, the pitch being an equilateral triangle. The seats are open and uniform; they will accommodate 600 persons. ——In draining on a farm of the Duke of Argyle's, at Inverary, a piece of masonic structure was lately found, enclosing a fountain of mineral water. The field had been known as the "Physic Well Park."——The Messrs. Gibson, of Saffron Walden, have now in the course of erection a Post Office, from designs by Mr. W. Beck; and the committee of shareholders for a new Corn Exchange, as designed by Mr. R. Tress, are about to commence the same. Mr. C. Erswell, builder, of Walden, is the successful competitor in both instances.

RAILWAY JOTTINGS.

THE quantity of food from agricultural and fishing or other shipping sources, poured into the metropolis weekly by railway, says the *Railway Times*, almost surpasses belief. The following quantities of provisions were forwarded *vid* Eastern Counties, during the week ending May 27th:—Beasts, 2,250; calves, 112; sheep, 7,980; pigs, 817; grain, 13,572; flour, 5,327 sacks; meat, 168 tons; poultry, 26 tons; fresh fish, 70 tons; fruit and vegetables, 198 tons; ale and porter, 207 tons; wool, 159 tons; wines and spirits, 78 tons; milk, 20,848 quarts; bread, 79 cwt., and general merchandise, 2,500 tons.——The Admiralty agreed to a crossing of the Clyde by the Caledonian, and Glasgow, Paisley, and Ayrshire Railway Companies, on the conditions that the bridge should consist of only one pier, and 10,000*l.* instead of 8,000*l.* be paid to the Clyde trustees.——The New Holland station of the Manchester, Sheffield, and Lincoln line, on the Humber, opposite Hull, planned by Mr. J. Fowler, C.E., and executed by Mr. Court, is of brick with stone facings, with a pier of about 1,500 feet into the river, built of timber, 30 feet wide, and steps at different parts, for descent into the steamers, according to the state of the tide. Connected with the works, there is also a haven for coasting vessels, 600 feet long and 200 feet wide, with an entrance of 100 feet, and a length of frontage 624 feet. There are also gas works, engine and carriage buildings, &c. This station will be used in course of the autumn for the London traffic to Hull, Beverley, &c. Similar accommodation is wanted on the Hull side, where a floating 'tube' pier has been proposed.——About 60 yards of the sea-wall erecting on the sands near Llanelly, part of the works of the South Wales line, have been washed away by the tide.——The opening of the Fareham and Portsmouth branch of the South-Western is postponed, by the giving way of an arch by which it crosses over a lane, about a mile from Farcham.——Advices from New South Wales state, that the proposed line between Sydney and Goulburn had been surveyed, a length of 132 miles, and the cost of construction estimated at 2,100*l.* per mile.

METROPOLITAN COMMISSION OF SEWERS.

A GENERAL court was held on Thursday morning in last week, No. 13, House of Commons; the Right Hon. Lord Morpeth, M.P., in the chair. Mr. Hertslet read the communications of Mr. Harding, of No. 68, Long Acre, stating that, in spite of all remonstrances, his neighbour, Mr. Wicks, would continue to drain his premises into a most obnoxious cesspool, to the serious annoyance of himself (Mr. H.) and to the interruption of his business; and calling upon the court to put in force the powers of their new Act to compel him to drain into the sewer. The subject led to a good deal of conversation; and it was finally resolved that Mr. Wicks should be summoned to shew cause why he had not drained his premises into the sewer.

Lord Morpeth said he had received a letter from the Civil Surveyors' Association on the subject of the Ordnance survey of the metropolis, which he would now read to the court. The noble lord then read a letter, containing the grounds upon which the civil surveyors rest their application for employment, and to the chief of which we have previously referred.*

Lord Morpeth said, in reference to this subject, he could state for himself, as a member of the court, in this great measure of sanitary improvement, his wish was that it should be conducted in as efficient, economical, and rapid a manner as possible. As to the members of this body, he had no doubt that the men of science in the court had given their claims every consideration.

Mr. Chadwick rose for the purpose of moving that the resolutions passed at a former court in reference to the Ordnance survey, be also extended to the Holborn and Finsbury divisions. Mr. Chadwick then proceeded to combat the objections that had been urged by the civil engineers against the employment of the sappers and miners in the execution of the work. One ground was, that as it was a local work, and paid for out of the local rates, therefore it came within the province of the civil surveyors. According to this doctrine, which was taken on a ground that he had occasion to meet elsewhere, that because a man contributed one penny to the rates, he was entitled to a return of 1*l.*, or whatever price he set upon his own work and considered just. This was nothing less than the old doctrine of parochial political economy, that only the tradesmen of the parish were to be employed out of parochial rates, the soundness of which he had always been obliged to dispute. The associated civil surveyors next contended that it was "against all our national principles and practice to place a military body, raised, educated, and paid for military duties, in competition with any civilians in any profession or trade, to which these may have been educated at their own cost." But had the associated surveyors been educated for making surveys for sanitary purposes? He apprehended that when they were at school, employment for these special purposes could not have been contemplated by them. This he knew, that it was little more than five years ago that he was applied to by the late Professor of Geodesy at the College of Civil Engineers for suggestions as to conventional marks, and the special requirements of surveys for sanitary improvement, in order to have them inserted in an elementary treatise he was preparing; the ground for the application being that the work was so new and special, that it had not hitherto been taken into consideration. Of one member of the association, who appeared with the rest to claim the metropolitan survey as work for which they had been educated, he could say that not more than five years ago he (Mr. Chadwick) had exerted himself to procure work for him as a journeyman carpenter. He referred to the case without intending to disparage the individual, whose aim was meritorious. The question of public policy involved in giving an answer to the objection to the employment of the military on the survey, the question, namely, of the employment of the military in time of peace, was too large to be entered upon there, otherwise it might be shown that the employment of the Ordnance corps on beneficial public work was an example worthy of being considered with a view to its extension to the rest of the army. The example of the employment of this corps in beneficial public work, qualifying them for civil employment, was worthy of public note. Out of the associated surveyors, sixteen, or a minority, were known at the tythe-office as having executed first-class maps. The association offered a guarantee to do the work somewhat cheaper and quicker than it could be done by the Ordnance corps; and although their claims as rate-payers were not entertained, they were requested to furnish detailed evidence of their power to do what they had offered. After a very patient hearing, the committee were unanimously of opinion that the surveyors had failed to give that proof. The work they undertook was much less than that contained in the Ordnance survey; it was, moreover, to be sent in without verification, and the verification under the Ordnance system frequently occupied one-half of the whole time and labour. The committee fully and unanimously believed that they would lose time and money by interrupting the work under progress by the Ordnance and placing it in new hands. In respect to the difference between the Ordnance estimates and the eventual cost, it was fair to observe that as the work advanced, the public appreciation of its importance increased; and new particulars were added, until the survey at the conclusion was likely to be a widely different work from that originally contemplated. In respect to delay, he confessed he thought the northern towns had ground for complaint; but they might remember that the pace of the work was determined on before sanitary measures were in contemplation, and before there was any such pressing need. The committee had been at pains to strike out all non-essential particulars from their requirements. Those only of immediate urgency were included, and it was hoped that the Ordnance Board would direct their force now to step out at double-quick time, for, though the enemy was unseen and silent, their present service was against slaughter as great, ravages as dire, as of any enemy that they would ever be called upon to withstand in war. In conclusion, he trusted the court would confirm the resolutions, as to this district, they had already agreed to in the others, and moved their adoption.

Mr. Hutton seconded the motion.

Mr. Leslie said that the association had made a demand of the survey of the metropolis, but was there any security that its members might hang together a month, or even a week. It was true that they were told that the money was not to be paid until the court were satisfied that the work was well done, but in that case who were to be the umpires? Why, there would be no other course than to fall back upon the Board of Ordnance, who would be required to go over the whole of the work, which step must be attended with great expense, besides the difficulty of finding any person to whom the court should agree, and the association should agree, that the matter should be referred. By the plan adopted the greatest accuracy was ensured, and he hoped the work would not be taken out of the hands of the Board of Ordnance. In conclusion, Mr. Leslie adverted to a letter he had received from Mr. Keating, a civil engineer at Leeds (the letter was read), which declared the Ordnance an utterly incompetent body, whose blundering work was never finished, and whose estimate of 25,000*l.* would in the end at least be multiplied by three.

Lord Morpeth thought that it was desirable, as the work had been commenced by the Board of Ordnance, that the arrangement should not be disturbed. His lordship also said that it was out of no disrespect to the civil surveyors that the work had not been intrusted to them; at the same time he must observe that the works executed by the Board of Ordnance had been finished with an accuracy and precision that had excited universal approbation.

Mr. Chadwick also bore testimony to the ability of some of the members of the association, but there was no guarantee that all the members of that body were equally qualified.

The resolution was then put and carried unanimously.

A communication was read from the Ordnance

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* We have received a letter in reply to our correspondent "W. C." in our last number, for a part of which, in fairness, we must find space. He says:—As to expense, while the fact is uncontroverted that upon the area of Ireland, nearly twenty-two millions of acres, the cost was 10*d.* per acre (the highest charge made by private surveys), I think the less your correspondent alludes to economy the better, especially when it is considered that labour is cheap in that country, and that the survey of the northern province thereof is a most inferior work, being a mixed town-land survey. I have, however, a fact to state that is not generally known, that at the commencement of the survey the military literally *botched* the triangulation of *eleven* counties, which had to be surveyed *de novo*, and every man who has practised in Ireland knows of the numerous errors everywhere to be found in this work of twenty years. Further, it has been altogether suppressed that this survey was not, and could not have been, made without the aid of six district *civil* engineers, under the control of Mr. Griffith, and these officers were severally aided by corps of young gentlemen, who prepared their work for the sappers, and left these worthies little to do but to chain; and I never heard that the cost of the civil department was included in the million paid for the Irish survey. The main question, however, at issue is the right of the Government to swamp a meritorious body of men throughout the United Kingdom by handing over their occupation to a body employed for very different purposes, and thus to take the bread out of the mouths of persons many of whom have spent much time and money in acquiring whatever knowledge they have. I say it is most unjust, and that the talk about economy, and the useful employment of the troops, is a pretence, and nothing more. The Surveyors' Association, to which I do not belong, merely indicates the feeling of the whole profession. They have been defeated for the present, but, at all events, let them persist in exposing the vicious system set up against them.—I am, &c. AN IRISH ENGINEER.

office, setting forth that the Master-General had given orders for the execution of the block plan of the metropolis, in conformity with the request of the Commissioners of Sewers.

The following recommendations of the General Purposes Committee were agreed to :—

That 530 feet of 12-inch sewer be built in Bowling-green Walk, Pitfield-street, estimated 130*l.*

That 7,800ft. of 3-ft. sewer be built from Lower-road, Islington, to Holloway, and that 2,830 feet thereof, estimated at 3,820*l.*, be commenced as soon as a contribution of 3,000*l.* promised by the Birmingham and Dock Railway Company, shall have been paid.

That 400 feet of 12-inch sewer be built in Laystall-street, estimated at 90*l.* conditionally.

Messrs. Acraman, Ashley, Campbell, and Lee, were summoned for irregular drainage in Vauxhall-walk, Lambeth. It appeared from a long discussion, that the surveyors of highways had for a long time past been in the habit of putting down large brick drains in this district, chiefly constructed without the use of mortar, and that the inhabitants had in many cases used them for all the purposes of sewers, thereby entirely superseding the functions of the commissioners.

Messrs. Acraman and Jermyns produced local acts, and contended that this court had no jurisdiction in the matter. This position was unanimously opposed by the commissioners, and it was finally determined that Mr. Acraman (surveyor of highways), should be fined 50*l.*, such fine not to be levied until after the next court, when, if the jurisdiction of the court was acknowledged, and a promise given not to resort to such practices in future, the fine would not be exacted. Mr. Acraman said he would lay the whole case before the Board.

A conditional fine of 10*l.* was also given against Mr. Gwynn, of the Walworth, for irregular drainage.

Miscellanea.

TUBULAR BRIDGES. — In consequence of certain claims made by Mr. R. Stephenson, in a letter to the *Manchester Guardian*, Mr. Fairbairn, "lamenting the necessity which existed for the friendly interference" of Mr. Bateman, says that, in justice to himself, he must "maintain that the working out of the idea, and the development of the principle, as well as the greater portion of the construction," are the results of his labours, "In corroboration of these facts," he adds, "I may further state, that *the original idea* [which he admits Mr. Stephenson to be entitled to claim], was a cylindrical tube, to be supported by chains, to which I was always opposed, and which, I think, can be proved would not have succeeded. In fact, it was only by a long series of inductive reasoning, founded upon experimental research, that the present strength and form of the Conway and Britannia tubes were established. That these researches are my own, and that the conclusions based upon them have been acted upon, cannot be denied; and I am satisfied that, if Mr. Stephenson would reconsider the matter, and allow his feelings fair play, he would admit the fact. The publication of the correspondence, should such a step be found necessary, will, however, prove the accuracy of these statements, whether admitted now or not."

WEAR OF LEAD.—Sir: Seeing in your valuable work, a notice of Professor Donaldson's remarks on lead, and lead-laying, I have enclosed a piece of lead, a fair sample of the state of a whole gutter, which has been laid but eleven months, between two copper flats in the neighbourhood of Belgrave-square. The flats are surrounded by a brick wall, which is compoed and coloured, and no water passes over the gutter from any other building. You will perceive the lead is destroyed in a similar manner to, and presents the appearance of, the bottom of a lead cistern which has not been cleaned for a long time. From a slight settlement of the roof, the gutter had not a proper current, and I find the lead most damaged where the water laid. Perhaps some of your scientific friends may think it worth noticing, and assign a cause for its destruction in so short a time, that the building-public may guard against a similar misfortune (it having caused a great portion of the roof, which is nearly new, to be disturbed).

JAMES JACKSON.

Broad-street, Golden-square.

*** The two metals, lead and copper, being in contact, would produce a galvanic action, which has doubtless assisted in the destruction of the lead.

PROJECTED WORKS.—Advertisements have been issued for tenders by 7th July, for rebuilding the chancel of Salwarpe Church; by 27th June, for repairing the spire of Hinckley Church; by 23rd, for repairing and repewing the parish church of East Norton, Leicestershire; by 26th, for the erection of a rectory-house at Hildersham; by 21st, for the building of St. Ann's Church Girls' Schools at Leeds; by 21st, for the erection of a school and master's house at Newmarket; by 23rd, for building a farm-house at Alstonby (Carlisle); by 24th, for repairing the Russell Institution, Great Coram-street; by 26th, for altering and enlarging the Long-Ashton Union Workhouse; by 29th, for erecting vagrant wards, fever wards, workshops, &c., at the Orsett Union Workhouse; by 21st, for the erection of fever wards at the Linton Union Workhouse; by 24th, for bricklayers', carpenters,' smiths', plumbers', and glaziers' works for one year in St. Marylebone (parishioners only as contractors); by 24th, for a supply of Guernsey, Groby, or Whitby chipping, &c., for St. Marylebone; by 3rd July, for a supply of 18,000 sleepers of larch, hacmatac, or yellow pine for the Shrewsbury and Wellington joint line of railway; by 5th July, for repairing and paving foot and carriage ways in Westminster; by 24th June, for a supply of flints, gravel, and hogging for the parish of St. Marylebone; and by 20th, for painting at the Billericay Union Workhouse.

EMIGRATION.—The *Port Philip Herald* gives the following scale of wages now obtainable in New South Wales :—"Mechanics—watchmakers, 2*l.* 10s. per week; beam-men, 2*l.* 10s.; carpenters and joiners, 6s. and 7s. per day; bricklayers, 7s. and 8s.; stonemasons, 7s. and 8s.; stonecutters, 7s. and 8s.; plasterers, 6s. and 7s.; bricklayers' labourers, 5s.; blacksmiths, 7s. and 8s.; painters and glaziers, 6s. and 7s.; cabinet-makers, 6s. and 7s.; sawyers, 2*l.* 2s. per week. With regard to the expense of the necessaries—Bread, the 4 lbs. loaf, 7d.; beef, 2d. per lb.; mutton, 2d. per lb.; tea, 1s. 8d. per lb.; and sugar, 3d. per lb. Single men could obtain board and lodging at 10s. per week." Lieut. Waghorn, who has done so much to promote internal communication, has just now published a letter to Earl Grey, wherein, in his energetic and enthusiastic manner, he asks Parliament to vote twenty millions to promote emigration, especially from Ireland, to Australia, where labour is much wanted. All classes of men are beginning to look to emigration on a large scale as a step that should be warmly promoted.

THE TIMBER TRADE.—Messrs. Chaloner and Fleming, of Liverpool, in their monthly circular, dated 31st May, observe, that as to the effect of the alteration of the timber duties, in that locality at least, the consumption of *both* of the staple articles of consumption, namely, colonial and Baltic fir, in the log, has been very largely increased, whilst a most astonishing impulse has been given to the production of the colonial spruce deal, by which the Baltic deals have been in a great degree superseded. The natural effect of stimulated production, they remark, has been an accumulated stock abroad, by which prices have been reduced, and this country is now about to reap the full advantage contemplated by the originators of the measure for the abolition of the duties on colonial wood; the pressure under which the timber trade is suffering being clearly traceable to the general depression of trade consequent on last year's monetary derangements. Before the alteration was mooted, Quebec yellow pine was sold at 15d. per foot, when Baltic ruled at 2s. 2d. per foot. At present the latest sales have been at 13¼d. to 14d. per foot for the former, and 16d. to 18d. for the latter. The prospect of demand and importation this year, however, is not encouraging. The business in mahogany during the month has been considerable, but at declining prices, shewing that the general depression has at length reached this branch of trade. Honduras averaged 3d. 15 32 per foot; the larger wood 5½d. per foot. A new import from the Spanish Main, of 39 logs, was sold at 4½d. per foot.

THE COMPRESSED-AIR LOCOMOTIVE.—It is long since the idea was first entertained that atmospheric air, compressed, might be made to act on a locomotive like the wound-up main-spring of a watch; but the same tendency of the power to vary in intensity required some analogous means of regulation, and the want of these means has hitherto constituted an insurmountable obstacle to the practical adoption of this portable and safe, as well as powerful, agency. The Baron von Rathen, however, who has been long and arduously engaged, like another Boreas, in bottling up the winds for future use, has at length succeeded, it is *said*, in overcoming the great obstacles to the management of air compressed,—amongst which obstacles must also be enumerated the heat liberated in compression and absorbed in re-expansion. For the withdrawal of the first, he has invented an apparatus for cooling the compressed air; and for the restoration of the last, an apparatus for exposing it, while expanding, in thin films, to the natural heat of the atmosphere. The inventions, which are patented, also comprise a hydraulic pump for compressing the air, with pistons so acting in mutual relationship as to be continually in a different elevation of the stroke, and thus to obviate the inequality and loss of power in compression. Means for the regulation of the degree of working pressure have been also provided; and a locomotive for common roads, on these principles, is being built at the College of Civil Engineers, Putney.

FRENCH SCENERY AT DRURY LANE.—We went to Drury-lane Theatre on Monday night, for the purpose of seeing and speaking of the scenery, painted by French artists, which, as we understood, had been brought there. A vulgar, senseless, and most illiberal uproar, discreditable in the highest degree to the parties concerned, drove us out,—drove us out by the shame we felt in seeing a section of Englishmen so demean themselves. We must wait till they recover their senses.

PANCRAS WORKHOUSE COMPETITION.—A correspondent wants to know if "the committee of the St. Pancras Workhouse appointed to examine the designs for the workhouse, have yet completed their giant task? and, if so, whether they have committed the rejected designs to the purpose of lighting the office fire? or whether they are still accessible to their owners? as no report of them has yet appeared from the Secretary."

ROME AS IT IS.—On Thursday in last week Mr. Buckingham gave the last lecture, at the Western Literary Institution, of a course on Rome as it is, and brought the subject very forcibly before the minds of his auditors. He treated of things of which every one is supposed to know, but of which many are, in truth, quite ignorant, and gave some interesting particulars of St. Peter's, the Vatican, and the public fountains.

QUEEN'S COLLEGE, BIRMINGHAM.—Steps are being taken to secure to the inhabitants of the midland counties the advantages of a sound yet not expensive university education, with the degrees of bachelor of arts and master of arts, bachelor of civil laws and doctor of civil laws, at the University of London. A department of *civil engineering* will be formed, and the course of instruction will embrace all the principal subjects which are essential to the scientific engineer; and it will likewise be recommended that the students in this department should proceed to the degree of B.A.

THE BUILDERS' BENEVOLENT INSTITUTION.—We wish to direct our readers' attention to the anniversary dinner of this excellent charity, which is advertised to be held on the 19th, and to urge them to take that share in it which the importance of its object demands. We will seek an early opportunity to speak again of it, by which time we shall hope to see the list of stewards doubled at least.

TENDERS

For Sixteen Houses to be built for the Peckham Building Society (opened June 14th). Mr. G. Smith, Architect :—

Little and Son	£10,715
Burton	10,530
Holland	10,455
Curtis	10,298
I'Anson	10,110
Brown	9,967
Grimsdell	9,376
Wilson	8,990

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

TUESDAY, June 20.—Institution of Civil Engineers, 8 P.M.

FRIDAY, 23.—Archæological Association, 8½ P.M.; Architectural Association,

TO CORRESPONDENTS.

"*B. B.*"—If the object of our perusal is simply to be that we may give an opinion, we have not time to do so.

"*Payment of Architects.*"—We hope to speak of this next week.

"*Linerpool Subscriber.*"—The arrangement of a room well fitted to transmit sound is too large a subject to treat summarily. There are papers on sound in former volumes of our journal, but we cannot at this moment refer to them.

"*Z. A.*" "*Amicus,*" "*One of a Society of Architects,*" "*Candidus,*" &c. &c. &c. &c. &c. Our ubiquitous correspondent can do his own work his own way: we beg leave to recommend him to allow us to do so likewise—*verb. sap.*

"*A. B.*"—There seems to be no reason why he may not put the original patentee's name on it; but it would be dishonest to make it appear that the article was *manufactured* by the patentee.

"*A. P.*"—The "Cyclopædia of the Buildings' Act," published at the office of THE BUILDER, will answer his purpose.

"*Subscriber.*"—We do not know an edition which contains the additional Acts. They can be had separately at the Queen's printers.

"*M. Charles V.*"—We shall be happy to comply.

"*Cracks in Oak.*"—A correspondent asks, "what is the *best composition* for stopping sun cracks in oak? The object is to obtain an endurable composition, as the oak has to be exposed to all weathers, and is *not* to be painted."

"*Lover of Justice,*"—The course proposed would not be detrimental to the character of the architect, but, if known, as of course it should be, would prevent other respectable architects from competing.

Received.—"H. W." "R. W. A." (thanks), "H. E. D." "Propugnatur," "G. B. C.," "R. M. P." (shall appear), "B. W.," "J. C." (we have returned the drawings), "R. R.," "C. C." "The High-Pressure Steam-Engine," by Dr. Ernst Alban, Parts III. and IV. (John Weale, Holborn); "Electrical Condition applied to Facts," by Franklin Coxworthy (Peirce, 310, Strand).

ADVERTISEMENTS.

TO ARCHITECTS AND ENGINEERS.

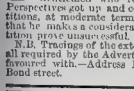
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N.B. Tracings of the external line of the plan and elevation are all required by the Advertiser in executing the Designs he may be favoured with.—Address Mr EDWARDS, 16, Woodstock-street, Bond street.

By Her Majesty's — Royal Letters Patent.

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F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

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N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

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THE UNION PLATE-GLASS COMPANY.—Proprietors—Pocket-nook, St. Helen's; 99, Hatton garden, London; No. 13, York-street, Mosley-street, Manchester; and 30, North John-street, Liverpool; inform Builders and the public generally, that they are now selling ordinary glazing sizes of plate glass from 8s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot.—RICHARD YATES, Secretary.

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June 14, 1848.

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P. POTARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers. Contracts taken for any quantities.

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N.B.—T. A. has several Lots of Dry Cut Stuff to sell at reduced prices for cash, previous to stock-taking at Midsummer.

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Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O G; also Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens and Stoves, delivered, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent.

TO GAS COMPANIES, Gas Fitters, and
Gas Consumers.—N. DEPRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that steady supplies are now in use, defying ingenious gas, and every one of the Dry Meters of Frost. They may be obtained of the Makers, at the most reasonable rates, who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

J. MEACOCK, GAS FITTER, LANTERN
MAKER, and METER MANUFACTURER, No. 7, Snow-hill, London, late of No. 71, Snow-hill, begs respectfully to inform Carpenters and Builders, and the Public in general, that in consequence of his increasing business, he has been induced to take the above premises, and having purchased Machinery, at considerable cost, for the manufacture of Metal Sash Bars, Still Board Plates, is enabled to offer them a considerable reduction of the present prices. Estimates given to any amount for the above, in Town and Country.

IRON FOUNDRY, 9, Brick-lane, Old-
street, St. Luke's.—J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can execute in with Plain and Ornamental Iron Columns, Girders, Lintels, Joists, Bond Irons, Balconies, Window Guards, Wrought Iron Sash Frames, Iron Staircases, Trimmings, Railings, Entrances, Tie Bars, Palisading, Lamp and other Bracket Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Weights, Pulleys, &c.

BAKERS' OVEN WORK, Fire Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Rollers, &c., always in stock.

IRON FOUNDRY,
169, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.
Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
CORNWALL'S PATENT ROOFING, a cheap description of iron work, on fire-proof principles, and the work executed with every attention to quality and cheapness.
Old Metal bought or taken in exchange.
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J. and J. HARTILL'S STOVE, FENDER,
FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 87, WEST SMITHFIELD.
Register Stoves, 4s. per inch.
Ditto Stoves, 3s. per inch.
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3l. 10s.
Brown-Room Fenders 4s. each, as usually sold at 1l. 1s.
All Goods Warranted
J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dean's Lambeth Office.

TO ARCHITECTS, BUILDERS, &c.
R. HENLY and Co., WHOLESALE
IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 190, Blackfriars-road, and 117, Union-street, Borough.
Steel Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3 8s.	£4 1s.	£4 16s.	£5	£5 10s.

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5 15s.	£6 5s.	£6 16s.	£7.	

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Fire-Lighting do., at 3s., and 4s. 6d.
Manufacturer of WOLFE'S STOVES, PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—
Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d., and 9d.
Cottage Ranges, with Oven and Back Boiler, 3 ft., 33s.; 3 ft. 3 in., 38s.; 3 ft. 6 in., 43s.; 3 ft. 9 in., 48s.; 4 ft., 60s.
Self-acting Ranges, with Circular Oven and Back Boiler,
Best Wrought Bars and Bright Fittings,

3 ft., £3 3s.	3 ft. 6, £3, 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp

5d.	6d	8d.	1d.	1s. 4d.	1s. 10d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 14s. per cwt.
Best Town Glue 38s. Do. Scotch, 32s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	13s.	12s. per gross.
6	7	8	9	10	18

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 33, Chiswell-street, Finsbury-square.
Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage-stamp.
N.B. Warehouse closes at Seven o'clock.

WARMING by means of the circulation
of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner. BURBIDGE and HEALY, 170, Fleet-street.

HOT-WATER APPARATUS.—The
attention of architects, builders, and others is respectfully requested to BENJAMIN WILLIS'S superior method of heating conservatories, halls, churches, manufactories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying purposes, &c., and for every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were erected are unanimous in their expressions of satisfaction, also their willingness to vouch for their efficiency. An improved warm-air stove, which requires no brickwork, may be seen at work upon the premises. BENJAMIN POWLER, 61, Dorset-street, Fleet-street.

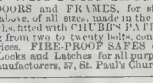
TO ARCHITECTS, BUILDERS, &c.
COPPER-WIRE CORD.—R. S. NEWALL
and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is ready to be supplied to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch-street, W. T. ALLEN, Agent, or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 93, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LAP WELDED IRON TUBES.—W. H.
RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

TO ARCHITECTS AND BUILDERS
CHUBB'S WROUGHT-IRON and FIRE-
PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBBS PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,
WITH SECRET AND SECURE FIXINGS.
THIS CHEAP and USEFUL ARTICLE
obviating the unsightly appearance and insecurity of the common nails, can be had either from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 2, St. Martin's-le-Grand, London, opposite the new Money-Order Office.



T. PUGH'S REGISTERED RIM LOCK.
—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to these new Rim, Drawback, and Dead Locks and Latches, in either brass or iron, possessing great advantages in form, strength, and finish, and also in the quality, and produced at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles. To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of Ironmongery and cut nails, from all houses for the trade; mortice locks and latches, plain, linderlacked, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

FIRE BRICKS.—WARD and HART,
Hondurus Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles, loam, sand, gravel, bricks and tiles of every description. Dutch clinkers, house sand (red and white), moulding ditto, &c. &c. Fire Bricks continually unloading in the river, and a considerable number of purchasers wanting large quantities taking them from the ships.

WORCESTER ENCAUSTIC TILE
WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 3s. 2d. per square foot; "Seconds" 2s. 6d. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required. Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere-road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS
THE AINSLIE BRICK and TILE
MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman), invite attention to their improved Brick and Tile Machines, which will be at work to-day (Saturday), and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrivenor, who has been appointed manager in the room of Mr. John Ainslie, will direct the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly. March 1, 1848. Tiles and bricks may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hills, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pendridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

EMBOSSED FLEUR (REGISTERED).



ILLUSTRATED TRADE LISTS GRATIS,
containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, tops, valleys, and eaves, part of roofs, for plain or chequered paving, for erecting sea-walls, and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 47, Wharf, City-road Basin, London; also, at the Tilleries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

ZINC! ZINC! ZINC!
TO BUILDERS and the Trade generally.

2-inch pipe,	4d. per foot run,	including fixing.	
2½ ditto	4½d.	ditto	ditto.
3 ditto	5d.	ditto	ditto.
3-inch eaves gutter,	3½d.	ditto	ditto.
4 ditto	4½d.	ditto	ditto
4½ ditto	5d.	ditto	ditto.

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER
MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Arcliments of Works, by the Highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces at the present Buckingham, Lords, at Dublin Castle, at Drayton Manor, at new Constitution Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for several years, and as it has now still more fully established its superiority over every other kind of composition, both for beauty and durability, Designs prepared for the decoration of cottages, panelled walls, &c. A volume of enrichments, containing more than 100 designs of the papier mâché ornaments, with a scale, price £1.—Works, 15, Wellington Street North, Strand.

TO THE BUILDING PUBLIC.
FIRST-RATE ORNAMENTS in
ROMAN and other CEMENTS, and PLASTER of PARIS at reasonable prices, consisting of Vases, Balusters, Capitals, Perforated Panelling, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney Shafts, Scrolls, Bed-mouldings, Paterns, &c., &c., 36-inch Centre Flowers and Models, &c., made and moulded in proprietor. An assortment of Shop-front Trusses always ready for fixing. JOHN HERBERT and SON, Modellers, &c., 49, Parker-street, Drury-lane.

ATKINSON'S CEMENT.—WILLIAM
WOOD, Jun., Manufacturer of Roman, Portland and Bath Cement, Lime, Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—the Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT
forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finish d in imitation of stone by the addition of Portland or other stone dust.
It is a cheap and effective substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it is the progress of Fire and the attacks of Vermin.
Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials
received from all quarters prove this CEMENT to possess the very highest qualities, and to be in every respect fresh, and to be consequently superior to every other for hydraulic purposes such as the Builders, Lining of Reservoirs, Cisterns, Tanks, Pedpands, &c. For External Plastering and Ornamental Castings, it is perfect, as the Colour may be Paint, it never vegetates, and will carry from 12 to 14 pounds more sand per bushel than any other Cement.
Manufacturer, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufac-
tured by W. ASPDIN, Son of the Patentee. This Cement has been used for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious quality, and renders more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting power is the best in all or any kind. It is manufactured best for first-rate buildings. For all purposes that Cements are applicable to Engineering, Architecture, or Building, it is used by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland yard, Whitehall.

REMOVED FROM 5, MAIDEN-LANE, TO 22, STEEL-YARD,
To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.
JOHNS and CO.'S PATENT STUCCO
CEMENT, for outside Plastering—perfectly resembles Stone; utterly resists Wet—and is impervious to Damp.—Sets at Paint never cracks or blisters.—Adheres to any substance with all previous preparations as not attacked by Frost or Heat.—Has never imported Foreign Cement—an improved Parker's is the only Cement that is a prompt and perfect remedy for internal Damp Walls; it is very cheap, and very easily worked.
Where cheapness may be obtained.
JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in fact, by producing a pure stone like effect, renders it superior to any other Paint whatever. It is cheap and may be used by any Painter in any climate, even in the most exposed marine situations, as it has been seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel-yard; or of the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.
CAUTION.—Messrs. STEVENS and SON
Patentees, beg to call attention to their fresh and effectual remedy against continuing the fatal cable cement with which errors mouth said title of the said patentees, and to judge them selves MARTIN'S CEMENT, which is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from the chemical action upon it any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—
1. Its qualities as a cement for internal purposes.
2. Unlike other internal cements, its hardness is much enhanced without its entire thickness.
3. Its surface when may be made equal to that of the finest marble NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.
It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and cornices of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor Estate, &c.
For the above purposes, it possesses great advantages over woods being more economical and durable, resisting fire, damp, and vermin.
For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being at the same time much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE, Agents for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

PROTOXIDE PAINT, for Stucco Fronts,
for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

EMERSON'S PATENT CEMENT PAINT.
—This VALUABLE AND ECONOMIC PAINT is ready for use, requires no admixture, and will COVER TWICE the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of PURE PORTLAND STONE; it cannot be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that require to be painted white, as it will remain unsullied in any weather, at a mere trifling cost.—Sold in casks of 1 and ¼ cwt., at 8s. and 12s. each.

PATENT MINERAL PAINT.
A brilliant black paint, invaluable as a coating for SHIPS SIDES AND BOTTOMS, also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, &c., all kinds of outdoor work and being perfectly waterproof, will preserve their surfaces from atmospheric influence, and decay.—requires no preparation, and will dry in a few hours.—Price 9s. per gallon.
PATENT ASPHALTE ROOFING AND SHEATHING FELT.
A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.
GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

The Builder.

No. CCLXXXI.

SATURDAY, JUNE 24, 1848.

IN preceding volumes of our journal we have spoken at some length on the subject of architects' charges, with the view of removing some of the doubts felt on the question, and of inducing consistency, if not uniformity of practice, in this respect.* We invited members of the profession to favour us in confidence with a memorandum of their customary charges, and any remarks that might occur to them, hoping thereby to settle some questions conclusively; and we looked forward to a report on the same subject from a committee appointed by the Institute of Architects to inquire into various points of professional practice. Our hope of a useful result was disappointed in both cases: all who wrote to us were inquirers, not communicants; and the committee of the Institute, who seem to have found the same difficulty in obtaining knowledge of the practice of any number of architects, did in reality very little, and thought it better not to publish the result of their inquiries or any opinions on the matter. It was stated in the annual report,—that "they found the most perfect unanimity to prevail amongst the members on all the more important questions connected with the practice of the profession; on the liabilities and responsibilities of architects; and as to the usual and accustomed remuneration for their services under different conditions. The information thus obtained, and embodied in the minutes of the committee, and available for the use of the members in general, will, it is presumed, be peculiarly valuable on occasions when questions may be submitted to the council for their consideration and advice, as they will now be enabled to deliver opinions with the weight and authority of the profession in general, as represented by the Institute, instead of, as heretofore, merely expressing the opinion of individual members."

We took occasion to complain of this proceeding, and urged that, as it was equally important that the public should be informed on these points as that architects should know what others charged, the council should publish a well-considered report on the subject, and not shrink from asserting their own position and claims.†

They have not done so, and the question remains in the same unsettled position as ever. Whether or not the council do receive inquiries as to what charges should be made, to which they give answers having the weight and authority of the profession in general, we cannot say; but certainly *we* still constantly have queries forwarded to us with lamentations over the fact that they are charging in the dark, and, what is worse, that, large what they may, their employers always seem to think they have the right to object and quibble.

A few weeks ago we inserted one inquiry which is often made to us, in these words:—"In the case of a building not erected by contract, but where, in addition to his customary duties, the architect will have to measure and value the works on their completion, is he entitled to any and what compensation in addition to the ordinary charge of 5 per cent.?"

A difference of opinion exists respecting this. Mr. Joseph Bonomi, who printed his terms in 1794, charged 5 per cent. commission upon the whole expense of the building, labour, and materials, at London prices; for which, to use his own words,—"B. makes the design, furnishes all the necessary working drawings, and four fair drawings, two plans, one front, and one section; makes the necessary estimate, and attends the execution of the work. If a clerk of the works is required (as he should be), he is to be paid by the employer. All the journeys to and from to be paid at the rate of 18d. per mile. If the expense of the building exceeds the estimate given, then B. demands no more than the commission upon the amount of the given estimate, provided, though, that the overplus is not caused by additions and alterations in the design. If it should be desired, after the building is completed, to have it measured and valued, the *expenses attending such measurement and valuation are to be paid by the employer.*"

In the evidence appended to the report of a Select Committee of the House of Commons, appointed in 1828, to inquire into the working of the office of Woods (one of the few documents which can be quoted on the subject), Sir Jeffrey Wyatville states, that in his extensive practice he always received 5 per cent. commission on the expenditure, and *the expense of measuring besides*: he also charged for his journeys. Mr. Henry Harrison, however, on the contrary, said that 5 per cent. was the usual commission, *including* the measuring and making out the several accounts; and the Surveyor-General, in a report dated 1826, stated that Messrs. Soane, Smirke, Cockerell, and others had not in their practice made any charge for measuring the works they have been employed upon, considering this expense to be included in their commission of 5 per cent. Mr. Nash, at Buckingham Palace, received 5 per cent., the Board of Works undertaking the measuring and making out.

What is wanted, however, is the practice of to-day, not of 1826; and this we are disposed to think would be found not uniform. The Committee of the Institute, if we are rightly informed, considered that no extra charge should be made for measuring, if the works were not under contract: that the 5 per cent. should include the design, the specification, general estimate, working drawings, superintendence of the works, and the adjustment of the accounts.

In large works this would prove sufficiently remunerative, but in small works it certainly would not: an additional 1½ per cent. at least should be charged for making out the accounts.

For measuring and making out extras and omissions from a contract, no extra charge should be made beyond the commission of 5 per cent. on their amount; but this commission may fairly be charged on the amount of *both*,—provided (to reverse Bonomi's words), the overplus is not caused by the forgetfulness, inattention, or ignorance of the architect.

We are not strongly wedded to the system of payment by commission, but see no better mode of managing it. Apart from the ground it gives for unjustly charging architects with a desire to swell the expenditure as much as possible, there is this real objection to the mode, that an individual's ability or standing in the profession goes for nothing. As we remarked some years ago,—"Mr. Brown, Jones, (no Inigo perhaps), or Robinson, who makes drawings and superintends the erection of a huge warehouse, costing 10,000*l.* or 15,000*l.*, and Mr. William, of Wykeham, who designs and carries out a gem of a chapel, with an expenditure of a tenth of that sum, are paid very differently by this system; the latter might require scores of drawings where the former needed one, saying nothing of the higher order of mind exhibited, while the remuneration would, of course, be but a tenth part." Not that a true artist—one who loves his profession—would ever think of this, or hesitate a moment between two such works if the choice were offered to him; still this is the pounds-shillings-and-pence state of the case, and does not seem to be wholly correct.

In reply to some other inquiries, we would say that the commission on works by contract "where there is a ruinous difference in amount between the highest and lowest" may be fairly charged on the mean of the whole, and that the value of old materials applied in the new works (the lead for example on a church roof contracted to be restored) should be added to the sum on which the commission is charged.

On more than one occasion we have been asked to say to what extent an architect is liable for orders given to builders. We believe we are correct in saying that an architect is in the position of an agent, and that if, in giving his order, *he names his principal*, no personal responsibility is incurred.

Once more we urge the Institute of Architects to go fully into the inquiry, and to publish a clear and comprehensive report on it, for the information of the public and the guidance of the profession.

* See vol. iii., p. 605; vol. iv., pp. 21, 61, &c.
† See vol. iv. p. 325.

ON GRECIAN ARCHITECTURE.*

IN two preceding lectures which I have had the honour to read before the College, we traced the rise and progress of architecture from the earliest periods of the world, through the patriarchal ages, discoursing on all that could be found to illustrate the subject in sacred history. We then came to the consideration, as closely connected with the destiny of the Hebrew nation,—of one of the oldest countries in the world,—of one, which, though changed in its language, its observances, and its religion, yet retains its grand and imposing memorials of architecture: in its pyramids, no longer the tombs of their once mighty builders; in its majestic and solemn temples, no longer frequented by the deluded worshippers of a heifer, or the believers in the divinity of a bird, a fish, or a reptile.

We, indeed, only glanced at the architectural wonders of Egypt in speaking of that ancient country, nor is it intended now to enter into a detail of the style of its temples, highly interesting as the inquiry would prove, beyond the necessity of shewing an intimate connection between the architecture of Egypt and that of Greece, to which the present lecture will be chiefly devoted.

When we find that some of the most celebrated men in Grecian story travelled into Egypt, as Homer, Pythagoras, Lycurgus, Solon, Herodotus, Plato, and many others, that much of Egyptian lore was, therefore, introduced into the legislation, the poetry, and the religion of the Greeks, we must not be surprized to find also that their architecture was in some measure derived from the same source, from that country, in fact, which, in the days of Cecrops as in the age of Moses, had the reputation of being the wisest, the most refined, as well as the most skilful of nations. The great divinity of the Athenians—the virgin-goddess and protectress of their city—was Egyptian; and not only Minerva, but many of

* Read at a meeting of the Freemasons of the Church on the 13th of June, the Rev. G. Pocock, LL.B., in the chair.

the personages of the Greek mythology, can be traced to the land of the Pharaohs.

It has been a fashion with some writers, following the example of an ancient author, to derive classic architecture from timber construction. I confess that to me the connection is not sufficiently made out; it is not carried through in a clear and satisfactory succession; links are wanting, and can never be supplied in the chain of evidence; the fancy is appealed to at the expense of sober reason, and hence I cannot perceive the resemblance between a temple of Minerva and the hut of Pelasgus.

The "sylvan hypothesis" has been actually revived within the last few days, for in a work recently published we find this announcement —"To deny that the purest ecclesiastical Gothic exhibits the most striking similitude to the interlacing of groves and trees, as well as to the construction of wicker-work, were as unreasonable as to shut our eyes to the marked analogy between the Grecian Doric temple and the wooden hut."* The refutation of the former part of this opinion, the revived dogma of Warburton and Sir James Hall, may be safely left to our excellent secretary, to whose work on "Ancient Gothic Churches" our society must rejoice to find that ample justice has been accorded: it is to the latter part of this revived but untenable opinion that my present observations will apply.

We offer no violence to our convictions if we admit the obligations of the Greeks to the Egyptians in architecture, if, knowing how much in all other respects the former were indebted to the latter, we also acknowledge that they did not disdain to derive from that ancient people much, at all events, to serve as hints in the arts of construction.

Instead, therefore, of forced attempts to plan a pure Greek temple, with all its details, upon the hypothesis of its prototype being found in trunks of trees ranged in rows, with beams and cross-beams representing architraves and triglyphs, aided, moreover, in the working out from other sources that which could not be obtained in types of vegetable nature, by giving to one order the proportions of a man, to another that of a female; yet, strange to say, in these the plan of nature is reversed, for the manly example is shorter than the womanly type,—instead of these unsatisfactory theories, let us turn to actual experiences of art yet existing before our eyes, in which we shall find evidences too strong to be resisted of the true origin of Grecian architecture.

One of the earliest arrangements of the Greek temple was, without doubt, that which has in front the portico in Antis, that is, the columns are placed between pilastrated ends of the flank walls, consequently such temples were not peripteral, as was commonly the case in later times. This was the usual arrangement of the temples in Egypt: there is not, to the best of my recollection, an example known of a peripteral temple in that country; and thus the resemblance is very striking that exists between the Greek temples of Themis at Rhamnus, of Diana at Eleusis, and those at Hermonthis, and Tentyris, in Egypt. We may here observe that the strange and appalling mysteries of Ceres, observed in her temple at Eleusis, were of the same nature, and derived from those of the goddess Isis, which were practised in the Egyptian temples. As trees do not grow square, we certainly can find no types in them of the antæ, which are, in truth, the natural terminations of the walls.†

No derivation merely from the trees of groves could suggest an arrangement of the plan of a temple, but we find in many respects the Greek temples resembling those of Egypt. In each there was the same precaution taken to exclude the profane crowd; in each the inner sanctuary or shrine of the divinity was to be approached only by the privileged few, the appointed and hereditary guardians of the fane; and probably every sacred building in Greece, had, like those of Egypt, its peribolus, or sacred wall of enclosure, to prevent the too near access of the uninitiated; for in nearly every known example of a temple, traces are discovered of this surrounding wall. Again the same determination to throw a veil of secrecy and solemnity over the religious observances, caused the sacred buildings in both countries to be alike deficient in light, to be alike in their interiors involved in the gloom and mystery so favourable and so necessary to carry on deception; and consequently we hardly ever find an equivalent for windows in temples, for in almost every instance the light was only admitted through the portal.

Little is known concerning the Eleusinian mysteries, as the initiated were obliged to contract a solemn engagement to observe secrecy, and those who revealed their knowledge were looked upon as profane wretches, with whom it was not safe to hold any intercourse; thus Horace exclaims (Od. ii. lib. iii.)—

"Beneath one roof ne'er let him rest with me
Who Ceres' mysteries reveals;
In one frail bark ne'er let us put to sea,
Nor tempt the jarring winds with spreading sails."*

Again the absence of everything like timber construction is seen in the closeness with which the columns are clustered together; in both countries this feature is remarkable, the result entirely of stone and not of timber combinations, for a beam of wood will span a much larger opening with safety than can be attempted in stone, and we must also recollect that Egypt had no timber-trees. But what do we find in her architecture, but constantly recurring imitations of her natural productions as will presently be seen; but whilst these are introduced in the way of ornamentation, no trace can be found of their adoption as hints for construction, for which indeed their fragile and yielding forms would be quite inappropriate.

Having thus far noticed the absence of every thing like timber construction in Egyptian buildings, let us proceed to ascertain how far an imitation of nature *did* prevail in the details. The fact is too clear to admit of the slightest doubt upon the point, that Egyptian columns were only enormous bundles of the reed or bulrush of the Nile, tied together at intervals by bands of twigs, exactly after the manner of the hoops of a beer-barrel. We need not travel to Egypt itself for proof; we have only to go as far as the British Museum, where we shall see a column of dark granite, which is an imitation of reeds banded together, and the capital has a remarkable likeness to that of a Grecian Doric column:—a flat tile, the abacus of all nations, pressing strongly upon the supporting column, which is tied closely round the neck, near the top, has caused the reeds to bulge out, almost in the very form of the Echinus. This peculiar shape of capital is very common in the temples of Egypt, and may be considered, if I may use the expression, as the Doric example of that country, as the capitals which have the heads of Isis may be called the Ionic exemplar, and those which have foliated copies of the palm and lotus may be looked upon as the Corinthian specimen; and I am inclined to find in these varieties the real origin of the Grecian, Doric, Ionic, and Corinthian, rather than in the pretty, but baseless fables of matronly ringlets and virginal baskets: and here we may observe, in refutation of the opinions which would ascribe the invention of two, at least, of the three orders to persons bearing certain names like them, that the profoundest Greek scholar of the day, the Bishop of St. David's, considers "Æolus, Dorus, Achæus, Ion, to be merely fictitious persons, representations of the races which bore their names." (Hist. of Greece, vol. 1. p. 107.) Thus another favourite dogma falls to the ground.

It surely cannot be considered as too great a tax upon our understanding, to believe that among the travellers who resorted to Egypt as the great nursery of the arts and sciences, in addition to the poets, philosophers, and legislators, who flocked thither to imbibe lessons of wisdom and instruction, there were also those who would be impressed with the majesty, the vastness, and the execution of the temples and monuments of the country, who would also, on returning to their own land, then only emerging from recent barbarism, seek to introduce imitations of what had appeared to them so grand, so beautiful, and so worthy of adoption.

Nay, we may be inclined to think that the earlier structures of Greece, of which not one vestige now remains of consequence, the temples which existed before the Persian invasion, may have been built very closely after the Egyptian manner, with much of that stiffness and formality and want of grace which marked alike their architecture and their sculpture; and we know that in the latter art, the productions of the early sculptors of Greece were of a most rude and primitive character.

So many of the Egyptian ceremonies and customs were received at Athens, that it is now to be wondered at, in the city founded by the Egyptian Cecrops, that one of their writers upbraids the Athenians that "They had made their city to be Egypt instead of Athens."—"But," to use the words of one who has written so admirably of Greek taste that it is impossible to express the sentiment with more force than in the language of the noble writer Lord Aberdeen, "in thus mentioning the obligations of Grecian architecture to the practice of Egypt, the statement must be understood as limited to the mere mechanism of the art, and not as intended in any degree to detract from the just claims of the Greeks to originality:—if indeed the discovery of all that is admirable of all in which its beauty and attractions consist, can sanction such a claim, we may safely place this art among those which they most distinguished by the fertility of their invention as well as by the unparalled beauties of their execution."

Another author, Heeren, has, in one sentence expressed a volume of just criticism:—"What the Grecian touched became gold, though had before been of baser metal." (History of Ancient Greece, p. 45.)

In the early ages, men had neither temples nor statues for their gods, but worshipped towards heaven in the open air, and chiefly on elevated spots, of which we find such frequent mention in sacred and profane history. The Persians in particular, even in times when temples and statues were common among other nations, had none, "not thinking," says Herodotus, "the gods to be of human shape as did the Greeks;" and to this difference of opinion we may ascribe the motive of the monarch Xerxes, in burning and destroying the temples of Greece, against which his anger was particularly directed, for Cicero tells us that the Persians thought it absurd to confine the gods within walls, "whose house and temple was this whole world,"—"quorum hic mundus omnis templum esset ac domus."—*Lib. II. De Legibus.*

How finely does Æschylus, the warrior bard, who had distinguished himself so greatly in the glorious battles of Marathon, Salamis, and Platæa, make the ghost of Darius, in the drama of "The Persians," ascribe their defeat as a just recompense for having profaned the temples, and

"in vengeance for their proud
And impious daring: for where'er they held
Through Greece their march, they feared not to profane
The statues of the gods; their hallowed shrines,
Fired from their firm foundations, to the ground
Levelled their temples."

But, like the fabled Phœnix reviving from its ashes, Greece arose from amidst the desolation of her hearths and the destruction of her altars, with a splendour and purity of architecture such as the world had never seen, and after the signal and glorious revenge which the Greeks obtained at Salamis, Platæa, and Mycale upon the myriads of their invaders, and when the Persian host had turned their backs for ever upon Greece in flight and disgrace, the Athenians had breathing-time to turn their attention to the restoration of their beloved fatherland, and the rebuilding of their desecrated and ruined temples.

It was fortunate for Athens, that at this time two men flourished among her denizens, to whom that city, and indeed the whole world was so greatly indebted for directing the public taste in the right channel.

The conclusive defeat of the Persians occurred 480 B.C., and "after these times," says Diodorus (b. xii.), "for the space of fifty years Greece received a great increase of prosperity, for, in these times, the arts, by means of t

* "Ancient and Modern Art, Historical and Critical; by George Cleghorn."

† When Leontychidas, king of Sparta, visited Corinth (490 B.C.), on seeing the ceiling of the house in which he was staying ornamented with sunk panels, he asked his host f the trees in Corinth were naturally four-cornered?

* Socrates, Diagorus, Æschylus, and Alcibiades, all incurred disgrace and danger for speaking too freely of the mysteries of Ceres.

affluence which prevailed, were advanced, and the most renowned artists flourished."

The conqueror at Mycole, Xantippus, head of the illustrious family of the Alcmæonids, whose wife was a descendant of the famous Cleisthenes, was the father of one who, distinguished as he was for birth, for valour, and wisdom, was no less so for the control he exercised in matters of the highest art and taste. This was Pericles, whose name cannot be mentioned without honour,—a name before which that of a Mecænas or a De Medicis must give way, high as those great men deservedly rank for their support of the true and beautiful in art as well as in science.

But the generous patronage, the high-souled taste, the munificent love of art of a Pericles, would have availed but little without the corresponding energy, the unrivalled genius, the sublime conceptions of a Phidias.

To these two great men, inseparable in their well-earned immortality as they were in their life-long friendship, is the world indebted for the most perfect specimens of architecture ever produced, whose influence has for more than 2,000 years been felt in every civilized country.

We must not look upon Phidias only as the great sculptor,—the greatest, perhaps, that ever lived,—but he seems to have had the designing, and certainly the direction, of all the vast works projected by Pericles. Thus Plutarch in his life of that statesman says, "It was Phidias who had the direction and superintendence of all these works for him, although great architects and excellent workmen were employed in erecting them."

That one of the architects engaged upon the Parthenon, viz., Ictinus, was an artist of consummate skill and taste, we are quite certain from the knowledge we have of another work of which he was the sole architect, namely, the Temple of Apollo Epicurius, at Bassæ, in Phigaleia, in which it does not appear upon record that Phidias had any share in the design, although the sculptures which belonged to it, illustrating the favourite theme of the battles of the Centaurs and Lapithæ, and which are now in the British Museum (known as the Phigalian Marbles), may be the production of some of the great master's pupils, as they must be of his age.

On the death of Cimon, 448 B.C., Pericles became for the next twenty years, until his own death in 429 B.C., the undisputed ruler of Athens; and thus left without a rival in power, with enormous resources at his command, and with his country's soil no longer polluted by the tread of the detested invader, he turned his attention to the restoration of ruined temples, or the construction of new wonders of architecture in different parts of Greece. It was, however, on the Acropolis that he bestowed his chief care;—on that sacred rock, the early citadel of Cecrops, the favoured abode of the heaven-born Pallas, the one holy spot in which the affections of the Athenians centred.

It seems to be quite recognised that an earlier temple than the Parthenon stood on the Acropolis,—that which was called the Hecatompedon, from its extending 100 feet in front. This temple was burnt by Xerxes, and partial remains have been found. Of its architecture we have no means of accurately judging. It is of its successor that we have now to speak—the new Hecatompedon—or, as it is more commonly called, the Parthenon.

Built entirely of the purest white marble, towering in its lofty aërie above all the city, the temple of Minerva rose conspicuous among a throng of noble structures. Raised on a platform of three steps, forty-six columns, each at least 6 feet in diameter, surrounded the cell of the building. Of these, eight formed the front of each portico, making a breadth of 101 feet by a length of 227 feet, in continuous and unbroken lines,—the great projection of the columns from the walls of the temple, and their contiguity to each other, producing a wonderful display of light and shade. In addition to the architectural effect of a building like this, 65 feet in height, we have to name the matchless sculptures which adorned the pediments and the friezes. In one of the former the Athenians saw represented the famous contest of their goddess with Neptune, for the privilege of naming their city; on the other, the chief deities of their mythology were assembled around the cloud-compelling Jupiter, to witness the introduction of his daughter to the gods.

But the great decorations of the temple, as illustrating its purpose, consisted of the famous friezes which extended for more than 500 feet, and contained upwards of 600 figures; these represented the Panathenaic procession, which twice a year passed round the walls of the building, and was therefore so appropriately sculptured upon it. But these sculptures, together with the celebrated metopes which adorned the outside, are so well known to us under the name of the Elgin marbles, that we need not describe them, and the models of the Parthenon, as in ruins and restored, also in the British Museum, render an account of the temple here unnecessary. To give some idea of the value of the Elgin marbles, it may be stated that Nollekens considered the Theseus as fine a work of art as the Apollo Belvidere, whilst by Westmacott and Rossi it was thought superior.

Within the area of this perfect shrine was placed the statue of the goddess herself, that statue which was the master-piece of Phidias, and called chryselephantine, because composed of ivory and gold, for nothing less costly than the most precious materials would in this instance satisfy the Athenians; the value of gold employed was equal to 130,000*l.* of our money. This statue, which existed till the days of Julian the Apostate, a period of 800 years, and which was 37 feet in height, was guarded from the sun and weather by a magnificent awning or veil, the costly Peplus, which was the work of the choicest Athenian maidens. This statue is lost, as well as five others of the same goddess, made by the same artist. One of these, in bronze, called the Minerva Promachus, and the wonder of the age, was 50 feet high, and placed outside the temple upon the rock of the Acropolis, it would be seen at a distance of 25 miles by the homeward-bound mariner, as he rounded the promontory of Sunium. But if we have to deplore the loss of these and other noble works of Phidias, we may rejoice that much is spared to the world of what may be taken for granted to be from his design, and we would fain believe, in some degree, from his execution also.* The Elgin marbles comprise the principal part of the sculptures which once adorned the walls of the Parthenon, and in looking upon these unrivalled performances we can hardly wonder that a goddess to whom the homage of so much intellect was paid, in whose behalf the intelligence of the most gifted was engaged, should receive at the hands of a people so prone to superstition as the Athenians, the honour due only to a being of a really divine nature. Such was the excess of their blind and erring zeal, that in their fear lest they should omit to pay divine honours to any of the countless thousands of their fancied and dazzling mythology, they even dedicated altars to unknown deities, and hence we perceive the peculiar force of that stern rebuke of the great Apostle St. Paul when he sojourned at Athens, "and his spirit was stirred within him," to use the expressive words of the sacred writer, "when he saw the city wholly given to idolatry." Standing in the midst of the Areopagus,† that mount so sacred and so solemn in the eyes of the Athenians, surrounded by the philosopher and the statesman, the stoic and the sage, as well by the trifler and the scoffer, with the idolatrous temples in full view, the undaunted Apostle thus addressed his hearers—"Ye men of Athens, I perceive that in all things ye are too superstitious. For as I passed by and beheld your devotions, I found an altar with this inscription, 'To the unknown God.'"—Acts xvii., 16, 22, 23.‡

G. R. French.

Manufacture of Steel.—A New York paper announces that Mr. David Isham, a machinist, of Hartford, Connecticut, has invented a process by which a ton of iron can be converted into steel, of the best quality, in twenty minutes, in place of six to ten days.

* The thirteenth metope in the British Museum is considered to be from the hand of Phidias himself.

† Arco-pagus, *i.e.*, the Hill of Ares, or Mars—

"And here their hallow'd altars rose to Mars,
Hence its illustrious name the cliff retains,
The Mount of Mars."

Eumenides, by Æschylus.

‡ The remainder in our next.

AWARDS OF OFFICIAL REFEREES.

CHASES IN PARTY WALLS—CHIMNIES.

With regard to a chase for a fire-place now in progress of building, cut out of the party wall situate in Berkeley-square, in the district of St. George, Hanover-square, Westminster, 3½ feet deep, 2 feet 8 inches wide, and 3 feet 11 inches high, the district surveyor laid an information against the same, as an irregularity, the said chase being wider than 9 inches in the said wall.

The official referees awarded,—"That the cutting which has been made in the said party wall, is not such a cutting as is by the said Act allowed to be made in any party wall, whatever the thickness thereof may be, and is contrary to the Metropolitan Buildings Act; but we are of opinion that, with the consent of the adjoining owner, or the proper authority in default of such consent, it will not be contrary to the said Act to make the proposed chimney in, or add such chimney to, the said existing party wall, so that the same be done as directed by the rules of Schedule F of the said Act, 'with regard to chimnies and chimney-stacks, except angle chimnies, in reference to the construction thereof,' and by the modification of such rules dated the 7th day of April, 1846; that is to say, that such jambs and breast do not project more than 9 inches before the face of the wall to which the same shall adjoin, and that the whole of the new brickwork inserted must be in cement, and be in every course properly bonded and connected with the old brickwork; and if in making such a chimney so corbelled out, the inside of any chimney or flue is in any part to be at a distance less than 8½ inches from the other side of the same wall, then the brickwork of such wall must be removed throughout the whole thickness of such wall in such part thereof, and new brickwork inserted as aforesaid. Nevertheless, no chimney may be formed in any party wall, unless the back of the opening thereof be 8½ inches thick from the hearth, to the height of 12 inches above the mantel, nor may any flue be formed of less diameter than 8½ inches."

PLACES OF PUBLIC RESORT.—STAIRCASES.

With regard to a building known as the Britannia Saloon, situate in the district of St. Leonard's, Shoreditch, a requisition was received, setting forth that the occupier, Mr. Lane, was about to remove a small and inconvenient wooden staircase leading to the upper part of the said building, and to erect in lieu thereof a wider and more convenient staircase, and that the district surveyor had objected to the said proposed new staircase as being contrary to the Metropolitan Buildings Act, in so far as it was not to be wholly made of and supported by fire-proof materials. At the hearing, it appeared that it was intended by means of the said staircase to give access to a new addition to a public gallery, and that room would be contained in the said new addition for from 200 to 250 persons, and that the whole of the said gallery when enlarged, would contain about 1,000 persons: but the said Samuel Lane contended that the rule contained in Schedule C, part 6, of the Metropolitan Buildings Act, did not apply, inasmuch as the work proposed was only to substitute a new wooden staircase for a wooden one already existing. The official referees awarded that "inasmuch as the addition proposed to be made to the said gallery is intended for the assemblage of persons in large numbers and for public congregation, either such addition or the said gallery when enlarged thereby, must have accesses and stairs or other ways of ingress or egress within the said building, wholly supported, constructed, formed, made, and finished fire-proof, and that if the existing stairs be retained or be reinstated of wood, it will be necessary to make new accesses and stairs in conformity with the said Act for the service of the said intended addition."

Fire through Plumbers.—The destruction by fire of Sandon Hall, Staffordshire, the seat of the Earl of Harrowby, is ascribed to plumbers who were at work on the roof. The plumbers, as a body, have a heavy charge to answer for in respect of similar occurrences, which should make them, as individuals, much more careful than they usually are.

THEORY OF THE ARCH APPLIED.*

IT is hoped that the description and examples given last week, are in sufficient detail to render the use of the table apparent; in the following examples results only will be given. In the three first, arches of the dimensions of those of three of the boldest bridges which have ever been constructed are compared with regard to the stress upon their materials. The depths of the permanent loads and allowance loads over the crowns are taken respectively, at 2 feet 6 inches, and 3 feet, in all of them. The arches are supposed to be so proportioned as not to be stronger at the crowns than at any other parts.

The dimensions of the centre arch of the bridge of La Santa Trinita, at Florence, built by Ammanati are, span, 96 feet; rise, 16 feet; height of keystone, 3·17 feet. Its form, though slightly pointed, as it consists of two intersecting parabolic arcs, does not vary greatly (according to Mr. Cresy, from whose Encyclopædia the above and following dimensions have been copied), from a semi-ellipse. Supposing it then to be elliptical (to avoid broaching the proper formula, however simple it may be). By formula (4), if T. = 3·17 + 2·5 + 3 = 8·67, S = 886·25 $C = \frac{886{\cdot}25}{3{\cdot}17} = 279{\cdot}5$.

The material is white marble, the modulus of fracture, 5,058 feet, and $\frac{5058}{279{\cdot}5} = 18$, so that the actual pressure upon the materials of such an arch so loaded would be only an eighteenth part of what would crush it, and there would be an excess of resistance to crushing equal to seventeen times it own pressure.

The bridge built at Maidenhead by Mr. Brunel, is semi-elliptical; its arches have a span of 128 feet, rise of 24·25, and depth of arch at the crown of 5·25 feet. If T = 5·25 + 5·5 = 10·75, by formula (4) C = 246·7. The arches are of brick, the modulus of fracture of which material has been estimated at 858 feet, $\frac{858}{246{\cdot}7} = 3{\cdot}45$, and 2·45 is the ratio of the excess of strength.

Chester-bridge, built by Mr. Harrison, has a segmental arch of about 90 degrees, the radius being 141·4 feet, and the span 200 feet: the key-stone is 4 feet deep. If T = 4 + 5·5 = 9·5, and F = 28 feet (fig. 3), by formula (3) C = 385·7 feet. If 5,058 feet be taken for the modulus of fracture, as was done with regard to Ammanatis' bridge, $\frac{5058}{385{\cdot}7} = 13{\cdot}1$, and the excess of its resistance is as 12 to 17 as compared with La Santa Tritrita-bridge, and as 12 to 2⅓ as compared with Maidenhead-bridge. If 9,581 feet, the reputed modulus of granite be taken, $\frac{9581}{385{\cdot}7} = 24{\cdot}8$, and the comparative numbers are as 24 to 17, and 24 to 2·5. Notwithstanding the boldness of the Maidenhead-bridge, its strength would appear to be excessive if it were to be compared with some structures which depend for strength upon the tenacity of cast-iron.

An arch between the towers of Lincoln Cathedral has been considered a prodigy: its span is 28 feet, versed-sine 9 inches, depth at the crown 11 inches, and breadth 1 foot 9 inches; the linear measure of the horizontal stress is only about 100 feet. This, and such-like arches, from their want of mass and liability to great vibration, are quite unfitted to resist the action of any considerable impact.

It will be useful to consider the case of an arch with equal loads upon the haunches, and with the curve of equilibrium symmetrical. Edwards, a Welch mason, who obtained great reputation as a bridge builder through dearly-bought experience, having built a bridge of three arches over the Taafe, in South Wales, which was destroyed by a flood, was bound by his contract to reinstate it. In order to avoid a similar accident, he determined to span the river with a single arch out of reach of the waters. The arch which was chosen by him was a segment of a circle of about 106 degrees, the chord being 140 feet, the versed-sine 35 feet, and the radius about 87·6 feet. The thickness of the arch was 2 feet 6 inches. When the bridge was complete, with the exception of the parapets, it failed, and the unfortunate mason had to commence his work a third time. He perceived that he had overloaded the haunches, which being flattened and descending, gave a greater curvature to the crown, and caused it to ascend. To remedy this defect, not varying the form of the intrados, he constructed the spandrils of his third bridge with hollow spaces in the shape of barrels, and was at length successful. Had this intelligent practical man possessed the knowledge of a Rennie or a Southern, and examined his second design by the principles of equilibrium, he no doubt would have discovered in what respect it was faulty.



Fig. 6.

Let an arch of the above dimensions (fig. 6) be supposed backed up to the level of the top of the key-stone. By the first formula, the horizontal stress is as 509·42 feet, its linear measure is 203·7 feet; a pressure such as this, though not sufficient to crush, would, in all probability, compress the materials; it is important, therefore, that it should be distributed equally (for if one side of an arch be compressed the opposite side will be relieved from pressure, and the joints perhaps open), and this would be the case if the curve of equilibrium were included within the thickness of the arch, though the less it approaches the extrados the better. It should be mentioned that no account is ever taken of the slight degree of cohesion which exists by means of the cement between the beds of the voussoirs; Edwards might, perhaps, have prevented his arch from springing, for a time, had he tied the key to the springing stones with strong iron bars or by cramping the joints where likely to open—if he, a good practical mason, could ever have thought of so miserable a substitute for good construction.

The ordinates of the equilibrial curve, from 5 to 45 degrees, calculated by formula (7), are ·22, ·62, 1·51, 2·97, 5·14, 8·32, 12·36, 17·61, and 23·96 feet, and are so laid down in the figure, which shews that the thickness of 2 feet 6 inches given to the voussoirs would not be sufficient to include the curve if the extradossing had been carried up regularly to the level supposed. The variation is so great, that it is difficult to conceive how such a bridge could have been constructed nearly to completion (notwithstanding the support of a tolerable centre), without recourse being made to the expedient of loading over the crown as the lower part of the extradossing was proceeded with to preserve, in some degree, the equilibrium, and it may be supposed that when this resource failed, with it the bridge failed. Had Edwards increased the thickness of the voussoirs towards the abutments, in the manner now generally practised, there is no doubt that his second bridge would have stood, notwithstanding the injudicious loading over the crown. In this case there are five points of fracture, one at each abutment, where the curve of equilibrium intersects the intrados, one over each haunch at the point of the extrados, most distant from the curve of equilibrium, and one at the underside of the vertex of the arch. It is at these points that fracture would be *likely* to occur; they may be defined as points of partial or greatest pressure; for it does not necessarily follow, that such an arch so loaded would be broken or even change form; this depends upon the resistance of the materials near those parts, but they would be more strained than those on the opposite side of the thickness of the arch. The curve of equilibrium has been sometimes denominated the line of resistance; it is evident from the way in which it is determined (from the pressure), that it is not related, but rather opposed to the resistance of the materials; it is sometimes, and with propriety, called the line of pressure.

Before taking leave of the subject, a few words with regard to abutment walls, upon whose stability the stability of arches must depend, will not be out of place. Two of the methods which have been employed to determine the thickness of their bases will be adverted to. It is assumed in the following methods that an abutment is a perfectly solid mass, whose outer edge (*s*), fig. 1, is a fulcrum, about which the horizontal thrust would cause the abutment to be turned, and to be lifted from its foundation, if the momentum of the thrust were to exceed the momentum of the gravity of the abutment (V), and the vertical momentum of the arch, and load upon it (W). The least thickness, therefore, which can be given to the base, upon this supposition, is where the $(st) \times w + (ru) \times V = S \times (ot)$. If the wall be rectangular, as represented in the figure, $t\,q = 40$ feet, and S = 201·375, the thickness (*st*) determined by the above equation is about 3 feet 3 inches; with this thickness only the wall would be in the same condition of equilibrium as a mass (*qrsv*), so overhanging its base that a perpendicular line from its centre of gravity would coincide with one of its edges (*s*). The builder, if he choose this mode of calculation, must be mindful of this circumstance, and will do well to double (at least) in practice, the theoretical base.

It is now usual with large arches to incline the joints of the abutment stones like the joints of an arch, and the second method adverted to rather squares with this excellent practice, as it consists in continuing the curve of equilibrium through the abutments to the foundation, account only being taken of a portion of the materials intended to be eventually employed, and as though that portion were a continuation of the arch. If a builder choose this method, he may find any number of ordinates upon the principles before explained.

This method is illustrated in Fig. 4, the only part taken into account in calculating the ordinates (*mn*), (*op*), (*qr*), is that in the form of a flying buttress between (*i*) and (*q*) 6 feet deep; they were taken at 10 feet apart, and were found to be respectively 16·4, 25, and 34·9 feet.

The curve of equilibrium being traced to the foundation, the question arises as to the ability of the foundation to resist the pressures to which it may be subject, a matter rather for the exercise of a builder's practical knowledge in each particular case, than of calculation.

The principles applied above to the arch are of universal application, and have long been familiar to the well-instructed architect and engineer. The artisan who has to construct with the work of his hands the designs of others, should also be acquainted with them to enable him to do his office with security to himself; and they ought to be a standing subject for illustration at all mechanical institutions intended for his benefit. The principle of equilibrium in relation to the resistance of materials is due to the great Galileo, who, in his work* upon the subject published in 1638, designates his invention as a new science. The doctrine of equilibrium, relating to weight only, is as old as the time of Aristotle; with this, the architects of the middle ages, if we may judge from their works, in which a much nearer approach is to be observed to an exact equipoise of the masses than in any ancient or modern structures, appear to have been thoroughly acquainted. As to the resistance of the materials introduced into the estimate by Galileo they would not be much behind us in knowledge; for it must be confessed that our knowledge at present of the resisting qualities of stones, &c., derived from experiments, is very imperfect, and that the numbers, measures, or moduli, as they are called, derived from them must be considered rather as relative than positive.

J. P. W.

* See p. 295, *ante*.

* The principles explained in the portion of this remarkable work, entitled, "De Motu Locali," have produced great ample results under the treatment of his successors Newton, and Newton's followers. That Galileo was perfectly aware of the importance of his inventions is evident from the following postscript, as well as from a parallel passage in the printer's preface:—"Observatum est missilia, seu projecta, lineam qualitercunque curvam describere; verumtamen eam esse parabolam nemo prodidit. Hæc ita esse, et alia non pauca, nec minima scitu digna, demonstrabuntur: et quod pluris faciendum fore edidus et accessus ad amplissimam, præstantissimamque scientiam, cujus hi nostri labores erunt elementa, recludet in qua ingenia meo perspicaciora additiores recessus penetrabunt."

STOPPAGE OF WORKS.—A WORD FOR THE WORKMAN.

THE remarks which have appeared in our journal on the unwise and unjust stoppage of works by Government, adding hundreds to the number of suffering operatives, have been loudly responded to in many quarters. Our brethren of the press gave increased circulation to them, thus shewing an appreciation of the truth of what was said; and Government, if they are wise, will not disregard the statements. "Men cannot starve, and see wives and children struggling with all the privations of destitution, and not feel that their existence ought to be one of the cares of the Government." Instead of suspending works at such a moment,—works, too, of utility, of necessity,—they should rather increase them. If economy must be practised (and let us tell them that IT MUST BE; the nation have said it, and the nation will see it carried out), let it be at the expense of those who are receiving their thousands a year for doing nothing,—not to the ruin, body and soul, of the poor artisan, to whom want of employment is destruction. The powerful satirist *Punch*, last week, taking up our words, shewed in clear colours, by a dozen lines, the selfishness of the proceeding. It would be easy to shew that it is both wicked and shortsighted. Earnestly we exhort the Woods and Forests to reconsider the subject.

A correspondent writes us on the subject as follows, with the view of leading the master-builders to provide a protection for the workmen against such occurrences:—

Noticing in a recent number of your journal some remarks on the sudden dismissal of workmen, I am induced to trouble you with this letter, in the hope of seriously calling the attention of the master-builders to this subject.

Among the grievances of which workmen have to complain, none are so prominent as that resulting from the sudden and capricious suspension of works. Large bodies of men are called together—probably many miles from their homes—and are frequently dismissed at a moment's notice, no previous intimation having been made, nor the least consideration shewn for their sufferings and disappointment. Builders' workmen suffer sufficiently from frosty and rainy seasons, and are seldom employed, on the average, more than nine months out of the twelve, without being exposed to loss from the sudden break-up of works, when they have travelled many miles from home to serve their employer. This common indifference to the interests and feelings of the working-man, coupled with other circumstances, renders him disaffected towards his master and the state—regarding his employer as a person only thinking of the increase of his wealth by the talent and sweat of the brow of the poor.

The idle Monday that usually follows the sudden dismissal of the Saturday night is often the ruin of the workman. The bitterness of disappointment engendered by sudden dismissal, after days of zealous and anxious toil, makes the heart sick. Take the case of a working man, of industrious and sober habits, with a wife and three or four children, one who has been out of employment a long winter, and who has spent all his savings, and parted with many of his goods and chattels to support his family. He leaves London for a country job, and after a few weeks' work, the job being large, and likely to last the summer, he arranges for his wife and children to join him. He has no sooner done this than the next Saturday is fatal to his hopes; the works are stopped, and he is sent "about his business." No notice, not even a day's warning, given to him, so that he might have the opportunity during after hours of communicating with his old mates, in town or elsewhere, on the subject of fresh employment. Now, this is a common case, and the workman so treated feels that he is made use of as a garment, and when done with cast aside and forgotten.

I know it will be urged that it is impracticable to avoid, at all times, the circumstances of which I complain;—this I deny. It is perfectly as easy for contractors to make such terms with their employers in this respect, as it is to make terms to protect themselves from loss upon plant and materials by such stoppages.

It would be well for contractors to consider these matters, and to estimate properly the value of the respectful bearing of the workingman, particularly now, as a bad spirit is abroad and doing its work with many; and during the late apprehended Chartist disturbances many terrible expressions fell from working men, which shewed how keenly their wrongs rankled within them. Carpenters, bricklayers, plasterers, painters, decorators, &c., all are now the servants of the one master, the builder; and workmen in these branches feel how small their chances are of raising their condition without the aid of capital. The old guilds for the regulation of trades exist but in name, and no longer protect the workingman from the grasp of the monopolist.

It is impossible in a letter, or many letters, to speak of the thousand ills workmen are subject to from want of a little forethought on the part of their employers. The majority of builders are persons in reality in advance of the other orders of society, but they are so hurried in their daily avocations by the spirit of competition, that the only impulse manifest in their conduct is that of completing their work with satisfaction to the architect, and meeting their money engagements. There is a want of unity among them, and it is that which prevents any great good being effected for those upon whose labour they depend.

There are no working men so well informed, so orderly, or so well conducted as the building workmen. The science they are attached to begets order, even in those who are its humblest handmaids, and by only a little, a very little effort on the part of the great builders, the condition of the building workmen might be improved beyond that of almost any other class, and the arts thereby advanced.

THE ATMOSPHERIC RAILWAY SYSTEMS,

NEGATIVE AND POSITIVE, OR EXHAUSTIVE AND COMPRESSIVE.

THE misgivings with which we have from the outset noted the boasted progress of the atmospheric system on the only modifications of the principle yet attempted in practice, have been recently more than justified on the South Devon line, where, as Sir W. S. Harris, of Plymouth, in his evidence on the Exeter and Crediton, evidences, it "is eternally stopping, and, in his opinion, is utterly incapable of practical or commercial utility." The valve, of course, and the sealing composition, are the sores which require perpetual healing and doctoring: and it is not by catching cold in the midst of frost and snow alone that the windpipe thus gets out of order; for no sooner have the stillness of frost and the slush of snow in winter given place to the drying breeze of spring and the melting heat of summer, than the wind and the dust do the work of the frost and snow, in as pertinaciously attacking its tender organism, by drying and clogging its sealing material in place of freezing it, thus as effectually deranging the working of the line, if not, too, the patience and the wits of its officials. In order to obviate the evils resulting from the influence of wind and dust on the sealing composition, and otherwise to improve the longitudinal valve, a correspondent, Mr. G. C. Warren, proposes that the slit or valve be made of vulcanised Indian rubber, fixed into a deep groove on one side, so as to be compressible into that groove by the piston-rod, and to issue out of it again by its own elasticity, while the free edge slips out of and into a shallower groove on the opposite side as the rod runs along, thus affording the requisite protection to the sealing material.* The opening edge of the valve he proposes to tip with leather, rendered supple with sealing material, and the bottom of the shallow groove in which it works, he adds, might be lined with a slip of vulcanized rubber, or also with suppled leather. The rubber, as he remarks, will not be affected by changes of temperature; but will not its elasticity afford too great a probability of its being sucked into the vacuum altogether, sealing compositions notwithstanding? Otherwise, however, our correspondent's suggestion is well worthy of consideration, if this sort, or any sort of valve is to be persisted in. An elastic steel valve, as our readers may recollect, was lately patented. The experimental line, on this plan, according to the patentees, has worked for some time both steadily and cheaply; and a new line is about to be laid down which they declare will work for a century without being in the least impaired. The inefficiency of Messrs. Clegg and Samuda's principle has given rise to other and still more recent incipient improvements, among which is that patented by Messrs. Harlow and Young, of Bermondsey, in which the action of the valve is precisely similar to that of the slide valve of a steam engine, and all material of a more destructible nature is replaced by metal. Here, too, the coulter is not much thicker than the blade of a saw, the want of strength in thickness, we presume, being so far made up by breadth, and the slit being accordingly very narrow. The whole is thus also protected from grit, wet, snow, &c., by the top plates, between which the coulter connecting the piston with the leading carriage runs.

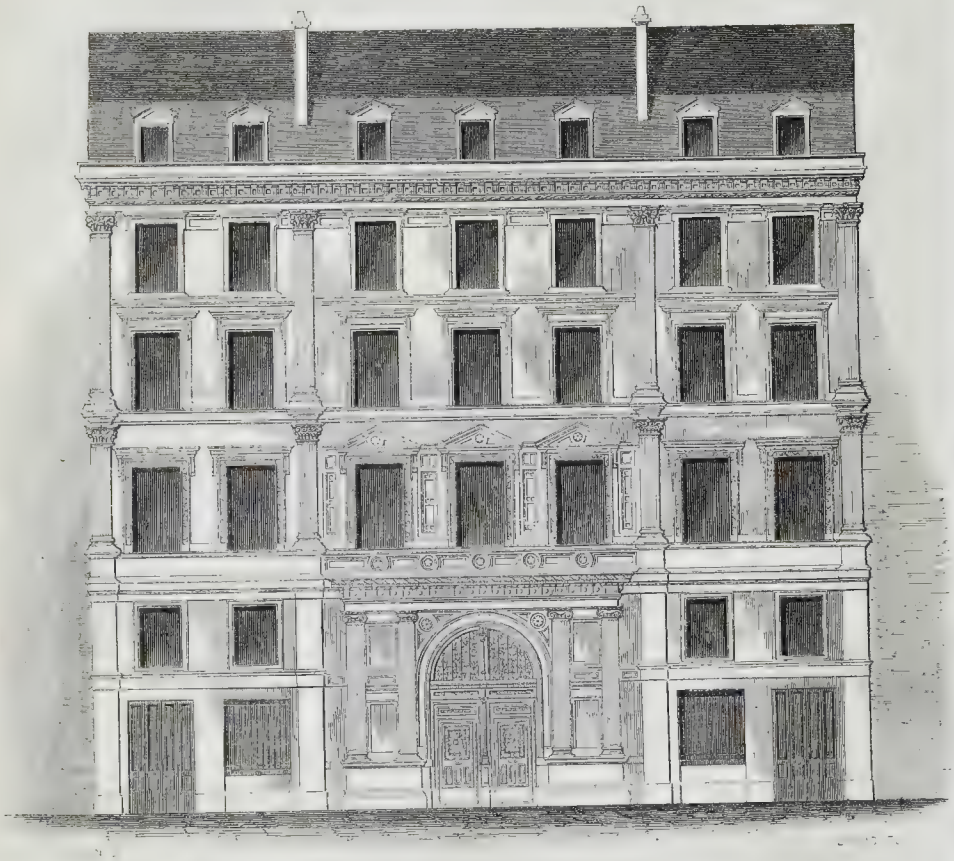
The atmospheric principle, as the correspondent, whose suggestion we have just noted, reminds us, is one we have regarded as a safe, or good one, were it rightly applied to railway lines, but we hope he does not thereby consider us committed entirely to the longitudinal valve. Indeed, the two most ingenious, if not most feasible schemes we recollect of, had no such valves. In the one, a needle threaded its way through a series of short recurring valves, through which the communication between the interior of the tube and the exterior, and hence the impetus, was kept up. In the other, the power was 'laid on' like gas or water through a main, with bilateral branches, to a double series of simple engines, with *wheels along the line*, through which the impetus was communicated to *rails along the train*, being, in fact, a complete inversion of the ordinary principle and mode of railway locomotion. And however complex or fanciful, or otherwise objectionable, such schemes may really be, or not be, they probably comprehend the germs of some future and better hope for the atmospheric ordinary or exhaustive principle, if none other prove successful. The renewed or sustained interest in this mode of railway propulsion, at this moment manifested in various quarters, is no doubt spurred into sustained vivacity, by the endless succession of fatal accidents on other lines, from which the atmospheric principle is naturally looked to as a redemption of at least as hopeful a character as anything to be expected from the present system of railway direction.

We have hitherto talked exclusively of the power of the atmospheric vacuum, or what may be called the negative or exhaustive system; but the model of a line to be worked compressively, as we may term it, upon the atmospheric system, has been laid down near the Rosemary Branch at Peckham. The valve in this case is a longitudinal one, formed of vulcanized caoutchouc, with grooves, apparently arranged on the plan proposed by Mr. Warren for adaptation to the Devon, though *it* works by exhaustion. The tube is only half the size and weight of that of the latter. Four hundred and fifty feet of it have been laid down by the patentees; but the air, which is compressed by a Cambrian engine, with air pumps, into a reservoir at one end of it, only acts on 200 feet of the tube, the piston being then arrested in its course, and the carriage running on by the momentum obtained. A writer in the *Mining Journal* speaks rather favourably of its performance. The air, in each experiment he witnessed, was compressed to about 30 lbs. on the inch super.; and the propelling power, in a tube 2½ inches in diameter, was thus 147 lbs., on a carriage of 5 cwt., loaded with pig iron to rather more than a ton, and propelled up an incline of 1 in 30 at the termination of the tubes.

Between longitudinal valves, then, and no valves at all, and between air acting by compression, and the same agent acting by exhaustion, surely something will come out of it, although, in the meantime, we can see no one quite unobjectionable realization of an idea even already pretty well turned over, if not tortured, in the various ingenious endeavours already made to turn it to account.

* If otherwise practicable, and friction sufficiently reducible, might not any leakage from the opening before and behind the piston-rod on this plan, be prevented by a properly shaped washer of vulcanized rubber on the piston-rod?

STREET ARCHITECTURE—PARIS.



HOTEL LACARRIERE.—M. ROLLAND, ARCHITECT.

STREET ARCHITECTURE.—PARIS.

FRONT OF THE HOTEL LACARRIERE.

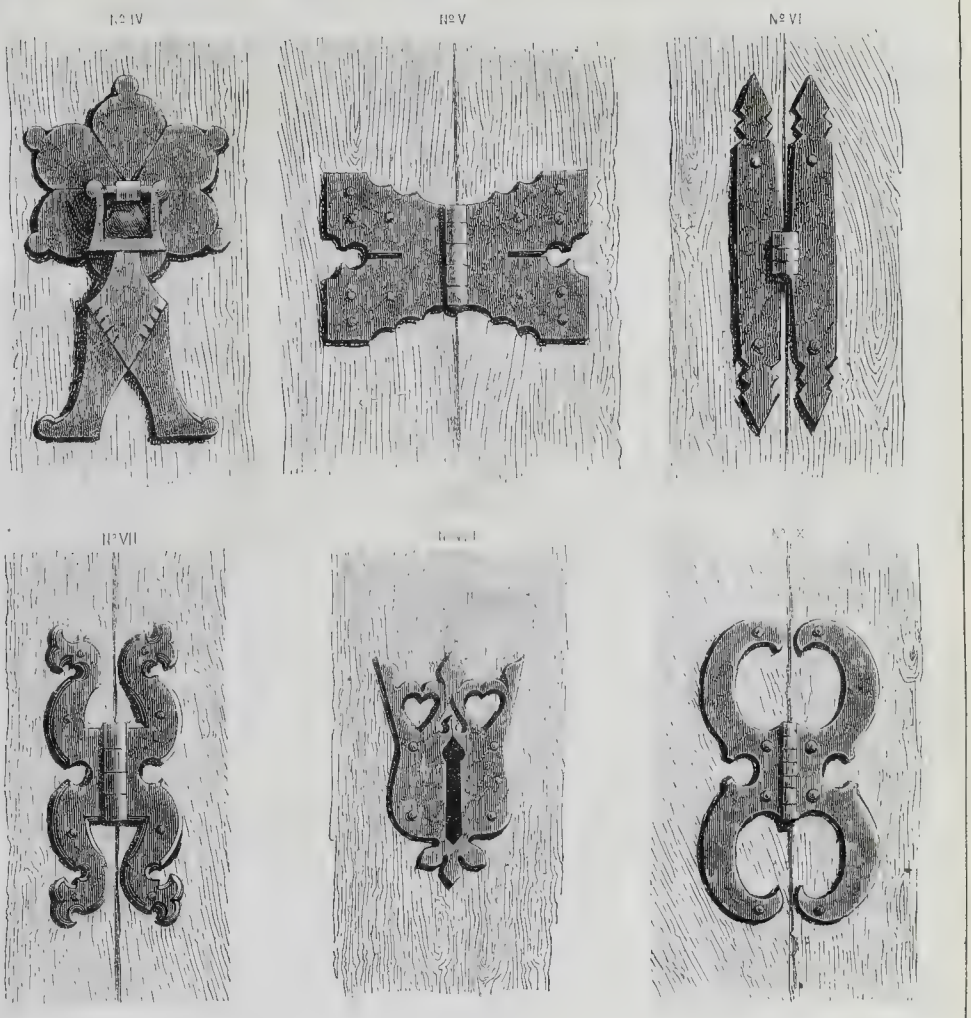
ANNEXED, we give the entrance-front of the *Hotel Lacarrière*, in the *Rue de Vendôme*, Paris, erected from the designs of M. Rolland, architect. It has a frontage of 74 feet, and is 62 feet high to the top of the entablature. A description of the building was promised in the *Moniteur des Architectes*, wherein the elevation, plan, and some of the details first appeared, but the troubles of the revolution have led to the temporary suspension of that work,—a circumstance much to be regretted. The last number of the *Moniteur* which was published contained a translation of our descriptive account of the Palm House at Kew.

NOTES IN THE PROVINCES.

VARIOUS improvements have been lately carried out at Isleworth. The new burial ground adjoining the old was to be consecrated on 21st inst. The whole has been enclosed with an iron railing. The old altar window of the church has been replaced by a new one, of stained glass, by Collins, from a design by Miss Honywood, of Isleworth-house. The pews are to be remodelled.——Some ornamental figures surmounting the pillars at the gate entrance to Wilton-house have been wantonly or maliciously destroyed. They had been recently executed by a local artist, Mr. Rex.——The building of the new lock-up at Stratford-on-Avon has been begun by the contractors, Messrs. William Martin and Son, of that town. It is to be of brick, with freestone dressings, and to cost about 800*l*.——It has been resolved at a public meeting in Birmingham to establish a model lodging-house for the poor there.——The Liverpool Health Committee have been requested by the town council, to report as to the best means of laying out a great extent of vacant land in the municipal borough, with reference to existing and future streets, and on some regular plan. Mr. Earle, in proposing the resolution, stated that "a very important improvement, extending over upwards of four miles of road, could be effected at the north end of the town for 66,000*l*. The sum might appear large, but let the council recollect that they had expended 20,000*l*. in widening Parker-street."——From an abstract of receipts and disbursements under the Sanitary Act for Liverpool, it appears that the expenses of the sewerage and drainage in the Parliamentary borough from January 1 to March 31, 1847, were 34,516*l*. odds, the receipts amounting to within 6,068*l*. of that sum. From 1st April, 1847, to 31st March, 1848, the amount expended was 151,770*l*. odds, and the sum received less by 12,961*l*. 3s.——The first stone of a new National School for 500 children, at New Wortley, was laid on Whit-Monday.——A scheme on an extensive scale for providing dwellings for the working classes in Edinburgh is in contemplation. It is said that about 20,000*l*. will be invested in the undertaking.——A report by the Plans and Works Committee of that City, on the annual report of the Superintendent of Public Works on the state of the City churches, and suggesting extensive repairs on the Tron Church, and that those contemplated on the High Church should be delayed till next year, has been cannily "approved by the Council, so far as the High Church was concerned."——A considerable number of the operative masons of Glasgow have struck, on their employers attempting to reduce their wages about 10 per cent.

VENTILATION OF SHIPS.—Sir: It has been proposed, in your excellent journal, as a means of ventilating emigrant ships, that the cooking should take place *under deck*. I can see no objection to that arrangement, if people choose to adopt it. It would tend to promote warmth and cheerfulness, and prove a great convenience to female passengers, more especially in cold and stormy weather. I would propose, however, in any case, that a flat or round sheet-iron tube reaching nearly to the lower deck, should be attached to the back of the cooking-stove, and extend high enough above the upper deck, or gangway, so as to give sufficient vent to the heated air, and not be in the way of return smoke. Tubes for admitting fresh air should be attached to the different masts. The cooking-stoves would act as *fourneaux d'appel*, and the vessel would be ventilated in all weathers.—H. MCCORMAC, M.D.

EXAMPLES OF ANCIENT IRONWORK.



EXAMPLES OF OLD IRON-WORK.

Last week our number contained three engravings of ancient escutcheons: we now lay before our readers six examples of hinges, &c., equally good and simple.

No. 4. Handle, from a cabinet.
No. 5. Hinge, Stanton Church, Suffolk.
No. 6. Hinge, St. Michael's Church, St. Alban's.
No. 7. Hinge at a church at Rochester.
No. 8. Escutcheon at Westminster Abbey.
No. 9. Hinge at Perrivale Church, Middlesex.

Fall of a Suspension Bridge.—The Micklewood suspension bridge, "erected," according to the *Scottish Railway Gazette*, "on the thrust and tension principle, the same as that which sustains the Conway tube," fell into the Forth on Monday week. The span of the bridge was 101 feet, and it was made of timber: to the spread of dry-rot the fall is attributed. "Slight symptoms of the decay were observed" on the Saturday previous to the fall, but it was not until too late that the further extension of the rot was ascertained.

VENTILATION OF SCHOOL-HOUSES IN AMERICA.

We have before us reports and other documents which shew that in the city of Boston the authorities, having satisfied themselves of the necessity of having fresh air, have been expending a large sum of money in ventilating all the city school-houses. The reports are very interesting, as shewing how thoroughly the necessity for this step has come home to our transatlantic brethren. There is much to do in this respect in England. Many of our national and other free schools are nurseries of disease.

The committee appointed to examine the Boston school-houses propose "the following as an outline of the best general plan for warming and ventilating the school-houses.

1. The air must be taken from a pure source and from the higher parts of the building, if any impurities are found to exist near the surface of the ground.

2. In order to ensure a constant and abundant supply, the air-shaft, when carried above the building, must be surmounted with a cowl or hood of some kind, with its mouth turned *towards the wind*.

3. The fresh air should in all cases be carried entirely beneath the furnace. If the cellar is wet and the situation low, the underground culvert, or channel, should be of brick, laid in cement.

4. The furnace-chamber should be so large that it can be entered at any time, without the necessity of taking down walls, for the purpose of repairs, or to observe the temperature. A large earthern pan for the evaporation of water should not be omitted. This should be kept perfectly clean, and the water required to be frequently changed.

5. A thermometer should be constantly at hand, and the temperature in the warm-air chamber should never be allowed to exceed that of boiling water. A still lower temperature is often desirable. If this point is secured, the hot air can be conducted with perfect safety into any part of the building.

6. The openings for the admission of the warm air into the rooms, should be as numerous as possible. The long platform occupied by the teachers might be made an excellent diffusing surface.

7. Openings of ample size must be made in the highest points of the ceiling, to be con-

nected at the top of the roof with a turn-cap or louvre, the former being always surmounted with a vane. It is better that the ceiling should be perforated at its centre, and there is no objection to running the ventilating shaft, at first, horizontally, if the perpendicular and terminal portion of it is of considerable length.

8. It is well to have a power of some sort within the apparatus at its top, for the purpose of compelling constant action, and of increasing the force of the apparatus, whenever the state of the weather, or the crowding of the room, renders it necessary. For this purpose, the most convenient and economical means are furnished by a gas burner, an argand lamp, or a stove; and one of these may be in constant readiness for use, when neither the velocity of the wind, nor the low temperature of the external atmosphere, is sufficient to produce the desired effect.

9. All the openings and flues for the admission of pure air, and the discharge of the foul air, should be of the maximum size; that is, they should be calculated for the largest numbers which the apartment is ever intended to accommodate.

10. Valves must be so placed in the flues as to be easily regulated without leaving the rooms into which they open.

11. The best average temperature for schoolrooms is from 64 deg. to 68 deg. Fahrenheit; this range including that of the healthiest climates in their best seasons.

12. For the purpose of summer ventilation, and for occasional use in moderate weather, fireplaces of good size may be constructed in the new houses. They should always be double, and furnished with chambers communicating with the open air.

13. Each story of the building must be warmed by a furnace or stoves, appropriated exclusively for its own use."

They require each room to have a ventiduct discharging itself at the roof, and not connected with any other apartment. These ducts are placed at the part of the room most distant from the ventilating stove, or the opening from the hot-air furnace, and should be constructed if possible in or upon an interior wall or partition. "They should be made of thoroughly-seasoned sound pine-boards, smoothed on the inner side, and put together with 2-inch iron screws. The outside finish may be of lath and plaster." They must be carried entirely to the floor, and should be fitted at the top and bottom with a swivel blind or register, whose capacity is equal to that of the ventiduct into which it opens. This valve is governed by stay rods or pulleys.

A room containing sixty scholars is found to require a discharging duct of fourteen inches in diameter. A room for 100 scholars requires the tube to be 18 inches; and a room for 200 scholars requires it to be 24 inches.

The fresh air ventiducts should exceed in capacity those for carrying off the impure air by about 50 per cent.; so that there will then always be a surplus or plenum supply, and the little currents of cold air which press in at the crevices of the doors and windows will be entirely prevented.

RAILWAY ACCIDENTS AND THEIR PREVENTION.

TRIM OF TRAINS IN TRANSIT.

We should like to see a full, true, and particular list *now* of the patent and other responses to Fortunatus's 'wish' that 'means of preventing accidents *were suggested* by some one or other, since the directory had failed to discover or invent any worth looking at.' We ourselves have added not a few to the heap in vain accumulated since we uselessly sacrificed upwards of one whole page of our journal at once in sincere response to the insincere 'wish.' The last new 'patent railway signal' is Tattersall's, to be used in such cases as the breaking of an axle, running off the rail, &c. It is chiefly intended to obviate objections to some previous projects of a like order. A box is fitted with a barrel spring, and a cord wound round it is run along the line of carriages, through open rings or hooks in the roof, from the guards to the driver, or rather to a steam whistle on the engine. There is virtually *nothing* new however in this; a correspondent in THE BUILDER long ago suggested nearly the same thing, and it has since repeatedly presented itself with some slight modification or other. Amongst the multitude of suggestions out of which directors might choose, we have seen none to excel, or even to equal our own in matter of fact practicability, and in varied utility, namely, that a freedom of personal movement along a train, on a regular beat, either outside or in, should be afforded to the guards, so that either driver or passenger might be promptly reached on accidental occasion, or at short and appointed intervals. In such a case as that which occurred the other day, when a turbulent, insane, or drunken person presented a pistol at the head of a fellow-passenger, the most prompt aid might thus be afforded; or in cases of sudden insanity which so often and so oddly occur in transit; or in an emergency such as that in which both driver and stoker lay dead drunk on the engine while it was rattling along at the rate of 50 miles an hour, with a coming train on the same line of rail; or, in short, in a multitude of unforeseen circumstances, in which cords and pulleys, or any other means of communication whatever between guards, passengers, and drivers, would either be useless, annoying, or imprudent,—by the simple means alluded to everything necessary could be promptly done, and any intimation to the driver to stop, &c., made by the same mode, *over and above*, as in the case of an axle breaking, or a carriage running off the line, in any part of a train, however short or long, by one or other of the guards or watchmen from either end of the train. This one suggestion, in short, appears to afford a remedy or prevention for a greater number of possible or actual casualties in transit than those offered or afforded by any one suggestion we recollect of, and it is therefore entitled to marked consideration as one of the most economical and useful, as well as practical, amongst the multitude of suggestions heretofore advanced. Perhaps the best possible argument in its favour, and evidence of its prospective utility, is in the fact that in various circumstances, the nearest possible approximation to its rough practice, suggested by necessity or impelled by peril, has been naturally and almost instinctively resorted to by the guards in the dangerous, uncertain, and most unofficial and reprehensible practice of crawling along the tops of the carriages, whereby, nevertheless, as in one case just alluded to, the lives of hundreds were saved from inevitable destruction, though at the double hazard incurred by the very want of a proper gangway or connected line of footboards. Even the other day, too, the practical working of this same rude and perilous substitute naturally displayed itself in circumstances of alarm, arising from the fall of a child out of a carriage in transit. The attention of one of the guards was attracted by an outcry of some of the passengers, and—helpless as his position was, and a mockery his office, to all but a 'guard' possessed of a reckless and ultra-official daring for which the railway management is most blameable, in thus morally compelling its necessity, by not practically obviating it, as they can so easily do—anxiety to ascertain the cause of the outcry, and it may be even fear of the personal as well as other consequences if he hesitated, irresistably prompted this guard also (in the proper and paid-for exercise of his calling was it?) to crawl along the tops of the carriages, in order personally to communicate with the parties sounding the alarm, and then, on thus personally ascertaining the urgency of the case, to cause the driver to stop the train, when instantly measures were taken, by telegraph and otherwise, to prevent the running of other coming trains until the child was found, which it accordingly very soon was, and was restored, too, almost entirely unhurt, to its proper owners. Necessity, therefore, may be said to be at least a helpful foster-mother to the simple invention which we have so perseveringly, but fruitlessly, thrust upon the notice of the public and the proper authorities; and we do hope at length to see either it, or something equally good, and as variously available, if that be possible, brought into practical maturity and general use. This very subject, of the communication between guards and passengers in cases of accident, we perceive, since writing the above, has been brought under notice in the House of Lords, when Earl Granville stated, in reply, that the attention of the Railway Commissioners had been directed at least to the subject of an increase in the number of guards [with reference, we presume, more particularly to additional power over a system of breaks in stopping trains in cases of collision], and that Captain Simmons, one of the inspectors, was instructed to communicate with Captain Huish of the North-Western, with a view to try some experiments. The subject, his lordship added, was one requiring the serious attention of every company, and was still under consideration. The commissioners, however, had no power to enforce any recommendation on the directors, and perhaps it was not desirable, as the responsibility of the latter might thus be, in their estimation, diminished. In fact, we wish his lordship had just hinted the propriety of *increasing* their legal responsibility a little, as we have so often suggested.

STRENGTH OF MATERIALS.

RAILWAY BRIDGES.

At a late meeting of the Scottish Society of Arts, Mr. George Buchanan read a paper on the strength of materials, and their application in the construction of railway bridges. In regard to cast-iron, the result of extensive experiments was given, and it was found from the mean of sixteen different trials of English, Welsh, and Scotch iron, both hot and cold blast, that this material will sustain about 7½ tons, tensile strain, per square inch of section, before breaking, the weakest specimen being 6, and the strongest 9¾. The limit of fracture, however, can never be approached with safety, not even within a long distance, seeing that this material is liable to unseen imperfections, and, above all, to snap in a moment, without distending itself or giving any warning of danger. Malleable iron, again, is much superior in tensile strength, and by its remarkable ductility, inspires confidence in a still higher degree; it bears no less, on an average, by various experiments of Telford and Brown, than 27 tons—the weakest 24, and the strongest 29 tons—but before the half of this load is applied, it begins to stretch, and continues stretching up to the limits of fracture. It is, therefore, not only three times stronger than cast-iron, but may be safely loaded with five times the breaking weight, or about eight or nine tons.

In regard to the strength of compression, this depends also, as long as the length is limited, on the same element—the section of fracture; but when a long rod or slender pillar is loaded or compressed, it is liable to bend, not for want of strength, but for want of stability, the least flexure turning it off its centre, and breaking it by lateral force, deranging entirely the simple law applicable to short lengths. In regard to cast-iron, by far the most satisfactory experiments are those by Hodgkinson and Fairbairn. The mean result gives very nearly 50 tons on the square inch—the weakest 36½ tons, and the strongest 60 tons. It is thus six times stronger in compression than in distension; and hence it is peculiarly recommended for sustaining any superincumbent weight, as in the case of pillars and of bridges, provided the construction is such as to resolve the strain arising from the load into a longitudinal compression. This is often in our power by proper arrangements, chiefly giving a sufficient height and curvature to the arch; but in cases where, for the want of headroom, the arch is unduly flattened or resolved into a straight beam or girder, the danger is that we bring the tensile force into play, and then the use of cast iron is objectionable, or at least requires extreme caution. No direct experiments have been made on malleable iron of short lengths; but from some facts brought out by Mr. Hodgkinson, its strength appears much inferior to cast iron, chiefly from ductility, whereby it gives way much sooner under a load. It will bear 27 tons, probably much more, without fracture; but with 12 tons it yields to the load, contracts longitudinally, and swells out laterally; and this is another very important fact for our guidance in the use of those different materials. In regard to stone, experiments have been generally made on specimens rather too minute. Like cast iron, the crushing strength is superior to the tensile, and hence its adaptation for building, particularly bridges. Craigleith stone will bear 2½ tons on the inch, or upwards of 400 tons on the square foot; Aberdeen granite 600 tons. In regard

to bricks, he had occasion to make experiments in relation to the great chimney of the Edinburgh Gas-works. It became matter of consideration whether the ordinary brick could withstand the pressure of so lofty a column. Trials were therefore made with a powerful hydrostatic press, not on small specimens, but on the actual brick. The ordinary stock-brick was found to bear 140 tons on the square foot, and the common fire-brick 157 tons; but the brick of which the chimney is constructed, consisting of a mixture of fire-clay and iron-stone, bore, a single brick on its bed, no less than 140 tons—equal to 400 tons on the square foot.

The effect of the transverse strain was then considered and illustrated by various experiments and models. This strain is a compound of the tensile and compressive strain, the one part of a beam loaded in the middle being compressed and the other distended, and the beam itself becoming a lever, and acting often with enormous power against its own strength. Hence it became easy to calculate the strength, this being in every case proportional, in the first instance, to the area of the section of fracture, and this original modified by the length and depth of the beam, diminishing in exact proportion to the length, and increasing in proportion to the depth.

In a subsequent lecture, fully reported in the *Scottish Railway Gazette*, some interesting experiments were made on the tensile strength of stone from Hailes and Cragleith quarries. The Hailes stones bore on the square inch 360 lbs., the Cragleith considerably more; and a remarkable effect was observed here after the load had hung a little: it was suggested by a member to give it a slight tap with a hammer; and on this being done, it immediately snapped asunder, showing the effect of vibration or concussion when the materials are greatly strained, in aiding and completing the fracture—a circumstance which appears to throw light on what may sometimes occur by the rapid and violent action of trains on railways. The compressive strength of the Hailes and Craigleith stones was then shewn, by experiment, to be much greater than the tensile strength.

The compressive strength of posts and pillars was then considered, and the remarkable effects of the length of the pillar in diminishing its strength. On this subject much light has been thrown by the experiments of Messrs. Hodgkinson and Fairbairn. Pillars or rods were tried at different lengths, from 3 in. to 5 ft.; and of different diameters; rods ½ in. diameter, with 3¾ in. length, bore 11 tons; but, when the length was 7½ in. it only carried 5 tons; when 15 in. long, 3 tons; and, at 15 in., only 13 cwts. From these experiments a general rule may be drawn for different lengths. Taking the strength of cast-iron as formerly given at 50 tons per square inch, this will hold good in pillars till the length reaches five times the diameter, and then it begins to diminish. When the length is ten times the diameter, the strength is reduced in the proportion of 1¼ to 1; with the length at fifteen times the diameter, it is reduced as 2 to 1; twenty times as 3 to 1; thirty times as 4 to 1; and forty times as 6 to 1.

Hence the great advantage in cast-iron of using hollow pillars or tubes in place of solid metal, whereby, with the same area or section of fracture, the diameter of the pillar is increased, and with it the resistance to flexure, and an increase of strength in proportion to the length. A solid pillar, for instance, 6 in. in diameter, if extended to 7½ ft. in length, would be weakened one-half, but if cast hollow, 10 in. in diameter, and ¾ in. thick, giving the same weight of metal per ft, in length, it might then be extended to 12½ ft., and still possess the same strength as the other. In all these cases a remarkable circumstance was observed in regard to the mode of applying the strain. With the ends of the pillars turned flat, and a flat plate interposed at top and bottom, which is the case in supporting buildings, this was found to sustain nearly three times as much as when the pillar was rounded on the ends, so as to make the force pass directly through the axis, as occurs so frequently in machinery with the connecting-rods of steam-engines, and in other cases. The effect of the length of pillars in weakening the strength was illustrated by a striking experiment with a spiral wire, quite flexible, yet, when set up as a pillar, and tied in the middle latterly, with slender threads, carried a weight of 56 lbs., and would have carried much more, but the moment the threads were cut, the wire gave way by flexure, and oversetting the balance, the weight immediately sunk.

THE DRAINAGE QUESTION.

THE SEWERS, THE THAMES, AND PUBLIC HEALTH.

Sir,—Mr. Plum's scheme in The Builder of June 3, for the drainage of London, "reads well," as some people say, but there are points in it which require explanation. In the first place, what does he mean by "the solid refuse of towns?" The contents of an ash-pit are solid when they enter it; but, in order to obtain anything like solidity in a cesspool, a vast quantity of fluid which enters it has to soak away or be evaporated. It is scarcely possible to imagine a case in which the refuse carried off from a house by a drain can be in any other than a decidedly fluid condition. In the next place, how is the effluvium from a street cesspool to be prevented entering the houses which drain into it? In the third place, how is that effluvium to be prevented escaping into the streets through the manhole? In the fourth place, how many air-tight carts, how many horses, and how many men are to be employed "in the night or early morn" to carry away the contents of these street cesspools? This is a question which requires a careful answer. When once the cesspools are nearly filled, the emptying process must go on as fast as the filling process. At a rough guess, is it too much to say that there must be 3,000 carts, 3,000 horses, and 4,500 men employed every twenty-four hours in this work? In the fifth place, how high must the tops of the exit air-pipes be in order to carry off the foul air, so as not to annoy the inhabitants of London? The highest chimney-shaft of any gas-works in London is too low to prevent the neighbourhood being annoyed by the product of combustion, whether smoke, or carbonic oxide, which issues from it. Mr. Plum does not "enter upon estimates," and, therefore, I do not touch on the question of expense. N. R.

We illustrated some time ago a cistern arranged to discharge at stated times a quantity of water into the house drains. Mr. Ashe, of Bristol, has recently patented an arrangement which has the same end in view. The inventor says:—"The apparatus is so constructed as to catch and hold all available waste water, until it amounts to about fourteen gallons, when the collecting vessel, being nearly full, suddenly overbalances, and throws the water with velocity into a conical basin, which conveys it into the eject or soil-trap, and from thence rushing through the house drain or sewer, leaves all clean and free from every nuisance."

THE CESSPOOLS OF THE METROPOLIS.

At the last census in 1841 there were 270,859 houses in the metropolis. It is known that there is scarcely a house without a cesspool under it; and that very many old houses have two, three, and more under them; so that there may be taken to be 300,000 of such receptacles. The exposed surface of each cesspool, taken on an average, measures 9 feet; and the mean depth of the whole is about 6½ feet, so that each contains 58½ cubic feet of filth. The exhaling surface of all the cesspools (300,000 × 9) = 2,700,000 feet, or equal to 62 acres nearly; and the total quantity of foul matter contained in them (300,000 × 58½) = 17,550,000 cubic feet; or equal to one enormous cesspool 10 miles in length, 50 feet in width, and 6 feet 6 inches in depth; which would extend through London, from the Broadway, at Hammersmith, to Bow-bridge over the River Lea, a length of 10 miles. If such a gigantic cesspool of filth were to be seen, it would fill the mind with horror; but, as is shown above, a vast number of small ones, which, added together, equal it in extent, is dotted all over the town—in fact, it may be said, that the ground, in old districts more particularly, is literally honeycombed with the barbarous things. From them a nasty, stinking, pestiferous vapour is constantly escaping, corrupting the atmosphere from one end of London to the other, and creating disease, misery, poverty, and other evils among the inhabitants. J. P.

New Books.

Lessons on the Delineation of Form, intended to be preparatory to Elementary Writing, or Outline Drawing. By the Rev. Charles Richson, M.A., Clerk in Orders of the Cathedral, Manchester. With an Introduction, by George Wallis, late Head Master of the Manchester School of Design. Darton and Co., Holborn-hill.

Fifty Diagrams, to illustrate the Delineation of Form, adapted to the Author's Lessons on the same subject. By the Rev. C. Richson. With a Preface, containing Hints to Teachers on the Early Education of the Hand and Eye. By George Wallis. Darton and Co.

We have long and earnestly, as is well known, advocated the propriety and advantage of making the elements of drawing as general and primitive a branch of established and ordinary education as the elements of writing, to which drawing is much akin. And we are well assured that most of our habitual readers will rejoice with us to observe, from the titles of the little works just quoted, that our idea is at length on the likely way to a practical realization. Every one with the slightest acquaintance amongst the Lilliputian generation, must be well aware that an ambition, a positive itching, for pencil and paper, or their equivalents in any shape, however *mal-apropos*, forbidden, or inconvenient, is a characteristic feature in the intellectual constitution of nine-tenths of the whole of that interesting little class of men, and that the *delineation of* form, in the exercise of which they so much delight, and in the seizing of all sorts of opportunities for the display of their pride in which, they are so eager and unscrupulous, only requires the guiding hand of experience to reduce it, in multitudes at least, if not in all, to intelligibility, taste, and elegance. Here is the impetus, the steam, the locomotive, and we only want the lines, the grooves, in which it is desirable we should lead it onward to its useful destination.

In the joint productions of Mr. Richson and Mr. Wallis, there are both tact and delicacy of handling, well adapted to the tender faculties to be cultivated; and it is really interesting—we had almost said amusing—to observe the simplicity through which the young idea is fairly cajoled into the unconscious rudiments and forms of all the stern profundities of geometric lore. These truly rudimentary books, together with Mr. Wallis's forthcoming work on "The Early Education of the Hand and Eye, as applied to the Home Instruction of Young Children in the Art of Drawing," will be all-sufficient, we should think, in connection with such somewhat less rudimental or more advanced elementary books as that of Mr. Butler Williams, in teaching the imitative use of rigid and solid models, outlines of form in wire, &c., completely to accomplish the useful purpose which we have so long laboured to originate. In the words of Mr. Wallis, in his Introduction to the first of them, the two great objects in education which the little works now under notice are designed to achieve, are, to "*lay the foundation of a power to* draw, whilst disciplining the hand and eye in the requisite elementary *practice of linear construction as applied to* writing;" and we certainly think them extremely well adapted to carry out, practically and successfully, the end in view. Every national school,—every school, in fact, for ordinary instruction, ought to make, and we trust ere long will make, good and daily use of them; and as to schools for the poor in particular, the recent measures of Government, in introducing an efficient class of assistants, must now be removing the only remaining obstacle to, or excuse for the neglect of, this important subject.

Facts and Figures, principally relating to Railways and Commerce. By Samuel Salt. Longman and Co.

This is an interesting and useful little collection of extracts from newspapers, speeches, and minutes of evidence, bearing chiefly on railways, and which would otherwise be gulphed and known no more.

Correspondence.

FULHAM WORKHOUSE COMPETITION.

SIR,—I have some faint recollection (merely the ghost of one) of having, in the month of February last (above *sixteen weeks ago*), sent in some competition drawings for a workhouse, which was intended at that time to be erected at Fulham, and also believe that above thirty architects did likewise.

Not having since had either the drawings returned, or any notice as to the award of premiums, and as the thing occurred so very long ago, I may perhaps only have been *dreaming*, but yet it appears to me quite plain that I saw an advertisement from the Guardians, in which they stated that they would give premiums for the three most approved designs, and that "they would adjudicate on the plans, &c., on the 16*th day of March*." The 16th of March? let me see: does that come before or after the 21st of June—methinks it comes before—what do you say, Mr. Editor?

I feel rather sleepy still: perhaps you can inform me if it be true that the competitors are all, with the exception of *one* only, going to have a meeting (the place of which now only remains to be settled), to decide upon the best plan of entering into a vigorous competition (in the shape of a *prosecution*) *against the Guardians*, for obtaining so many valuable drawings under false pretences. A clear case will be made out, without a doubt, against them, when the whole affair is properly sifted by gentlemen of another profession.

I am, Sir, &c.,

A PATIENT COMPETITOR FOR THE FULHAM WORKHOUSE.

Miscellanea.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 8th July, for the erection of a savings bank at Saffron Walden; by 1st July, for the erection of certain buildings, &c., for the Hollingbourn Union; by 7th, for the repair of twelve houses at Bethnal-green; by 1st, for the erection of schools and master's house at Portswood; by same date, for the erection of school-house and master's dwelling at Isleham; by 11th, for the erection of a circular engine-shed, 150 feet diameter, at the Leicester station of the Midland Railway; by 1st, for bricklayers', joiners', stonemasons', slaters', plumbers', and painters' work on the estates of the Hull Trinity-house; by 29th June, for a supply of 30,000 Canadian larch or hacmatac sleepers for the London and North Western Railway; by same date, for supplying and laying down pavement on the marsh roads, Southampton; by 5th July, for repairing and paving footways and carriageways in Westminster; by 3rd, for the supply of 50,000 cubic feet of dressed granite for Plymouth Breakwater; by 28th inst., for a supply of ironmongery for the East-India Company; and by 27th inst., for painting the market-hall and fish-hall, Birmingham.

THE WORKS IN WESTMINSTER ABBEY.—Sir,—I have just returned from a visit to Westminster Abbey. Although I did not approve of the plan of the alterations when it was first mooted, I find the general effect produced by them is better than I thought it would be. I still think, that, cumbered as the north transept is with monuments, grossly unfit, by their size and character, to stand among those beautiful arches, it would be better to shut that transept out of view from the poet's corner altogether; to say nothing of ecclesiastical objections to opening it. However, since it is thrown open, there is a comfort in thinking that, as these evidences of bad taste are brought more fully before the view of the public, it may lead to their removal the sooner, by the early provision of some suitable national receptacle for the Mansfield and other monuments. I agree with you in thinking the carving of the stalls and organ screen excellent: it reflects great credit upon the artists. But I am rather disappointed with the colour of the wood: it is too light, and does not, in my opinion, harmonize with the character of the building on that account: surely it would be far better if stained a deep brown oak colour like the carving in York Cathedral. E. A.

MONUMENTS FOR CANTERBURY CATHEDRAL.—Mr. Edmund Richardson, the sculptor, has completed two monuments to those of the 31st and of the 16th Lancers who fell on the Sutlej, and which are to be placed in Canterbury Cathedral. The first consists of a centre panel, 3 feet by 3 feet 6 inches, containing inscriptions (203 men having fallen, besides officers); the pediment or upper member, the tattered flags of the regiment as they came out of Sobraon, an enemy's gun on carriage, &c.; the side or wing pieces, the Sikh flags and other trophies taken; and the plinth or lower member, the Sutlej medal, and a branch of laurel and cypress. These, with an upper and lower moulding, are in white marble, placed on a dark marble ground, and relieved, at the corners, by the words *Moodkee, Ferozeshah, Aliwal, Sobraon*, in bronze scrolls. The monument is 6 feet in height and width, and the relief various.—That for the 16th Lancers, which exceeds in size the former, being 8 feet high by 5 feet 6 inches wide, contains, in a centre panel, 4 feet by 3 feet 6 inches, an alto-relief of a wounded officer resting against a palm-tree, tended by one of his troop, who has dismounted, and with the lance in one hand, is offering with the other water from his flask, the horse standing by his side. A Sikh helmet, with gorget of chain-mail near, shews the conflict his officer had encountered. On the moulding below is *Aliwal* in raised letters; and on plinth, which rests on two laurelled trusses, the inscription,—To those of the 16th Lancers, who fell in the discharge of their duty, in the Sutlej campaign;—the names of the killed being placed in two broken columns, with cypress wreaths suspended, one on either side of the centre panel. Above the panel is a moulding and pediment, which last contains the regimental devices, the Guznee and Sutlej medals, and Maharajpoor star, and motto,—*Aut cursu, aut cominus armis*. The monument is relieved by a dove-marble ground.—Ably as these monuments may be executed, we are bound to say the designs ought, in our opinion, to have been very different in character for the proposed situation.

STATE OF RAILWAY QUESTION AND OF TRADE, &c. AT PARIS.—The Government project of taking possession of the railways has been under the consideration of Committees of Finance and of Public Works. The latter proposes that the amount of the indemnity offered by the Government in *Rentes* should be regulated, not by the average price for the six months, but for the twelve and eighteen months preceding 24th February. The former, admitting the right of the Government to seize the railways "as an expropriation for public utility"—decided that the Minister of Finance had not shown sufficient grounds to justify him in taking immediate possession of them, and unanimously disapproved of the terms offered to the companies. For example, the Government would gain [or in fact, without giving any equivalent, confiscate and seize] from the Tours and Nantes Company 11,000,000f. and 15,000,000f. ready cash from the Paris and Strasburg Company's works, which cost the company 18,500,000f. The committee further objects that, in consequence of the state of the finances of the Government, it would be inexpedient to purchase the railroads, and proposes, in conclusion, the rejection of the Government project altogether.——The diminution of confidence and trade in Paris, and France at large, has been already but too plainly proved by statistical details occasionally given in THE BUILDER. The same lamentable result of the past and present events is attested in the *Constitutional*, by the fact, that a country shopkeeper, who had been tempted to risk some 60*l.* in the selection and intended purchase of a lot of bronzes in Paris, and was in the act of handing over the money, only required to hear the admonitory sound of the eternal *rappel*, followed forthwith by the *generale*, to recal his mind to his prudential senses, his frank pieces to his breeches pocket, and his endangered person to his native province. More than twenty manufacturing jewellers, who have not disposed even of the smallest article of their trade ever since the eventful 24th of February, have resolved to shut shop and also retire to the country for the present. ——The National Assembly and the Executive have appointed "a council of *prud'hommes*, to settle all differences between employers and their operatives."——The Committee appointed by the assembly to report on the demand of 3,000,000 francs (120,000*l.*) for the support of the national workshops, has unanimously resolved to adopt efficacious measures to put an end entirely to the waste of money in these workshops.——The examination into the state of the *Ateliers Nationaux* has already led to the discovery that there were 25,000 false names on the list of the workmen employed, which, at the rate of two francs a day, amounts to 2,000*l.* sterling a-day, "which went into some person's pocket."

PROTECTION FROM FIRE.—On Tuesday, the 20th, a deputation from a public meeting held in the parish of St. Pancras, on the subject of protection from fire, had an audience with Sir George Grey, at the Home Office, which lasted three-quarters of an hour, and may, it is hoped, lead to important results in a matter so closely allied to comfort and safety. Sir George expressed an opinion that there can be no doubt as to the utility of the fire-escapes, which have already saved sixty lives in London, and the accounts he has had of the new invention (the annihilator), make it very desirable that its claims should be fairly investigated, and if there is a necessity for amending the Act of 1774, it ought to be done to enable parish authorities to avail themselves of the improvements of the age. The fire annihilator is a small machine of the size of a common pail, containing several iron encasements, and in the middle 7 lbs. of nitre, carbon, and gypsum, in the proportions of six, two, and two, and also one quart of water; at a touch of the finger on a small piston, charged with a small quantity of chlorate of potass and sugar, the compound is in a moment converted into steam to an amount so enormous, that it equals the quantity produced by a five-horse steam-boiler, and is equivalent to a brigade fire-engine. The whole machine can be made for 1*l.*, of which the combustible spent is worth only 14d. Its mode of extinguishing a fire appears to be by the steam, emitted in a dense column on the lower part of the flame, or on the ignited combustibles, cutting off instantly the supply of oxygen, and the momentary vacuum being followed by a rush of cold air. The proportion of heat is thus reduced below the flame temperature, and, if the quantity of heat be not very intense, scarce a spark will escape being smothered. Experiments to the extent of the debris of several tar-barrels, sprinkled with turpentine, have been made with good effect—a flame 30 feet high being put out, as if by magic. A further test will soon determine its powers. Lord Dudley Coutts Stuart, as chairman of the public meeting, headed the deputation, with Sir Benjamin Hall, M.P., the churchwardens of St. Pancras, Mr. Geo. Foggo and other gentlemen.

THE SUBTERRANEAN FIRE below the village of Lower Haugh, near Rotherham, which originated about twenty years since in the coal, at a point where it rose to the surface, is still burning, and the fear of the villagers as to the ultimate fate of their dwellings still prevails, and is occasionally increased, indeed, by the sinking of foundations and the rending of walls. The Wentworth Mausoleum had to be isolated by severing the coal bed by a special shaft. Meantime, however, although the evil is rapidly on the increase, and the heat and sulphur are in some places intolerable, the villagers are prudently making the most of it, by the conversion of "large tracts" of land into "one huge hot-bed, where the heat is not so intense as to destroy vegetation altogether." Fine winter quarters these!—another Madeira for invalids, indeed—were it not for the sulphur and the insecurity. Smoke and flame have even occasionally to be kept under "by puddling the eruptions with clay!

INSTITUTE OF BRITISH ARCHITECTS.—At a meeting of the Royal Institute of Architects, held on Monday, the 12th inst., Mr. Sydney Smirke, A.R.A., in the chair, the Rev. Richard Burgess, B.D., read a very interesting paper on "the Theatres and Porticoes of Ancient Rome." We shall give it at full length in an early number. The closing meeting of the session will be held on Monday evening next, when Professor Willis will read a paper on "the Triforium of the Medieval Churches."

TENDERS

For rebuilding a farm-house and offices at Wyfield, near Newbury. Mr. Money, of Donnington, Surveyor.

Dredge, Newbury	£1,285 0 0
Balding, ditto	1,278 12 0
Adey, ditto	1,263 0 0
Underhill, Chelsea (accepted)	1,232 0 0

For alterations and repairs, and painters' and decorators' work, to be done to the Foundling Hospital Chapel, under the direction of Mr. Henry Currey, architect.

Hutchinson and Co.	£2,136
Hicks	2,115
Cooke	2,054
Winsland and Co.	1,999
Poord and Sons	1,979
Kelk	1,855
Cubitt and Co. (accepted)	1,830

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, June 26.—Institution of Architects, 8 P.M.

TUESDAY, 27.—Institution of Civil Engineers, 8 P.M.

TO CORRESPONDENTS.

"*Stain for Compo.*"—A correspondent says,—"I have a large surface of cement to the exterior of a mansion that I wish to stain; an objection is made to the ordinary colouring, and to paint, and it is considered that both might be superseded by a stain that would contain sufficient colouring matter to give the appearance of stone of a warm buff tint. If you will kindly insert this in your valuable periodical, some of your numerous correspondents may possibly afford me some information."

"*W. W.*"—We are unable to reply without seeing some specimens.

"*R. W.*"—Our correspondent "W. C." denies the truth of Mr. Wyld's statement. A re-assertion is no proof.

"*W. G.*"—We are compelled to adhere to our constantly repeated statement, that we have not time to find addresses or advise as to books.

Received.—"Philocriticus," "E. L. T.," "P. S.," "R. F.," "R. C. D." (Send us the particulars). "N.," "J. R.," "M. P.," "Baron," "B. H.," "Inquirer," (Will find reply in present number). "T. S. Y." "The Young Surveyor's Preceptor, a Clear and Comprehensive Analysis of the Art of Architectural Mensuration;" by John Reid, Surveyor: Basevi, 11, Drake-street, Red Lion-square.

ADVERTISEMENTS.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore street, Limehouse

P. FOUCARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has, on the above-named wharf, a good stock of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr BUS HET, at 30, Stoney street, Borough Market.—Cargoes shipped to order, from Caen, to any port.

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Orders executed with dispatch to all parts of the United Kingdom

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BUILDERS, MASONS, &c., will realise a great reduction in the COST of MARBLE WORK, by sending their orders to the WESTMINSTER MARBLE COMPANY'S WORKS for Working and Polishing Marble by Patent Machinery.

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The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Tents, on view.

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ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Works and Buildings, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

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Mr GRISSELL has the honour to inform Architects and gentlemen engaged in Building, that in consequence of having nearly completed the above works, he is at liberty to supply the Anstone Stone for building purposes in general.

The price at which it can be delivered in London does not exceed the price of Portland stone. As to quality and colour, the experience of the past seven years will fully attest its superiority.

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In addition to the New Houses of Parliament, Mr Grissell takes leave to refer to the Museum of Economic Geology, just erected in Piccadilly, to the Lancashire Assurance Office in Fleet-street, and to the New Hall in Lincoln's-Inn fields.

Mr Grissell desires also to state, that the stone, which he has now the honour for the first time to offer to the public, and which has been used exclusively in the above works, is from the estate of his Grace the Duke of Leeds, and that Mr. Grissell alone possesses the right of quarrying this stone.

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SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 95, REGENT-STREET and 112*l*, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters (Wood and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two of Hinging and Shutting the Ends of Wood Laths with Iron The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantee the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

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Beg respectfully to solicit a comparison with the Revolving Shutters (either iron or wood) of any other Makers, whatever their pretensions. The extraordinary demand, arising from the universal satisfaction given for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in all parts of the Kingdom, has induced other parties to attempt the introduction, by the most absurd representations, of sundry old and discarded inventions as Improvements, B. and C. assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the prices, and they are now much CHEAPER, as well as BETTER, than any others.

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SKYLIGHTS manufactured to any design or extent in Wrought or Cast Iron, Copper, or Zinc.

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Register Stoves, 6*d.* per inch.

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Cottage Ranges, with Oven and Boiler, 3 ft., 35*s.*

Self-acting Kitchen Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3*l* 10*s.*

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Black Registers, from 6*d.* per in and upwards.

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3 ft.	3 ft. 6 in.	4 ft.
3*l.* 3*s.*	3*l.* 14*s.*	4*l.* 5*s.*

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Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6*s.*	£3 13*s.*	£4 16*s.*	£5.	£4 10*s*

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Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.

Do. Elliptic do., at 3½*d.*, and 4*d.* do.

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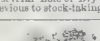
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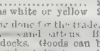
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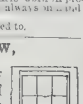
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The Builder.

No. CCLXXXII.

SATURDAY, JULY 1, 1848.

HAVING a personal interest in the restoration of the beautiful church of St. Mary Redcliffe, Bristol, in addition to the strong feelings of admiration with which we regard the structure, and to our public duty —constantly to advocate the maintenance and restoration of the noble architectural works left us by our forefathers,—we cannot omit availing ourselves of the opportunity to bring the matter again before the public, which is afforded us by the first anniversary meeting of the "Canynge Society," held last week. This society, as our readers may remember, was established at the beginning of the present year, to aid by annual subscriptions, to be announced at a public dinner, in obtaining funds for the undertaking; and it has prospered so well—thanks to the exertions of the gentlemen who are working it—that we have no doubt the example will be followed elsewhere. The advantage to be derived from such an organisation is very great; the matter is kept before the public, a feeling in favour of the object is widely spread in fresh circles, and co-operation is thereby assured.

The proceedings commenced, according to a rule of the society, with service in the venerable edifice; and the Rev. E. Tottenham, in the course of a sermon which he preached on a text from Isaiah,—"The glory of Lebanon shall come unto thee, the fir tree, the pine tree, and the box tree together, to beautify the place of my sanctuary; and I will make the place of my feet glorious,"—made some observations, which may serve for arguments in other places as well as Bristol.

The glory of Lebanon, remarked the preacher, did not consist merely in its height and extent, but in the cedars, vines, and 'those goodly stones hewn out of the quarries thereof;' for at the time of the erection of the temple, 'costly stones, hewn stones, and cedars' were brought from Lebanon for the erection of the house of God. From this example, therefore, they were warranted in coming to the conclusion, that they were bound to decently maintain and comely beautify the house of God. They did not want those gorgeous, and vain, and meretricious adornments of other times, and churches, and religions; it was not a Jewish temple they wanted, it was not a place for Judæised and Paganised Christianity; what they wanted was simply an erection which should be decent and honourable towards God, and suitable and convenient to those who used it. They read in the history of the Israelites, the temple having been allowed to fall into decay and a state of dilapidation, that when good men came into power the commandment went forth to repair and beautify the house of God. Gorgeous were the palaces—for they were truly palaces—which men erected for themselves, and decorated in the most costly manner, and if they acted thus with themselves, how much the more did it become them to pay respect to the house of God? There were instances mentioned in Scripture bearing upon this point. David was represented as saying when he conceived the idea of erecting a temple, 'I dwell in a house of cedar, but the ark of God dwelleth within curtains.' True, the real glory of God's house did not consist in its architectural splendour, but they might lawfully cultivate the same, and render the sacred edifice as beautiful as possible. It was not necessary for him to give any detailed history of the edifice, nor to descant upon its architectural beauties: those matters had been already explained to them, but there were one or two objections to the restoration to which he would endeavour to reply. Some objected to it upon account of the great expense, and others upon the ground that they would rather see it remain in its present decayed state, as being more interesting. He would, however, say to such, that the restoration of the church was absolutely necessary to its preservation. The restoration, too, ought to be carried out consistently with the character of the edifice and its architectural beauties, and in accordance with the original design, the development of which was that day pressed upon them. There was another objection which some might raise, and that was the objection to so much money being spent in the restoration of a church, while so many new churches were required throughout the length and breadth of the land. If this were a new question he might admit the validity of the objection, and agree that 40,000*l.* would perhaps be better expended in the erection of four or eight new churches. But this was not a new question, and did not come to them in the same light as the erection of a new church at a similar outlay. The question was this, whether they would suffer that venerable pile to fall into a state of absolute decay: and he then earnestly entreated them not to suffer this to be the case.

At the dinner, which was numerously attended, the company including the Venerable Archdeacon Thorp, the Rev. R. Whish, and many of the clergy, Mr. J. Kerle Haberfield ably presided, and many pertinent speeches were made, of which, however, we must only give those portions which are likely to interest our architectural and antiquarian readers, and others engaged in similar restorations.

The Mayor of Bristol said,—That within the next four and twenty hours, he now spoke more particularly to the gentlemen of Redcliffe, one of the most important committees that could affect their parish would have determined upon what would be the greatest improvement that could happen in their day, being nothing less than laying the foundation-stone, if he might so call it, of widening their street from end to end. The improvement of their city was an excellent work, and what they were engaged in at that moment was the very essence of such work. He hoped that that day would be the beginning of an effort so successful, that they would see the work for which it was established, namely, the restoration of Redcliffe Church, accomplished even in their own time. On the hill of Redcliffe there stood a church, which, if he was rightly informed, had been built 1,000 years ago. Time, the destroyer of all things, destroyed that, and there was no church there till they came to that excellent and worthy merchant, William Canynge, who built the present edifice for them. That church was built in seven years, surely the restoration of it might be accomplished in that or rather half the time. Surely the spirit of Canynge was not departed out of Bristol though his wealth had. Some persons took alarm at the restoration of churches; it had absolutely been written upon as the restoration of Popery, but he really thought it could not justly be so interpreted, and he was quite sure that it was not so regarded by the people of Redcliffe. Suppose it was found convenient to have lights placed in churches, and to have a certain form of table or seat, these were trivial matters, and Popery was not be found in such trifles. He hoped better things, and he was desirous that while restoring the church they would go back to what Redcliffe originally was. It was recorded that the parish church of Westbury was built at the same time, and he was old enough himself to recollect the ancient seats or forms of carved massive oak which had no doors, but were open to the parishioners for each to sit where he pleased. It had subsequently been pewed over, and in 1709 Redcliffe had been served the same. Now, they must be aware, that the service of the church was a social and not an exclusive worship, and he stood there as a public man to protest against the high-pewed door and the lock and key. It was not for him to pronounce whether or not the committee for restoring Redcliffe Church had in view the altering of those pews or not, but he trusted that the thing would never be considered complete or finished till something was done for the internal arrangements of that noble fabric.

The President made some very pertinent remarks on the erection of the church by Canynge, and pointing to its present state, urged all who felt a pride and a glory in the monument to press forward to rescue it from destruction. He then read a report from the committee, which stated that nearly 200 members were enrolled, whose annual subscriptions amounted to 300*l.* In addition to that sum 150*l.* had been contributed by various friends, which, with 40*l.* collected that day at the church, made the first result of their operations nearly 500*l.* The required sum of 40,000*l.* could not be hoped for at once, but they might perhaps raise 1,000*l.* or 1,500*l.* a-year, and with this much could be done.

Mr. J. G. Shaw congratulated his fellow-citizens on what was going on in Bristol; they saw, on the one hand, a comparatively modern but most beautiful building, which was devoted to commerce (the Exchange), in the act of restoration, and, on the other hand, the foundation of this excellent society for restoring, in its full beauty and integrity, a building devoted to the worship of the ever-living God; and though for accomplishing this, they must put a tax upon their pockets, he was sure every citizen would agree with him that, in doing their duty, they were doing themselves an honour, and leaving behind them a memorial of the existence of themselves and the utility of their generation. The work that had already been completed proved how ably and efficiently the committee had performed its duties, and he was convinced that the gentlemen who composed it would not be angry at his selecting one gentleman who had honoured himself, he believed not only for time but for all time—he meant Mr. Proctor. He believed that gentleman had earned for himself not only a great reputation among his fellow-citizens, but that all over the kingdom, where a fine piece of antiquity, and a noble structure of architecture was admired, gratitude would be felt towards Mr. Proctor, who had been the life and soul of the present movement. Mr. Shaw then urged upon the committee that, as they could only go on bit by bit, they might do some important part that would be a key to the whole, giving a guarantee that it should be finished within a given time; if this were done, he knew gentlemen who had already contributed handsomely, that would do so again.

Mr. Proctor (the originator of the Society) said, in the course of a good speech, that the restoration of Redcliffe Church was fraught with many pleasing associations, not the least of which were the kind sympathy and co-operation which those who were engaged in it had received from their fellow-citizens. That the work would be accomplished, he was as certain as that he had that day the pleasure of meeting them; it would merely be a matter of time. The church was to be esteemed, because it was one of the finest architectural specimens which they had in this country, and would improve their taste and lead them to increase and extend the beauties of those churches which they hereafter erected. It was also to be maintained because it had been built by a Bristol merchant, and the Bristol merchants could not allow that to pass away which was a memorial of such philanthropy and munificence on the part of one of their body. Bristol could not allow it to go into decay so long as she possessed merchants. It would not be the Committee's fault if the church was not completely and speedily restored. With respect to the internal arrangements, that had been matter of serious consideration on their part, and the present pews were certainly not more objectionable in the eyes of the Mayor than in those of the Committee: they would get them away if they could, but until they had preserved the exterior they could not think of touching the interior. They had hitherto expended the money not so much in what gratified the eye as in what

was absolutely necessary; they had already preserved the building from further decay as far as was possible, and the drainage and the roofing had been attended to. When the exterior was finished they might depend upon it the internal arrangements would not be lost sight of.

The clergy present each shewed their warm concurrence in the object at heart. The health of the architects being drunk, Mr. Britton remarked, that he had been thinking that day of the difference between the times now and fifty years ago; there were no steam engines then, no railroads, but that day he had been enabled to leave London, and in a few hours to have the pleasure of meeting that numerous and respectable company. He trusted that the good work which had been commenced, would progress to completion. The connection he had had with Redcliffe Church had given him the greatest pleasure, and his fondest hope was to see the church restored to its pristine beauty. He had resigned his part in the undertaking to his friend, Mr. Godwin, and had only to say in conclusion, that Bristol had his best wishes for its prosperity and restoration to the position it once enjoyed as the second maritime city.

Mr. Godwin said he was glad to be able to state, after a careful survey that day, that the timbers of the roofs not yet attended to were in a much better state than could be expected, so that they might be made perfect and re-leaded with comparatively small outlay, and thus the present annual plumber's bills would be avoided. He would augur well for the future progress of the work from the meeting of that day, and the spirit there displayed. Mr. Britton had alluded to the changes of the last 50 years: in nothing was this change greater than as related to architectural as well as other antiquities, the value of which was then disregarded and unknown. The more thoroughly the works of the mediæval architects were studied, the more manifest their beauties became: inventive genius and constructive skill were alike displayed. Within a very short time men highest in authority had believed and taught that, picturesque and beautiful as these works were, they were the result of caprice and chance, whereas late researches had proved that little had been left to chance:—the whole was the result of a system of geometrical proportion, even yet not thoroughly mastered. In no building was the genius of the early architects shewn more fully than in the church which was the object of their care, and which all England were interested in preserving. If the spirit of the present age was opposed to the erection of such elaborate and costly structures, at least we should preserve and hand down to our children those which our forefathers have left us.

Mr. W. P. King said he had returned from London with a refrain which he heard there ringing in his ears:—

> "There's a good time coming boys,
> Wait a little longer,"

and when he entered that room, and found it so full, he felt assured that the good time was come. Now, having once established it, if they ever deserted the Canynge's Society, if they ever suffered it to fall into decay, God only knew what might befal them. It would be like the old story of the crane at Cologne. At a time when the structure was not completed, but it was the intention of the citizens to do so, there always stood on the top of the tower a crane, which was an evidence that the people would sometime renew the work. At one period of the history of Cologne, it was taken away, and the most magnificent production of gothic intellect appeared to be for ever at a stand still; but a plague fell on the city, and the superstition was that it was in consequence of the removal of the crane, and the thereby evident renouncing of the intention of proceeding with the work. The crane was therefore put up again, and the pestilence left the city. The lesson which they might draw from this was, that if the Canynge Society were allowed to fall, there was no knowing what calamity might come upon Bristol. Their safety would be to keep up the society. They saw the Exchange in the course of repair, and no doubt admired it, and he could tell them that that was owing entirely to the restoration of St. Mary Redcliffe having been commenced. Let it not be said that the people of Bristol were destitute of taste: those who had heard the observations of the people respecting the beauty of the building, could bear witness that not only the people but the populace had taste. The citizens, he believed, were proud of their public buildings, and would not wish to have them go to decay, and he, for one, expressed a hope that they would cultivate good architecture, not only in restoring their old, but in building new ones. He believed that they had a taste for gothic architecture, and they had that day among them the man who originated that taste, Mr. Britton. They had, however, amongst themselves one who had done much for it, and he would give them "The Church Goer," (the cognomen of an able member of the Bristol press).

Mr. Joseph Leech, in reply, said that if in any way the press could advance the noble project in which they were engaged, and then met to celebrate, he was confident they would be most happy to do so. It should be remembered that when the first stone of the great and stately structure—the restoration of which was the object of their assembling that day—was laid, there was no press in existence: and yet, without the aid of that, and without the stimulus of public applause, it rose in majesty and beauty. Surely, then, it would be to the shame both of this age and the press, if, with the aid of the latter, the assistance of the physical sciences, since so enlarged, and of the boasted march of intellect, they could not keep from decay that which without such improved aids their predecessors had raised.

Mr. G. F. Powell, another gentleman connected with the local press, said, that every member of it felt that the venerable structure which it was sought to restore was so intimately connected with the history of Bristol, that it would be discreditable to the citizens were they to allow it to crumble to decay. It was not merely in the light of an ecclesiastical edifice that they should regard it, although in that point of view it was most important, but as a specimen of ancient architecture: and as a monument of the munificence of their ancestors, it had a claim upon the liberality of the entire kingdom.

We are anxious to aid in making this claim heard, and in ensuring a recognition of it.

RUMOURED EXCLUSION OF THE CITY FROM THE GENERAL METROPOLITAN SURVEY.

IT is currently rumoured in quarters not likely to be misinformed on the subject, that "the City" is to be excluded in the general survey of the metropolis and its environs, which is now being actively prosecuted. The present occupation of the cross of St. Paul's as an observing station; and the placing of objects on some of the church towers within the city is no proof that the rumour, improbable as it may appear, is unfounded; the occupation of the one being necessary, if not indispensable, for the reduction of the "bases" to be used in the metropolitan survey, from the primary "triangulation" of the country, and the erection of the objects being essential for the fixture of certain ascertainable points on the public buildings.

It is desirable that the public should be made aware, through the press, of the probable grounds of this exclusion, and also of some of its more than probable consequences. For the better and more general understanding of these particulars, a few facts may be premised, known, it is true, to many of the readers of THE BUILDER, but which cannot be too well understood by the public at large.

Until of late years, that part of vital statistics which treats of the relative mortality of different places under different circumstances, was but little understood; because, being an unattractive subject, it was but little attended to. No sooner, however, had the attention of intelligent medical men been fully and comprehensively directed to the subject, than the vast disproportion of deaths occurring in town as compared with rural d tricts, and of certain towns compared other towns, became strikingly apparent. W a view to the discovery of the latent causes such alarming, and, in many cases, increa mortality amongst large masses of the po lation, the Governments of the day appoin commissioners to inquire into the subjec "the health of towns;" and in the prosecu of these inquiries it was invariably found t in those districts where the public and priv sewerage, the supply of water to the inha ants, and the ventilation of dwelling-hou were most defective, the mortality was calculably the greatest. For the purpose extending the inquiries made by the Gove ment commissions, and of directing pu attention the more to the importance of re fying or repairing the past neglect of sanitary condition of large towns, and poss with the ulterior object in view of accelerat the introduction and passing, by the Le lature, of a Public Health Bill, the Health Towns Association was organised, and put i active operation, by men of ability and zea the cause of sanitary reform. Among ot modes adopted, by this association, of collect information, the unusual, and perhaps scar justifiable one, was resorted to of send circulars, containing leading questions, to individuals in many of the principal towns the kingdom, and publishing the replies these anonymous correspondents, as conclu evidence of incapacity, and want of integ on the part of existing corporate and o public bodies, for carrying forward any gen system of sanitary improvement, and of nality, corruption, misappropriation, &c., their past public conduct. Imputations these excited considerable indignation in m of the parties attacked, and in none gre than the corporation of London, who, if t were to be bespattered with dirt, natur desired to see and know their assailants.

These and other collateral causes have c verted the city authorities into active a apparently, irreconcilable opponents of t Government, in the various steps they h tardily enough taken for the advancemen sanitary reform.

Among the most obvious causes of the fective drainage of towns is admitted by competent authorities to be the system hithe followed of draining partially, by small isolated localities, without having a due reg to the works of a similar nature previou constructed, or likely to be constructed, in jacent or proximate localities. The highly jectionable nature of this system is now u versally admitted; instead of which, it known, that to drain a district effectively must be drained as a whole, and in order to so, it is necessary to obtain a comprehens and accurate knowledge of the relative tances, and levels, of all its parts. The o practical methods of obtaining this inform tion is by constructing a connected map the district of sufficient accuracy and mag tude, having the levels of all its parts exhibi upon it, and referred to one unaltera datum plane.

The metropolis, it is well known, was u very recently subdivided into an almost endl number of distinct districts, the sewerage each being presided over by separate and dependent commissions; and the powers nearly the whole of these commissions bei consolidated, are now exercised by the cently appointed Metropolitan Commission of Sewers.

One of the strongest recommendations the report of commissioners appointed by Government last year, to inquire into the sa tary condition of the metropolis, and to det mine upon the most practicable mode of amelioration, was to have immediate steps tak to make a general survey, which should e brace the entire metropolis and its environ and one of the first important acts of the p sent Commissioners of Sewers upon their pointment, was the taking immediate measu for having that survey made.

It is from this general survey that "the Cit is to be excluded, and the space it sho occupy upon the map, which was describ with considerable minuteness in THE BUILD of the 17th June, is to be represented, if are correctly informed, by about 24 square f of blank paper! We are decidedly indispos

to see our city deputies, and other civic functionaries "immortalized in deathless ridicule" by our facetious cotemporary *Punch*, and we have still less desire to cast indiscriminating censure upon them, believing as we do that in sanitary measures they are in reality as far in advance as any of their neighbours, and considerably further than most bodies intrusted with like powers. We would, however, offer them a few friendly hints, which we trust they will not fail to profit by.

They may have rendered good service in draining and cleansing the parts of the metropolis which come under their immediate care, but we know and *they* know that much still remains to be done. If we have not open drains of undiluted filth, or rank heaps of ordure shocking the feelings of common decency, and exhaling pestilence and death from their fœtid and fulsome surface, any person in search of *the abominable* may "nose it in the passages," the courts, lanes, and alleys between Bridge-street and Tower-hill, and between Smithfield and Bishopsgate-street. Every one *knows this*, and therefore it is unnecessary to particularise localities.

We have no objection to allow the city functionaries to settle their ordinary disagreements with the Government in their own way, but we have the strongest possible objection to their assuming the right of trifling with the public health. Our "city," occupying an area considerably under a square mile, contained in 1841 no less than 17,647 houses, not including those building, and a resident population of 125,000 souls, the average population of the whole country at that time being only about 300 to the square mile. Now, we consider the general health of this pent-up mass of human beings of such paramount importance, that every known precaution should be taken to preserve it, and to mitigate the pestiferous effects inseparable from such a bee-hive state of human existence; which effects are necessarily aggravated by the daily avocations of the largest migratory population, on an equal area, in Europe. We are, therefore, desirous of relying upon the practical good sense of our city functionaries to withdraw any opposition they may have offered, or intended to offer, to the including of the city in the general metropolitan survey, which must form, so far at least as the metropolis is concerned, the basis for all future sanitary legislation and improvement. Perseverance in such opposition will not fail to appear in the eyes of every dispassionate man frivolous and vexatious, resulting more from dogged obstinacy than from a sincere desire for the public welfare:—it will, furthermore, have the effect of lessening the legitimate influence of the civic functionaries in cases where their interference might be exercised with salutary effect. Let them allow the responsibility of the contemplated sanitary measures to be thrown undividedly upon the Government, and when the mode of carrying them out appears objectionable, their remonstrance will have the greater weight from not having offered an interested opposition.

To the Metropolitan Commissioners of Sewers we would remark, that the exclusion of the City in the general survey of the metropolis will raise strong doubts in the public mind respecting their administrative capacity. We have had reason to disapprove of some of the proceedings of this Commission, but we have hitherto forborne animadversion, knowing that they had difficulties, practical, financial, and ministerial, of no ordinary kind to contend against. We disapproved primarily of its constitution, when we saw some of the ablest and most zealous labourers in the cause of sanitary reform excluded from the Commission, and their places occupied by probably more ornamental, but certainly less useful members, and by others who can scarcely be considered either useful or ornamental. We disapproved of the interested, groundless, and most absurd aspersions unsparingly cast upon the professions of engineers and architects. We disapproved of the unbusinesslike proceeding of commencing the general survey inconsiderately, and therefore inefficiently, without so much as knowing whence the funds for defraying its cost were to be derived,—for unnecessarily suspending this work during three or four of the most favourable months of the season for its vigorous prosecution—the absence of any pressing necessity for such suspension being recently made clearly manifest by the resumption of the work, without any legislative interference, when the favourable season is at least half expired. With these and similar errors of judgment, we have invariably dealt tenderly, being reluctant to throw impediments in the way of a newly appointed, and, it may be, experimental body, which, if properly supported and conducted with the energy proverbial in new bodies, might be capable of effecting much public good. If, however, the rumours which have reached us respecting the exclusion of the City from the general survey be well founded, we have no hesitation in saying, that such a fact will raise stronger doubts in our minds of the administrative, as well as practical, capacity of the present metropolitan commissioners than we had previously entertained.

ON GRECIAN ARCHITECTURE.*

In a lecture of necessity limited in duration, and before an auditory not composed entirely of professional students, it cannot be expected that I should enter into details of the classic orders, but it will be my endeavour to awaken your interest on some points by calling in the aid of the poets of Greece to elucidate her architecture. Many able pens have been engaged to prove that we must not look for much information from Homer: the few passages which at all bear upon the subject either throw but little light on these matters, or they are considered to be interpolations introduced long subsequent to the time of Homer, to gratify the vanity of the Athenians, the *Autocthones*, or earth-born, as they loved to call themselves. In this last category we must place a passage in the Iliad, in which mention is made of a temple in Athens, which there is every reason to believe did not exist in the Homeric age. In the passage (book ii., c. 554) the Athenians are described as "the people (Δημον) of the noble Erectheus, whom the fertile earth produced, and whom Minerva nourished. She placed him in her own rich temple, where he is annually propitiated by the Athenian youth with sacrifices of bulls and lambs."

The celebrated Ionic temple, called the Erechtheum, or the Temple of Minerva Polias, now in existence, is of the time of Pericles: an earlier building may have preceded it. But the authenticity of the passage in question is strongly objected to, among other grounds, because the Athenians are therein spoken of under the term Δημος, an appellation appropriate enough in after times, when they lived under republican forms of government, when they were really democratic, but not applying to them with justice as a nation who, at the time described, the Siege of Troy, sent their contingent to the allied forces under their own king Menestheus.

In another place, Homer speaks of a temple at Delphi, but Pausanias declares that this was only a hut covered with branches of the sacred laurel; and in many of the early writers, and especially the poets, when the word temple is used, it probably implies little more than the altar, with its *hieron*, or sacred enclosure, the germ, in fact, of the future stately temple.

There are some very interesting passages in Euripides to prove that the metopes, or the spaces in the friezes between the triglyphs were originally voids or seen through, as the name itself implies.† The quotation, however, in question, can hardly apply to any other than to temples *in antis*, the early form of building as before mentioned. In the "Iphigenia in Tauris," *Orestes*, proposing to carry off the statue of Diana from her temple, in order

"To place the prize in the Athenian land,"

inquires of Pylades his

"Associate in this dangerous task,"
What shall we do? for high
The walls, thou seest, which fence the temple round:
Shall we ascend their height?"

The more cautious Pylades advises his friend to retire until

"The eye
Of night comes darkling on, then must we dare
And take the polished image from the shrine,
Attempting all things, and the vacant space
Between the triglyphs, mark it well, enough
Is open to admit us: by that way
Attempt we to descend."

In another play by the same great dramatist, viz., in his *Orestes*, we find, after the murder of *Helen*, at Argos, her Phrygian attendant, informing the chorus that the murderer, *Orestes*, had escaped from the palace over the cedar beams of the roof, and the Doric triglyphs.

And whilst we have noticed the term triglyphs, it will be well to state my conviction that the Greeks might have taken their first hint on that point from the temples of Egypt, in which vertical reedings are introduced, at measured intervals, in the frieze, which is also clearly defined as distinct from the architrave, by a horizontal banded roll of cane or reed, which occupies the place of the tænia, or fillet, which, in all the classic orders, separates the frieze from the architrave.

The flutings of Grecian Doric columns form a remarkable feature in the style. As a general rule, the columns were always fluted, for the very exceptions from the practice prove the rule. In the Doric temples at Thoricus, at Rhamnus, of Ceres at Eleusis, and of Apollo in the Isle of Delos, the shafts at first sight appear to be quite plain; but on inspection it will soon be perceived that they were actually fluted for a few inches at top and bottom, leaving the rest of the column plain. There is reason to believe that this curious arrangement must have proceeded from motives of economy; but it is very significant of the inflexible sternness of the rule; and nothing in modern attempts shews a greater ignorance or contempt of the wholesome practice of the ancients than the omission of the flutings, or the addition of a base, in a Grecian Doric column. The Temple of Nemesis, at Rhamnus, is a very remarkable example, for although the external columns were only fluted at top and bottom, those of the pronaos have the flutes continued throughout, in front of the shafts, the remaining number being completed in simple planes—another instance of economy. This fine building is stated by Pausanias to be the work of Alcamenes, the favourite pupil of Phidias.

A passage in Homer has led some writers to conclude that the flutings of columns were suggested by their serving as spear-holders; but to say nothing of such shallow channels being very inconvenient receptacles for weapons, which, in the time of Homer, were nearly 17 feet long, the passage does not bear out the construction put upon it. It relates that Minerva, on entering the Hall of Ulysses, "proceeds to place her spear by the tall column within the well-polished spear-holder, in which were many others, belonging to the prudent chief." (Od. i. 127.) The word here used, δουροδόκη, or spear-holder, it is argued, alludes to a repository of arms near to or adjoining the column, πρὸς κιόνα; and it has been well observed, "that the usual mode of disposing the spears was not against the columns, from the circumstance of the suitors, when Ulysses begins their destruction by the slaughter of Antinous, looking around for arms, not to the columns, but to the walls of the hall, from whence they had been previously removed by Telemachus."—*Lord Aberdeen*, p. 117.

Nearly all Egyptian columns are cabled; that is, they have vertical lines running up them; but whereas these in a Doric column are concave, they are convex in the Egyptian example, exactly as they would occur if a certain number of canes or reeds were ranged round a central core. May we not consider, therefore, that these cablings afforded some hint to the Greeks for their columns, bearing in mind that, from the word καννα, a reed, spring many words signifying hollowness—as cane, canal, channel, kennel, &c.

There appears to be also identity of feature between the Egyptian and Doric capitals, in the rings which form the necking, immediately under the capitals; in the former, consisting of three, four, or five hoops; and, in the latter, of deeply-cut annulets or rings.

I may add one word here of caution to such of my hearers who are architectural students—viz., that whilst the Greeks invariably channelled their columns, they never fluted their pilasters; and these again, unlike the columns, were so little diminished, that they appear to

* See p. 303, *ante*.

† From μετὰ, and ὀπὴ, *foramen*, *ab* ὄπτομαι, *video*.

the eye to be as wide at top as at bottom: and upon the point of the *entasis*, or swelling outlines of the columns, no affectation deserves more censure than that which is employed by some moderns to shew their acquaintance with this law of the ancients, which was adopted by them, not from caprice, but to correct a defect of vision, or optical illusion, as well as to strengthen the shaft; but so carefully was this managed, that it is only by minute investigation the travelled architects have obtained a certain knowledge on the point. Even Inigo Jones, in his Church of St. Paul's, Covent Garden, has carried this peculiarity to an absurd excess, and has given to his columns and pilasters a ridiculous appearance instead of a graceful outline.

The Doric was the favourite order of the European Greeks; and despite the dogmas of some writers, who insist that each order was appropriate only to certain deities, we find temples of the Doric order dedicated to almost all the chief divinities, to gods as well as goddesses: thus to Jupiter at Agrigentum and Ægina; to Neptune at Pœstum; to Apollo at Bassæ and Delos; to Venus at Corinth; to Juno in Sicily; to Diana and to Ceres at Eleusis; to Nemesis at Rhamnus; to Minerva at Syracuse and at Sunium, as elsewhere.

The first-named of these temples was one of the wonders of the world—that of Jupiter Olympius, at Agrigentum, the ancient Agragas, celebrated by Virgil,* and modern Girgenti. All the temples in Sicily were on a vast scale. The description in ancient writers of the wealth, power, and luxuries of its cities would not be believed if we had not evidence of their probability in the buildings left to after times. The Agrigentines were the most prominent people in the island, and it was of them Plato said, "That they built as if they were to live for ever, and feasted as though they were to die on the morrow." To give some idea of the truly colossal proportions of the Temple of Jupiter, it may be stated that it was 369 feet long, 182 feet wide, and 120 feet high; and so vast were the columns, that, contrary to the prevailing practice in all other Doric temples, they are not detached from the walls, but present the appearance of half columns; these, however, are 13 feet in diameter, so that if they had been disengaged, their circumference would have exceeded 40 feet; there is nothing in Egypt equal to this dimension. As some indication of the proportions, it may be noticed that a man could stand in a fluting of the columns. Some of the details of this temple are imitated in the Westminster Fire Office, by Mr. Cockerell.

The temples in Sicily, and those at Pæstum in Italy, are presumed to be of more ancient date than the Athenian buildings of the time of Pericles; and although the former are on a scale of great magnificence, they will not compare with the latter in purity and simplicity of style, and, consequently, they are not such safe models for study.

Much interest attaches to the Pæstan examples, which, even in the days of Augustus, were regarded as venerable objects of antiquity, but which were lost sight of altogether for many hundred years, until accidentally discovered in the middle of the last century by an artist. The unhealthiness of the soil, arising from the dreadful malaria which prevails even

> "When summer skies are blue,
> And the clear air is soft and delicate,"

renders the place so dangerous that

> "With that air
> The thoughtless wretch drinks in a subtle poison,
> Lulling to sleep; and when he sleeps he dies."—
> *Rogers' "Italy."*

This fatal scourge, which has depopulated a place once so salubrious that Virgil's "bifer-ique rosaria Pæsti" have passed into a proverb, has left the temples to reign in their lonely grandeur over that deserted plain. In an Oxford prize-poem these temples are described in so graphic a manner, that the recital of the lines may be welcome, as less familiar than those of the classic author of "Italy."

> "Mid the deep silence of the pathless wild,
> Where kindlier nature once profusely smil'd,
> Th' ancient Temples stand—untold their age,
> Untrac'd their annals in th' historic page.
>
> All that around them stood now far away,
> Single in ruin, mighty in decay;
> Between the mountains and the azure main
> They claim the empire of the lonely plain.
> In solemn beauty through the clear blue light
> The Doric columns rear their massive height,
> Emblems of strength untam'd, yet conquering Time
> Has mellow'd half the sternness of their prime,
> And bid the lichens 'mid the ruins grown
> Imbrown with darker tints the vivid stone.
> Each channell'd pillar of the fane appears
> Unspoil'd yet soften'd by consuming years;
> So calmly awful, so serenely fair,
> The gazer's heart still mutely worships there.
> Not always thus when beam'd beneath the day
> No fairer scene than Pæstum's lovely bay,
> When her light soil bore plants of ev'ry hue,
> And twice each year her storied roses blew.
> While bards her blooming honours lov'd to sing,
> And Tuscan zephyrs fann'd th' eternal spring.
> Proud in her port the Tyrian moor'd his fleet,
> And wealth and commerce fill'd her peopled street;
> While here the rescued mariner ador'd
> The seas' dread sovereign, Posidonias' Lord;
> With votive tablets deck'd yon hallow'd walls,
> Or sued for justice in her crowded halls
> There stood on high the white-robed flamen—there
> The op'ning portal pour'd the choral prayer.
> While to the o'er-arching heaven swell'd full the sound,
> And incense blaz'd, and myriads knelt around.
> 'Tis past—the echoes of the plain are mute,
> E'en to the herdsman's call or shepherd's flute;
> The toils of art, the charms of nature fail,
> And Death triumphant rides the tainted gale.
> From the lone spot the trembling peasants haste,—
> A wild the garden, and the town a waste.
> But *they* are still the same, alike *they* mock
> Th' invader's menace and the tempest's shock.
> Such, ere the world had bow'd at Cæsar's throne,
> Ere yet proud Rome's all-conquering arm was known.
> They stood; and fleeting centuries in vain
> Have pour'd their fury o'er th' enduring fane.
> Such long *shall* stand, proud relics of a clime
> Where man was glorious and his works sublime;
> While in the progress of their long decay,
> Thrones sink to dust and nations pass away."

The time would fail me to do more than glance at many other noble Doric buildings, as at Corinth, where are still eleven columns existing of one of the most ancient temples of this order; or at Sunium, where, on a noble promontory, are the remains of a temple with its propylæa of the purest age of Grecian architecture, and most probably the work of Ictinus; or returning once more to that favoured spot,

> "Where on the Ægean shore a city stands,
> Built nobly,—pure the air, and light the soil.
> Athens the eye of Greece, mother of arts
> And eloquence, native to famous wits,
> Or hospitable, in her sweet recess,"—(MILTON)

we find ourselves before the Temple of Theseus, built a few years earlier than the Parthenon, and, next to it, the noblest monument of Athenian magnificence, and, in the days of Stuart, one of the most entire. In this temple, the two heroes, Hercules and Theseus, were honoured. Euripides, in his tragedy of "Hercules," makes Theseus, in gratitude to his friend and kinsman, who had released him from captivity and restored him to his native land, thus address that demi-god:—

> ——"To me, whatever sacred and apart
> The land contains, henceforth to thee be sacred,
> And bear thy name, thou living; but when dead,
> And to the shades below thou shalt descend,
> With sacrifice and marbles high embost
> With costly sculpture, all th' Athenian state
> Shall celebrate thy virtues."

Thus, therefore, we perceive the propriety of the sculptures on the metopes, commemorating the famous labours of Hercules as well as the achievements of the favourite hero and king of Athens. This temple was a tomb as well as a place of worship, the remains of Theseus, brought from Scyros by Cimon, the son of Miltiades, having been deposited there with great solemnities, festivals, and games, and on this occasion the contest took place between Æschylus and Sophocles for the dramatic prize.

But brief notice also can be taken of the other Greek orders, the Ionic and Corinthian: of the former, the purest buildings of their class are also to be found at Athens, although Asia Minor abounded with many rich and extensive structures. In the exquisite little gem, the temple where

> ——"Ilissus rolls
> His whispering stream,"—(MILTON)

we have the simplest as well as most elegant specimen of the Ionic order—nothing was e conceived in purer taste than this charm little building;* the cell of the temple is o 15 feet square, and the columns are only feet high. The mouldings were perfectly pla and, to all appearance, so was the freize; sculptures were found at Athens which exac fitted the height of the freize. This tem was imitated in the portico of the College Surgeons, in Lincoln's-Inn Fields, until it altered by a profusion of *ornamentation compo'* by way of improving, it may be p sumed, upon the practice of the ancie The Ionic screen which once stood in Pall M in front of Carlton House, was copied from Ilissus example. Some wag in the spirit of famous Pasquin once addressed the column

> "Care colonne, che fatte qua?"

to which they were made to reply

> "Non sapiamo, in verita."

Another building at Athens, of the Io order, but of highly enriched character, is triple temple on the Acropolis, in honour Minerva-Polias, of Neptune, called Ere theus, and of the nymph, Pandrosus, of wh the architecture is familiar to the public by imitation of its chief features in the Church St. Pancras, and especially of the Pandrose of which fac-similes are introduced at the er of the church, even including the female figu called the caryatidæ.

The employment of figures to serve columns was by no means of unfrequent in many countries. In Egypt several examp might be quoted, of which the most noted the Ramesseion at Ipsambul and the Memn nium at Thebes. Pausanias estimates, that Sparta a portico, much celebrated but n entirely lost, was supported by figures of P sians, and these must have possessed gr interest to the victorious Greeks, as the statu were portraits of individuals: among th Pausanias mentions Gobryas, and Mardoni Another famous example of this nature curred in the Temple of Jupiter Olympi before alluded to, in which an attic story the interior was supported by colossal figu of the rebellious and defeated Titans, most propriately placed there to contribute to glory of that Jove whose power they h dared to oppose. Inigo Jones proposed, his plan of Whitehall Palace, to have a m nificent inner court, in which Persian figu were to serve as columns. The female figu which perform the office of columns in little temple attached to that of Minerv Polias are believed to represent the κορα virgins, who formed a distinguished feat in the Panathenaic procession, having to car the sacred baskets (hence called canephor a duty of great importance, and they are th represented in the freize of the Parthenon. O of the actual capitals of the Temple of Minerv Polias is in the British Museum, with a ba and portions of the entablature, as also one the caryatidæ. The architect of this temp was Philocles of Acharnæ.

Very splendid temples of the Ionic ord existed at Priene, dedicated to Minerva Alexander the Great; at Teos, in rich oct style, in honour of Bacchus; at Miletus, Apollo-Didymæus; at Samos, in honour Juno, which was the oldest example of a being erected 540 B.C., and considered Herodotus as the largest and most noble ed fice raised by the Greeks.

Of the third order of Grecian architectur the Corinthian, examples are not numerous Athens. The beautiful little circular buildin popularly called the Lanthorn of Demosthene as a place built by him for study, is quite gem of its kind. It has, however, nothing reality to connect it, beyond tradition, with th famous orator, although erected in his tim but was, in truth, raised at the expense a person who gave a public entertainment his own cost, consisting of games, plays, an tragedies, in which the chorus occupied prominent part: hence the giver of the repr sentation was termed Choragus, and this mo nument, from the name inscribed upon it, the individual, on this occasion, is styled th Choragic Monument of Lysicrates. Some the most celebrated persons in Grecian histor

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* "Arduus inde Agragas ostendant maxima longe,
Altaque, magnanimum quondam generator equorum."
Æn., iii., 703.

* Pausanias asserts that this temple was dedicated Triptolemus, to whom Ceres taught the art of agricultur in reward for the hospitality she received from his fathe Celeus, king of Attica, when searching for her daughte Proserpine.

filled this honourable office: among them was Lysias, the rival of Demosthenes, Aristides, and Themistocles, who obtained a prize for exhibiting a tragedy. The capitals of the columns in this little building are exceedingly beautiful, they have been introduced in half the shop fronts in London, and a close copy of the little structure itself is set up as a tower on the Roman Doric church of St. Philip, Regent-street.

The Tower of the Winds is an interesting building: the capitals of the columns are composed of water-leaves, and have a great resemblance to some of the Egyptian examples.

One of the most magnificent specimens of architecture ever witnessed must have been the Temple of Jupiter Olympius, at Athens. Let us picture to ourselves a building surrounded by 124 columns, each 6 feet in diameter and 60 feet in height, each end having three ranges of ten columns in front, and each flank presenting two ranges of 20 columns, and as the sixteen remaining columns prove, all of the most beautiful proportions and finish.

I hope to be able to shew, on some future occasion, that the finest works in Rome, of the Corinthian order, were produced by artists of Greece, which, in losing its independence as a state, did not, for some time, at least, resign her supremacy in matters of taste, justifying the generous and well-deserved eulogium of Horace:—

> "Græcia capta, ferum victorem cepit, et artes
> Intulit agresti Latio."
>
> EPISTLE TO AUGUSTUS.

And to this hour is the influence of ancient Greece supreme, not merely in Italy, but in every land which makes a claim to be considered civilized;—to this hour the Athenian temples have never been surpassed as models of architectural purity;—to this hour the heavenly beauty of the Venus, by Praxiteles (yet supposed to be only a copy), which occupies the tribune of Florence, reigns alone, and

> "Still enchants the world, and fills
> The air around with beauty."—BYRON.

To this hour

> "The Lord of the unerring bow,
> The God of life and poesy and light,
> The sun in human limbs array'd, and brow
> All radiant in his triumph from the fight,"
>
> BYRON.

remains the perfection of the sculptor's art (although again but a copy),* the unapproached Apollo of the Vatican;—and to this hour also our arts and manufactures confess the all-ruling power of Greek taste; and the most beautiful forms of objects in daily use among the moderns, whether for luxury or comfort, are those which take their outline from the vases, the urns, the furniture, and the decorations of the Greeks.

In thus noticing our obligations to

> "The ancient of days, august Athena,"

allow me in conclusion to introduce once more the name of him who exercised so paramount a sway in her destinies. Plutarch, in summing-up the character of Pericles, and comparing him, as was his wont, with a celebrated Roman (Fabius Maximus), concludes by saying, "As for the temples, the public edifices, and other works with which Pericles adorned Athens, all the structures of that kind in Rome put together until the times of the Cæsars, deserved not to be compared with them either in the greatness of the design, or the excellence of the execution."

In the British Museum, an interesting object is the bust of Pericles; it is inscribed with his name, and is distinguished by the helmet which he usually wore to hide the elongated shape of his head; and in the calm and philosophic features, we would fain believe that we contemplate a veritable portrait by the hand of his friend Phidias, or by one of the great master's pupils.

The tongue of the eloquent statesman has been mute for ages, that tongue which was said to be armed with thunder,—the arm of the hero-warrior has long since mouldered in the dust,—the graces and the charms which obtained for him the proud appellation of Olympius from his admiring countrymen, descended with him to the tomb, when Athens mourned his loss; but the enduring monument to his greatness still exists in the buildings reared by his munificence, and in the universal influence they have exercised in the realms of taste.

G. R. FRENCH.

* Flaxman gave this as his firm opinion: "I am sure it is a copy," and thinks that it was copied from the bronze statue of Apollo Alexicacos, by Calamis.

THE WORKMEN'S QUESTION.

ONE portion of the model prison at Portland is completed for the convicts, who are to be set to work on the breakwater. It contains 350 cells, and is one of four divisions of equal dimension, now in course of erection. Houses for foremen and others, are being built in all parts of the island, and the breakwater itself will soon be commenced. How thankful would thousands of honest labourers be at the present moment, were all this accommodation and this 'national work,' in progress on *their* account, in place of on that of the really *privileged* class, whose *punishment* those so much more worthy of consideration would be glad to have as a *provision* for their families, were it not tainted with an odour of corruption to which, honour to them, not even the pangs of hunger, aggravated by the callousness of rulers, can deaden the repugnance of the many. It is indeed, by contrast, painful in the extreme to contemplate, on the one hand, all that has been done, and is being done, in model and other prisons, and otherwise by the Government, for the comfortable subsistence of the criminal, while, on the other hand, he who rejects the most urgent temptation to crime, is either left to starve *until* he yield to that temptation; or if he preserve his integrity and obtain the means of earning an honest livelihood in arduous toil on public works, is at this very moment coolly cast adrift to swell the number of the breakwater worthies, and the workhouse wards, or the churchyard relics.

We are indeed much grieved to perceive that the pitiful and pithless 'cheeseparing' system of retrenchment or 'economy,' if we can even dignify such acts with such a title, is being still further extended in various quarters—of course amongst those who have "got no friends"—amongst the poorest, the most helpless, the most voiceless, and *as yet* the most unresisting of the public servants. The artisans in the royal dockyards, it seems, are the next *grand* national resource of a retrenching Government to fall back upon. These are to be 'picked off' by a few hundreds, while not the slightest reduction, either in pay or number, is to be made amongst even the officers who constitute the superiors of these very artisans! So says a Hampshire contemporary at least, and that it is consistent, at any rate, with the great *principle* on which 'retrenchments' have heretofore been 'fusionlessly' and fruitlessly aimed at, no one can deny.

A like system, though a little more out of our own more limited province, is being also extended to the customs, where the notoriously most hard-working and meritorious, and already double-screwed and squeezed and kiln-dried classes, such as the landing-waiters, are to be the sufferers,—as they, indeed, and such as they, have already so repeatedly been, that it has appeared as if the Government really envied the poor men the *immensity* of the resources expended on them, and esteemed these resources as a legitimate and inexhaustible exchequer, on which to fall back whenever there is any difficulty in telling out the thousands per annum, and the tens of thousands, to their idler betters.

The folly, the iniquity, the selfishness, and after all, the utter inadequacy of such a *system* of retrenchment, they themselves may perhaps begin to be conscious of when it is too late, at least for their own personal advantage. Do they not consider that the dismissal of even a single drone who consumes from one to ten thousand a year for merely cumbering the hive of industry, would save them the trouble, at least, if not the grief, of ferretting out, and digging the mortal sting of dismissal into, a whole host of the poor, humble, working bees? As for the policy of the thing, we need only paraphrase the golden maxim—"Go to the Ant, thou Sluggard,"—not inaptly quotable itself here, by the way—with the still more closely applicable exhortation—Go to the Bee, thou Financier!

PROPOSED CORN EXCHANGE, EDINBURGH.

SIR,—As your journal is doubtless open to candid remarks on structures either built or unbuilt, even in cases where you may not wholly agree with the writer, you will perhaps allow me to make a few observations on the design of the new Corn Exchange, Edinburgh, as recently given in your pages.

Were it open to censure in no other respect, it is chargeable with one serious error, namely, the absence of character and expression of purpose. By character I mean that sort of it which announces tolerably distinctly the particular class to which a building happens to belong. That it is not very easy to impress such a decided stamp upon a building as shall indicate, not indeed the individual purpose for which it is erected (it must be left to an inscription to perform that), but as shall at least indicate that it belongs to such or such particular class, is quite certain. The difficulty of accomplishing this enhances the merit; and whether it be accomplished or not, it ought at least to be aimed at. Now Mr. Cousin's building is, in my opinion, altogether deficient in the architectural propriety just spoken of. It has very much more the look of being intended for a club-house than a corn-exchange.

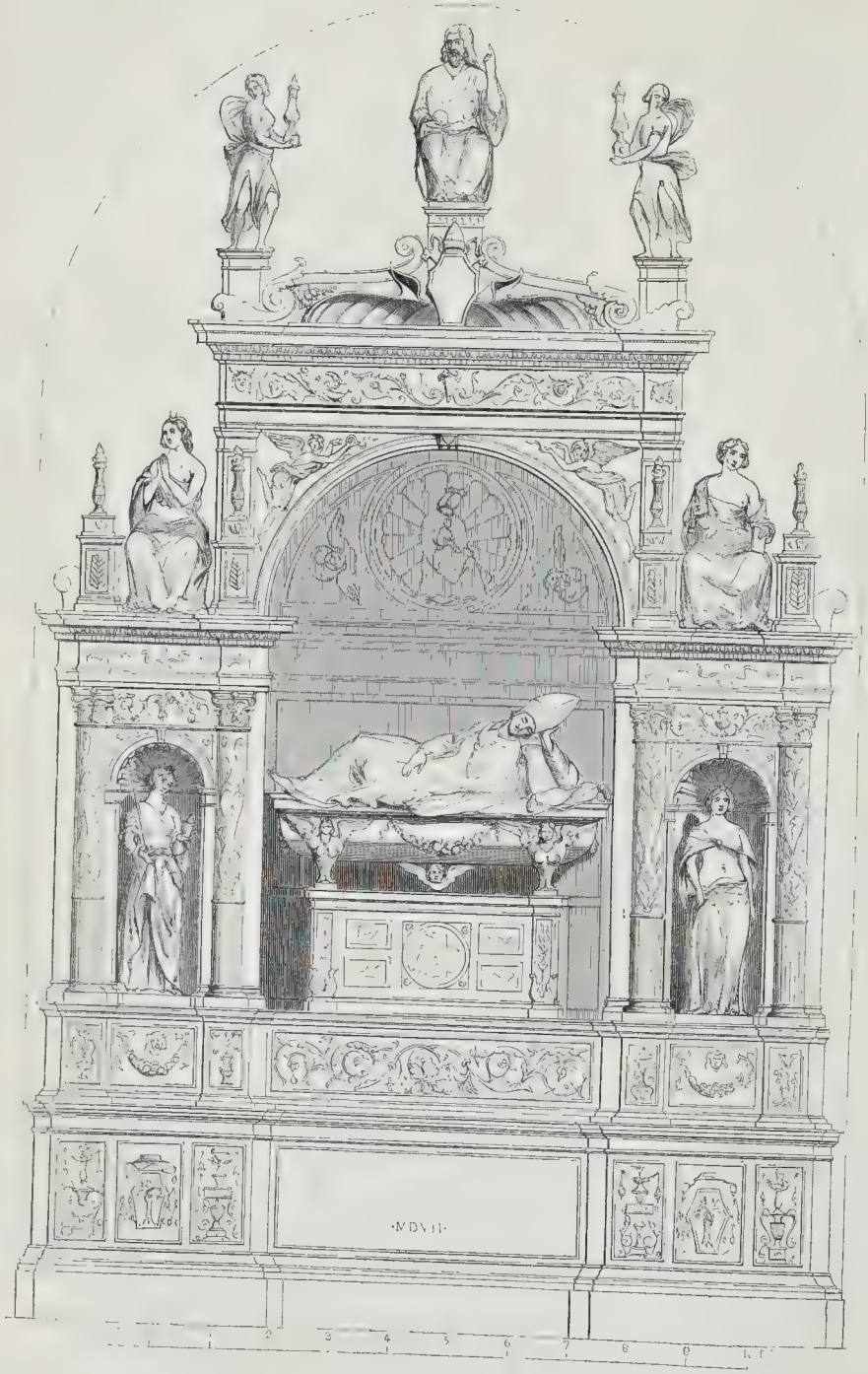
So far from studying suitableness of character, the architects of the present day are apt to shew themselves wholly regardless of it, and, consequently, sacrifice what, when attained, constitutes a merit of the highest order. Some of the Pall-mall club-houses have all at once brought what is termed the Italian palazzo style into vogue. The consequence is, that from a style it has fallen into a mere fashion. Façades, which are one and all of the same stamp, and look very much like mere architectural manufacture, are indiscriminately employed for all occasions and purposes,—for banks, insurance offices, railway stations, coal exchanges, corn exchanges, &c. Before that palazzo mode came up, the Greek costume (or what passed for such) was affected for nearly all sorts of buildings alike,—with what kind of judgment or success I need not say: neither thought, nor skill, nor taste, being brought to it, it was hackneyed in the most insufferable manner. The same is now likely to occur with regard to the particular mode of Italian in question; and one ill consequence is, that the style itself is brought into discredit and the taste of the general public is in danger of being corrupted by the many specious and showy yet really barbarous and vulgar designs that are allowed to pass muster because, as regards the mere fashion of them, they answer to the name of Italian. However agreeable it may be to Mr. Barry to be convinced of the great superiority of his productions in that style, he must, I should think, groan inwardly at the horrible doings of some of his imitators.

Having thus far pointed out the great importance of character in design, and want of it in Mr. Cousin's building, I will be brief in my particular objections to the latter. Considered merely as a design, it is faulty, if only because, instead of forming one complete composition, it is made to form two quite distinct portions. If a campanile was required, it should have been properly combined with the rest,—should have been included in the first idea, not merely tacked on to it, as if it had been an after thought or after addition. It may perhaps be fancied that, placed as it is, it contributes to picturesqueness; but in a building otherwise regular in design, picturesqueness should be produced by regularity; that is, while uniformity of composition is preserved, and not by arbitrary irregularity. The upper floor windows, in picture-frame dressings, and cutting through what seems to be intended for the architrave of an enlarged and general entablature, reminds me of some of Borromini's worst freaks.

PHILOCRITICUS.

MEETING OF MECHANICAL ENGINEERS.—At Birmingham, the Institution of Mechanical Engineers had a meeting on 13th June, Mr. J. E. M'Connel in the chair, when papers were read "On the balancing of Wheels," by the chairman; "On an Express Engine," by Mr. Samuel; "On the Patent Condensing Engine," by Mr. Craddock; and "On the recent Boiler Explosion at Dudley," by Mr. Smith of Dudley.

TOMB OF THE CARDINAL SFORZA, ROME.



TOMB OF THE CARDINAL SFORZA, ROME.—Details.



Fig. 2.

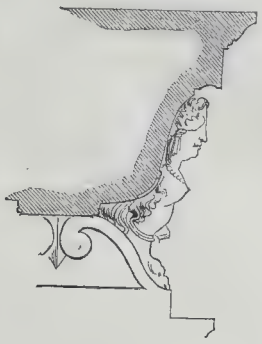


Fig. 3.

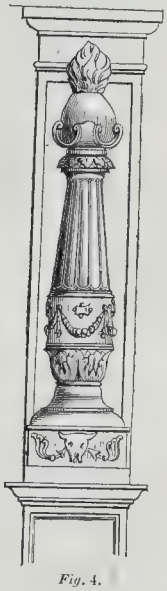


Fig. 4.

TOMB OF THE CARDINAL SFORZA, ROME.

This magnificent tomb, constructed in 1507, to the memory of Cardinal Sforza, by Andrè Contucci, surnamed Sansovino, is attached to one of the arcades of the absis of the Church St. Marie du Temple, in Rome. It is of white marble exquisitely worked, and the correctness of the details, considering the early period of its construction, is very remarkable. The sarcophagus is elevated about 7 ft. from the ground, and upon it is a sculptured representation of the cardinal reposing. The frieze below, in the pedestal of the order, is a *chef-d'œuvre* of elegance.

The columns project three-fourths of their diameter. The total height of the whole to the upper cornice is 17 ft. 6 in., and the width between the centres of the two outer columns is 11 ft. 6 in.

We give a drawing of the capital of one of the columns, one-fourth the full size (fig. 2); also the section of sarcophagus (fig. 3), and the candelabrum (fig. 4), one-eighth of the real size.

Jacopo Tatti, the architect, better known as *Sansovino*, was the pupil of Contucci, and took his cognomen from that circumstance.

HARBOURS OF REFUGE.

Institution of Civil Engineers.

At a meeting on June 20, Mr. Joshua Field, president, in the chair. The Paper read was "On Harbours of Refuge," by the right hon. the Earl of Lovelace.

It consisted chiefly in a succint review of the Reports of the Commissioners on Shipwrecks and on Harbours of Refuge, giving the opinions of the naval officers and civil engineers on the necessity for harbours in certain situations, the naval qualities possessed by those positions, and the possibility of constructing harbours in them, and the nature of the structures. The necessity for harbours on our coasts capable of sheltering fleets from storms in peace, and the enemy during war, appeared to be admitted, particularly at the present moment, when the disturbed state of the continent and the restless character of our near neighbours was considered. It was stated, that of various situations pointed out, that of Dover was the only one yet decided upon, although great works are contemplated at Portland, where from Mr. Rendel's designs a system of construction would be adopted which would be both economical and stable, and at the same time would afford employment to a class of persons whose labour it had been difficult hitherto to use efficiently.

The various projects of floating breakwaters, and other artificial shelter for vessels, were then examined, and were generally condemned as entirely inefficient for the objects proposed. The next question was the plan of the harbour and the mode of construction of the works. After quoting all the authorities on both sides, including the naval officers, the commissioners, the civil engineers, and the scientific writers, the preference was given to a large harbour with two entrances, so placed as to allow a sufficient run of the tide through it, to prevent any very considerable deposit of silt, but so constructed as to afford shelter to the vessels within. The pier walls inclosing the harbour to be built vertically up from the bottom, or with a very slight inclination in their height, instead of throwing in masses of rubble stone to find its own angle of repose, which it was shewn was not less than four or five to one, and that it only attained solidity after a lapse of many years, even with a due admixture of small materials to fill up the interstices, and after constant supplies of stone to replace that which the sea removed. The reports of Captain Washington were quoted to prove the failures that had occurred at certain harbours in Ireland, where it was stated that the long slopes had been destroyed by the sea, and had ruined the harbours they were intended to protect. The proceedings at Cherbourg and Plymouth were followed in great detail, with a view to deducing arguments against the long slopes and in favour of vertical sea walls. The protest by Sir Howard Douglas in favour of long slopes, was examined at great length, and the arguments used on both sides were analyzed with skill and candour.

Colonel Emy's theory of the effects of the "flot du fond," was carefully examined, and, without going to the entire length that he did, it was admitted that in many cases the effects produced were as he described them, and that the subject, as he had brought it forward, was well worthy the attention of civil engineers. The placing a vertical wall upon a substratum of rubble in the form of a long slope, was shewn to be pregnant with mischief, and had never been successful, and the adoption of that system at Cherbourg had been a matter of necessity rather than of choice.

Mr. Alan Stevenson's clever experiments on the force of waves striking opposing bodies were given, and it was urged that the force shewn to be developed by a breaking wave would not act upon a vertical wall, up and down which it would merely oscillate, whereas it might fall with all its accumulated force upon a slope upon which it would naturally break. In conclusion, it was urged that, although for Dover, which was the spot whereon to mount guard over the Channel, in order not only to prevent invasion, but to maintain our present naval supremacy, it might be permitted to expend a large sum of money; yet it would not do *to have several Dovers*, and therefore it behoved the authorities to consider carefully the site, the plan, and the method of construction, before commencing works in which, in the present state of engineering science, the experience of the past should be used to avoid the errors that had occurred in former and similar works.

For the discussion which ensued, and in which the principal civil engineers engaged on great hydraulic works, took part, after justly complimenting the Earl of Lovelace for the very able and impartial analysis he had made of the evidence contained in the Government report, and the documents in his possession, the speakers explained the actual circumstances and conditions of the works which had been instanced as failures, and it was shewn that far from being expensive or useless works, they had been completed within the original estimates; and that wherever the construction had required restoration or additions, it had arisen from the use of defective materials, which being on the spot, it had been obligatory to employ, and not from the use of the long slope, which, as compared to vertical walls in similar situations, was shewn to be more durable, and to have been in many instances successfully exhibited for vertical walls after they had succumbed to the assaults of the raging billows.

MONUMENTS IN CHURCHES.

On entering our churches and cemeteries, especially in and around the metropolis, the cultured eye is at once struck with the crude and inharmonious black and grey marble back-grounds, against generally white walls, of the various mural monuments which disfigure, in too many instances, rather than adorn, our houses of prayer, increased by the deplorable neglect, after once fixing, that these matters experience, the fee being only for the permission to fix, and does not, as it ought, include the proper care and cleansing afterwards. Among the various reasons for these strong, or cold, and inharmonious contrasts being so generally used, is no doubt the association these colours have with mourning, their being most easily obtainable in marbles, and that such works have been too much practised as a mere trade, or directed or dictated by tasteless committees, or individuals. In the time of black patches, such contrasts might have been admired, but now that taste in art is advancing, these are not only eyesores, but loudly cry for remedy; and we are called upon,

without violating the rules of mourning, to produce unobjectionable contrasts and harmonious blendings. To effect this, we must first consider that our statuary marble is of a cold tone (not like the fair one's cheek that received the black patches), and can only be successfully relieved by bringing a warm colour to its aid, which exists not in the black or cold grey marble. No one can but acknowledge the beauty and brilliancy of marbles or plaster-casts against a red papered wall, and red baize is commonly used when such works are exhibiting. Again, how enhanced is a statue relieved by a sunny painting, and not more so than the painting, if good, and not too near the statue. A few carefully-arranged marbles and casts in the picture-rooms of the Royal Academy, to rest the eye upon, would relieve many a sickened brain and confused mind from the glare of colours that meet, without relief, at every point, the wearied spectator.

Nature gives us the lesson; and of her we learn that cold colour should ever be relieved by warm, and warm colours by cool tints. In monumental works, therefore, if a back-ground be required (for where there is a warm stone ground it is not), and a warm medium cannot be got in marble, I would suggest the use of fresco or encaustic, or other durable material, by which appliances a vast field is opened to the man of taste and discernment. For with these, without violating, as I have before said, the rules of mourning, warm greys, of every variety of tint, might be substituted for the one miserable, cold dove-colour; and in some instances more positive tints might misplace the melancholy black. And not only would the artist's work be rendered infinitely more pleasing by this substitute, but the church would, at the same time, receive an equal benefit. That monumental tablets are altogether incorrect, of whatever order, with the sacred walls, I believe; but being introduced, our aim is to render them Christian in character, reposeful, cheerful, and harmonious. Those who merely know our churches as they are, with their cold, washed walls, the colder marbles, and their colder grounds, will wonder at these bold suggestions; but those who know and find by daily experience the great care taken by our ancestors, and the chaste and elegant decorations they introduced into these same whitewashed buildings, as the first fruits of art and labour offered to the great Being whose houses they are, will, I am sure, excuse my earnestness for wishing to substitute tasteful art for tasteless statuary.

EDWARD RICHARDSON.

Melbury-terrace, Blandford-square.

NOTES IN THE PROVINCES.

THE dockworks (New North) at Liverpool, in course of construction for several years, are drawing to a close. The docks are to be opened the end of July or beginning of August.——The dock-committee have contracted with the Rugby Iron Company for 1,000 tons of iron railway, for which tenders were lately lodged.——The Huddersfield Improvement Bill has reached its third reading in the House of Lords without alteration.——The works at the Marquis of Londonderry's mansion, Wynyard-hall, are nearly completed. The chapel (in which the fire originated) is being fitted up with massive columns and pilasters of solid marble. The whole of the floor and east end will also be of marble, supplied by Messrs. Nelson, of Carlisle. ——The Bradford workhouse, undermined by coal workings, runs an immense risk of tumbling down about the ears of the inmates. One of the guardians the other day thrust his arm right through a hole in the wall!——The ancient well at Westbromwich, called the 'Lyndon Pearl,' and known as the refresher of Cromwell and his troopers, has had a narrow escape from the hands of the spoiler, the inhabitants having reverentially risen, *en masse*, to preserve their far-famed medicine patent to all. ——An improvement of some importance to the town of Devizes is to be effected by the demolition of an unsightly lump of building facing Long-street, and the throwing of the whole space open to the street. On a site adjoining a new saving's bank is to be erected.

CHURCHES, CHAPELS, AND SCHOOLS.

THE Incorporated Society for building Churches and Chapels, at their late meeting, issued orders for nearly 3,000*l.* voted in aid of the erection of five new churches and the enlargement of other seven, the works being now completed. They also made fresh grants for the erection of six additional churches, the rebuilding with enlargement of the existing churches, and the increased accommodation of others, in twelve districts and parishes. The new churches are to be erected at St. James's, Devonport; Thorpe, near Norwich; Shewen, near Neath; Headington Quarry, near Oxford; Deal; and St. Luke's, Jersey. The churches to be rebuilt are those of Foulness Island, near Rochford, in place of its old wooden one; at Llanfairfechan, near Bangor; and at Walsingham, Durham. Redbourne, near St. Alban's; Bywell, St. Peter's, near Gateshead; and Leigh, near Reigate, are to be enlarged, &c. Three thousand eight hundred new and free sittings will thus be obtained. —— St. Augustine's College, at Canterbury (of which we lately gave a view), was to be consecrated on the 29th inst. —Christ Church, Ashton-under-Lyne, was consecrated on Saturday week. It is in the early English style, of brick, and cruciform, comprising the nave and two aisles, with a chancel. Over the communion-table there is a stained-glass window, presented by Mr. Legh Richmond. The building will seat 850 persons, and was commenced in October, 1846. The cost will not be less than 3,000*l.*; the site, with 200*l.*, presented by the Earl of Stamford and Warrington, lord of the manor; 1,400*l.* by the inhabitants, and grants from Church Building Societies. A school has been built in the vicinity of the church, uniform with it, and a residence for the master.—— The new church at Weybridge was also consecrated on Saturday week.——The first stone of the new church at Headington Quarry was laid by the Bishop of Oxford on Monday week, when he also opened the new schools at Headington.——Sandford Church, Devon, has been reopened. An eastern window, by Mr. Merrick, of Bristol, in memory of Sir H. Davy, and a new font by Mr. Rowe, of St. Sidwell's, Exeter, are noticed.——A new church is to be built at Pillgwelly, Newport, site given by Sir C. Morgan, and half the cost realized.——Some Cockney sportsman, while firing at sparrows, has accidentally hit the higher game in the painted window of Upwell Church, which has been thus 'grievously injured.'——The new Baptist Chapel at Dunstable, though unfinished, has been opened for divine service.——The Rev. T. B. Holgate, Vicar of Bishopston, near Stockton, and his sisters, have rebuilt the parish church, and furnished it with bells, a clock, and an organ, at a cost to themselves of 11,000*l.*——A Mrs. Mathewman has left about 30,000*l.* for the purpose of building and endowing churches in Leeds, of which place she was a native.——A number of carved stalls, the workmanship of a resident artist, have recently been erected in the choir of Durham Cathedral. It was while preparing for the placing of these stalls that Bishop Beaumont's tomb was discovered. This bishop, by-the-way, was a *protegé* of 'Isabel, the wolf of France,' and was so ignorant, it is said, that he could not so much as read his own consecration bull. ——The foundation-stone of a congregational chapel (the Albion) in St. Mary's-street, Southampton, was laid on Thursday week. The erection was contracted for at the sum of 3,400*l.*, under deduction of 300*l.* for old materials; but the estimate was reduced 200*l.* by leaving the gallery pews uncompleted.—— Christ's Church, Parker's-row, Dockhead, Bermondsey, has been consecrated. It accommodates 6,000 persons.——The Roman Catholics of Bristol are about to erect a convent on the ground adjoining to their chapel, in front of Meridian-place, Clifton.——The *Cross*, a Nova Scotian journal, asks,—"What Protestant prelate *now* builds a cathedral, or even a parish church, in a land where the masses are living in the most stupid ignorance of all religion? The only thing they can boast of—St. Paul's—was built by a *coal-tax*." Of course, this civilised and enlightened Nova Scotian by '*they*' means the heathen and savage aborigines of the little island of Great Britain. But what cleanly bird is it that defiles the nest in which itself was fledged?

COMPETITIONS.

SMALL-POX HOSPITAL.

SIR,—Might I suggest, through your columns, that the designs for the proposed Small-pox Hospital be exhibited to the profession and subscribers after the architects have selected the five, but before the premiums are awarded by the committee; and also, that the relative part of the architect's report be affixed to each design referred to in that document?

The importance of professional advice in such matters has been so often advocated, that it were pity to neglect an opportunity of testing a professional award. J. M. McC.

Sir,—Many competitions at the present time are conducted in a very irregular and frequently unjust manner, as in the late case of the Fulham Union, referred to by one of the competitors in your journal of last week. So long as committees are allowed to hold themselves irresponsible, to manage matters as they please, to conduct their proceedings with secrecy, without giving an account to any one, even the competitors themselves,—without making any acquainted with what majority the successful design was chosen, or for what reasons it obtained the preference; so long as they are allowed to call an umpire or not, and to appoint whom they please, qualified or unqualified, to such office,—to make an exhibition of the drawings, or not, as they may think proper;—so long as all this is tolerated, the whole host of abuses so loudly complained of by individual sufferers must be submitted to: it likewise cannot be said they have infringed with regard to rules, simply because none are acknowledged. Architects, as a body, however, have no right to complain, since it is their supineness which holds out impunity to committees, and leaves them to act in every case as they like, without a single effort being made on the part of the profession to compel that straightforward fair dealing towards them which nothing but the compulsion of stringent rules will secure; and until the profession generally unite, and make a stir in good earnest with the determination to redress themselves, by exacting from committees such conditions as shall guarantee impartiality, and do away with all secrecy, subterfuge, and suspicion, there cannot be the slightest hope of the system being reformed.—I am, Sir, &c.,

G. J. RHODES.

THE CHURCH OF ST. ANDREW, STRATTON, CORNWALL.

SIR,—I read with great interest the article on "Cornish Churches" in a late number of your journal, as it has long been a matter of surprise to me, that so beautiful a class of churches should remain unvisited and unchronicled by the lovers of ecclesiastical architecture. I regret, however, that the observations it contains are but too true,—that many of those churches are in a lamentable state of dilapidation and neglect. The church of Stratton, in the northern part of the county, is a happy exception in the midst of general decay.

Through the unwearied exertions of the vicar, this church has lately been in great part substantially restored. The hideous deal boxes which covered the carved bench ends, and completely *choked* the church, have been swept away; and the floor, which was so cracked and broken, as in many places to consist of nothing but bare earth, has been made firm and sound.

In place of these and many other deformities, the church now presents a nice appearance internally; the whole of the seats are open (formed in a substantial way of deal, stained), the ends being of plain oak, except where the beautiful ancient ends are inserted: these consist principally of emblems of the Passion of our Lord.

The lectern is very cleverly arranged from some old screenwork of perpendicular character. The pulpit is of oak, and is of the period of the Renaissance. Among further additions to the church, are a fine-toned organ (by Gray and Davison), handsome fittings for the altar, a floriated cross at the east gable, and a beautiful corona and sconces.

The church, in its architectural character is, like its neighbours, in the perpendicular style of the end of the fifteenth or beginning of the sixteenth century.

It consists of a nave and aisles, south porch, chancel, and western tower. The tower is very elegant, 70 feet in height to the parapet, and probably about 85 to the top of the pinnacles. The church is built of the stone of the county and granite. The western doorway, and that in the porch, are handsome, though till lately covered with whitewash. The timbers of the roof are richly carved.

H. E. D.

RAILWAY JOTTINGS.

The functions of the Railway Commission were thus summed up in the House of Lords, the other day, by the Marquis of Lansdowne, in reply to Lord Redesdale, who questioned its utility or its weight or influence. "It examines lines newly built," said the marquis, "it inquires into accidents, regulates cheap trains, revises bye-laws, settles disputes between companies, considers colonial schemes, &c.; and though its decisions are not binding, great moral weight attaches to its opinions." No fewer than seven hundred and eighty lines had been inspected and reported on last year.——The report of the Commissioners on Railways notices favourably a new coupling for carriages and trucks obviating the necessity of endangering life by passing between the carriages to be coupled; and also a new break, by the simple machinery of which the engine-man or guard can apply any given number of breaks that the station master may place under his command. Both of these inventions are attributed to Mr. Samuel Thornton, mechanical engineer, Birmingham. Engineers and inspectors are said to have given their "opinion that Mr. Thornton has arrived at an improvement which has been long desired."——Another new signal, intended to give passengers the objectionable, and, indeed, quite inadmissible power of ordering the driver to stop the train without personal consultation with the guards, has been described in the *Mechanics' Magazine*. Indeed, it has not even the merit of novelty, as it is a mere modification of the idea first of all thrown out by a lady, that tubes with mouth-pieces, should be made to communicate from every carriage interior to the ear of the driver, or the guards. Even the flexible india-rubber tubes proposed, have been already suggested, and the couplings also, down to the "bayonet-fastening." In place of a *viva voce* communication, however, such as the shrill pipe of a nervous old woman, or the impatient screech of a preposterous and hysterical shrew, which the slightest and most imaginary occasion might but too readily call forth, the still more effectual adjunct of a 'powerful whistle' is to be introduced, with instructions to the excitable passengers aforesaid to "blow at the mouthpiece,"—a peculiar temptation (the mouthpiece we mean) to young gentlemen short of the years of discretion to 'blow away' without even the hysterical *shadow* of an 'occasion.' Were the result no other than the mere personal attendance of the guard, along a properly protected line of foot-boards, such a scheme would be less objectionable, and would probably be advisable; but we are surprised to find it still proposed, without such a condition, in a journal like the *Mechanics' Magazine*, that a power like this over the driver of the engine, and the movement of the train, should, by any means, or under any circumstances, be directly accorded to passengers. The impropriety, however, only proves the urgency of those many reasons which loudly call for a means of free movement to the guards or proper watchmen along the whole length of a train, the practicability of which is as unquestionable as its necessity is urgent. ——That even a whisper is capable of transmission through a tube of gutta percha, however, and that, too, for a length of at least several miles (!) appears to have been ascertained by Mr. F. Whishaw, late of the Telegraphic Company, and the inventor of the hydraulic telegraph, or "Telekouphenon;" so that we are rapidly advancing towards a still closer analogy to the human 'wind-pipe' than we only half seriously suggested in the idea of transmitting written slips of paper through a telegraphic tube by help of the air-pump. Mr. Whishaw has ascertained, it appears, that a speaking telegraph, or air-telegraph as he calls it, "would most probably prove effectual on a length of several miles. A tune can be played on a flageolet at one end of 200 ft. of tube, by blowing in at the other, just the same as blowing into the mouth-piece. For communication between *the guards* and the driver he conveys one of these along the train with a whistle at one end, which calls the attention of either of them: the whistle unscrews, and they can converse and ascertain when danger occurs." This, in fact, is another version, with a more prudential application, of the very invention attributed, in the *Mechanics' Magazine*, to another. Were two separate distributions of such tubes effected (if they really be practically useful at all), one between passengers and guards, and the other between guards and drivers, probably we should have the next best arrangement, other than the simple and more practical and underangeable one so long advocated by ourselves; but the proper place of such a mode of signalling would be that in which it should be made subservient merely to the personal access of the guards to the carriages themselves; since, after all, the transmission of intimations of danger, &c., from passengers through speaking-tubes presided over by the guards would still be ever liable to risk of abuse only second to that of a direct transmission from passenger to driver.——The *Morning Herald* states, on authority, that a proposal for the reduction of drivers' wages of rather an extensive character is in contemplation. Some time ago the propriety of raising these very wages was discussed, and whatever may be the merits of that question, we fear that any attempt to reduce them will be little else than rashly tampering with the already but too precarious safety of the public, as "it is upon the general good conduct and practical knowledge of this most responsible and intelligent class of men," as the *Herald* remarks, "that the safety of the railway traveller in a great measure depends; and the directors who seek to save a thousand per annum by the reduction of a shilling or sixpence per day per driver will, in the course of a few years, find a very heavy balance against them consequent upon the damage, and perhaps—*as has often been the case*—loss of life, occasioned by the employment of inefficient enginemen."——A gentleman of turfite celebrity is said to have challenged the Great Western to a race of half-a-mile between his horse and one of their engines, for a stake of one thousand guineas. The match is proposed to be decided on the Reading race-course, parallel with the railway.——One hundred and sixteen thousand individuals left Manchester by railway in Whitsuntide week.——The Eastern Counties and the Bristol and Exeter Companies propose to work their branch lines with a new class of light engines, having the tender and a forty-passenger carriage on the same frame with the engine.——It appears that the Newport wooden bridge, lately destroyed by fire, is to be rebuilt not only of wood, but of the same inflammable material as before, namely, kyanized timber, of which so many others have been made on this and other lines. Thick coatings of whiting, rough cast, or other surface covering are spoken of as a preventive to be used on the reconstruction. The contractors, Messrs. Renie and Co., have resumed their work, and it has been found that the principal portion of the original structure will be still available, especially the piling, the abutments, &c.; so that it is expected that in about six months the whole will be reconstructed. The insurance company, it is said, have paid the amount insured on the structure.——The inhabitants of Bridgewater have memorialized Parliament in a petition praying for relief against the alleged illegal amount of the present fares exacted by the Great Western Company, and the augmentation of which is also in contemplation.——The London and South-Western line was announced to be opened to-day (the 30th) to Waterloo-bridge station.——On Saturday week the Blackburn and Accrington section of the East Lancashire was opened throughout.

Oak Work in Westminster Abbey.—Sir: Your correspondent on this subject should know that oak, once tampered with, can never be made to gain the mellow tint conferred by time on the carving at York Cathedral. This example, unfortunately chosen by him, never was stained at all. Wilcebe.

Correspondence.

MONUMENTS IN WESTMINSTER ABBEY.

Sir,—A correspondent in your last speaks the almost universal opinion of the public with respect to the monuments in Westminster Abbey. How is it then, Sir, that we hear at this present moment of a statue of Mrs. Siddons, and one other being about to be placed within its sacred walls? Is it not enough that those at present there should destroy the good effect of the building, without adding more offences against good taste and proper feeling to the number?

I am, Sir, &c., A. Z.

June 26, 1848.

Miscellanea.

Houses for the Poor.—A writer in the *Edinburgh Courant* points out the eligibility, as a money investment, of providing houses for the poor. *Mutatis mutandis* his remarks are as applicable to the English as the Scottish capital. "Having occasion," he says, "to call upon a poor widow in an inferior street, I had the curiosity to inquire what rent she paid for the single room she occupied. She informed me that it was 40s. I measured its dimensions, and found them to be 10 feet long by 9 wide, and 7 feet high. On my return to my own house—a flat—I found that it stood on an area of 1,778 square feet. The height of ceiling of the various flats on the stair—three in number—I found to be 13½ feet, 12 feet, and 10½ feet respectively, giving an average of 12 feet. The rents, again, are 34*l.*, 27*l.*, and 20*l.*, giving an average of 27*l.* The cubic dimensions of the poor woman's house you will find to be 630 feet. The average cubic dimensions of one of the better houses alluded to are 21,336 feet, which, if let out at the same rate, say 40s. for 630 feet, would produce a rental of 67*l.* 10s.; or, deducting for the increased number of partition walls, necessary in small houses, say 60*l.* instead of 27*l.*—the present rental. Nor is this all; my landlord, at my taking possession, spent the first year's rent on painting, papering, &c.: a little whitewash is all that is necessary in the humble dwellings of the poor. I now put the simple question, could a better investment be found for money? Could a better time than the present be chosen for erecting such houses, when materials and wages are at such a low ebb?"

Boiler Explosions.—A correspondent of the *Birmingham Journal* suggests, as 'a simple and effectual preventive,' that a steam whistle be so affixed to every boiler as to give warning of any undue pressure or risk of explosion. Although we cannot recommend such a plan as a *substitute* for official inspection, we think it worthy of note, and may at the same time remark, that we have seen a very ingenious contrivance, invented by Mr. Strong, who superintends the steam-press of Messrs. Cox, Brothers, in Great Queen-street, Lincoln's-inn-fields. In this case, so soon as there is any deficiency of water, or any tendency to an undue pressure of steam, the engine—or the boiler rather—very coolly rings for more water, and continues ringing, if we mistake not, till its wants are properly attended to. We may here remark, that even since our recent notice of the horrid explosion at Dudley, the necessity of Government supervision has again been fatally evidenced by the occurrence of a scarcely less destructive explosion at Preston, wherein seven more lives were lost.

Semi-opaque Glass.—Sir: I have frequently wished that a kind of semi-opaque coloured, or white glass, were manufactured, in substitution of ground-deadened and fluted glass, to each of which there are decided objections in many respects. Now, if a semi-opaque glass were made (for windows where transparency is not wished), any tint might, I imagine, be given; and being polished on both surfaces, it would always retain its uniformity of colour, and easily be cleansed. I think that an article of this description would be exceedingly applicable to our churches of the present day, and give a beautifully subdued tone of light, that would harmonise well with the spirit of sacred edifices, and produce an effect much to be desired, when the more expensive stained glass cannot be afforded.—W. A.

NEW CHAIN-CABLE TESTING MACHINE.—In order to obviate the expense, delay, and other inconvenience arising from a return of cables tested only at Liverpool, Messrs. Dunn and Elliot, of the Windsor-bridge Iron-works, Manchester, have invented a simple machine of their own, which consists of a horizontal iron cylinder, 6 feet long, in which works a piston. At the end of the cylinder, and continuing in the same right line, is an iron trough or pipe, which may be lengthened or contracted at pleasure. At the end of this trough are a pair of iron claws, to which one end of the chain to be tested is fastened, while the other is fastened to the end of the piston-rod by similar claws. Water is then forced by a double hydraulic pump into the cylinder, between the bottom of the piston and the water-tight end of the cylinder next to the trough, which forces the piston to descend the cylinder, stretching and testing the chain. Thus a gradual and constant increase of pressure is obtained, and there is no severe or dangerous rebound. The peculiar advantage of the new machine, however, is the combination of the hydraulic press with a contrivance for registering the pressure exerted. When the water is forced into the cylinder, a ram lifts up a scalebeam with different weights, or sliding the same weight, as on a steelyard, so that the intensity of the pressure can be accurately measured. The machine is capable of testing with any pressure from a half-hundred weight to 100 tons. Its cost is only about 200*l.*, while the corporation machine at Liverpool, whose testing power does not exceed that of Messrs. Dunn and Elliott's machine, cost 1,000*l.*, and is about six times the weight and three times the bulk.

MOVING A HOUSE.—Within the last fortnight the Americans have been outdone in this kind of work at Messrs. Ransome and May's, Orwell Foundry, Ipswich, where a brick-built house, two stories high, 26 feet by 18, has been moved a distance of 70 feet, and raised 2½ feet, without sustaining the slightest crack in the walls or ceilings, or even in the papering of the rooms. The removal was accomplished under the direction and superintendence of Mr. Worby, the manager of the works; and the *modus operandi* seems to have been this: A series of holes, 6 inches square, was first made through the brickwork, close to the ground, at intervals of 3 feet, all round the house. Through these holes were inserted cantilevers, or pieces of timber about 4 feet long, and the earth, inside and out, having been cleared away, the ends were made to rest on blocks of wood; so that during the removal of the foundation, the superstructure would rest entirely on them. The next operation was to remove the foundation, and to lay in its place long pieces of timber, 11 inches square: these had a coat of mortar laid on as a bed for the brickwork, and were then lifted up to the walls, forming a kind of framework, on which, the cantilevers and blocks being removed, the house stood as firmly as it did on its original foundation. The building was then raised to the required height, one side being elevated at a time, and a number of longitudinal timbers of great strength laid underneath, and continued along the ground as far as the new foundation. As a precautionary measure, the sides of the house were bound in by means of stout planks run up at the angles, and fastened together with iron rods. The whole of this preliminary work occupied some time to complete, the workmen only turning to it when they had nothing else to engage them. The timbers, along which the house was to slide, having been well greased, three bottle-jack screws were brought to bear upon one end of the framework, and the process of locomotion commenced. The rate of travelling was about one foot in five minutes, but as a long delay occurred each time the screws were refixed and got into play, not more than 25 feet could be accomplished in a day. The house is now standing on its second foundation, none the worse for the experiment to which it has been subjected.—*Suffolk Chronicle.*

THE PUBLIC HEALTH BILL has at length made its way through the fiery ordeal of the Commons, after a most tedious and innumerable series of stoppages and alterations, that threatened to swamp it altogether. The Lords will surely not go over the same ground of opposition whence it has so narrowly escaped out of the Commons.

BLIND BUILDERS.—The inclosed tenders were delivered on the 22nd June for erecting three villas, with stabling to each, at Penge, Surrey. Mr. Joseph Springbett, architect:—

Barrett	£3,111
Walker and Soper	3,098
Fowler	2,755
Tombs	2,666
Willson	2,605
Booth	1,935

For alteration to the Wheat Sheaf, Paddington; Mr. J. F. Bush, surveyor:—

Ebbs	£410	0	0
Green	408	15	0
Sanders	373	0	0
Chesterman	248	0	0

TURNPIKE-LOCOMOTIVES.—The determined perseverance of mechanicians in expensive experiments, which, for a quarter of a century, have uniformly proved abortive, is, to say the least of it, admirable, and merits something else than that loss of fortune with which it has hitherto been exclusively rewarded. Amongst the chief of those persevering genuises who must have so very strong a conviction of the practicability of what, by the uninitiated public, judging merely from the want as yet of practical fruits, has been so decidedly put down as quite impracticable, foremost in the enthusiastic corps is Sir James Anderson, who, it appears, so far from having allowed the fruitless expenditure of a fortune to discourage him or excite despair, is now more wedded to his first love than ever, and "has, he believes, succeeded at length in producing such a boiler" as has so long been the indispensable desideratum,—a boiler to wit, which will rapidly produce the most dense, high pressure steam, without bursting, and yet without any unnecessarily cumbrous bulk or weight. This, we remember, was precisely the desideratum 25 years ago; and our only fear is that when this grand desideratum shall have been accomplished, another desideratum will forthwith start into existence, namely, that of a public willing to take their seats in the near vicinity of steam so dense, and a boiler so handy. We should be sorry indeed, however, to damp the ardour of a faith so noble by evil prognostications, or by flippant sarcasms such as have but too often been shot at this very mark. We have ourselves partaken of the enthusiasm of its projectors, and enjoyed a seat in their wondrous vehicles, and we should probably have our own old faith revived by a successful run on the high road as of old, even at the risk of an unceremonious *entree* through some garden hedge by the highway, as once occurred to us, or at the far more serious risk of a cracked skull, generated by legitimate sequence, from a boiler similarly cracked, as we may yet have to experience. In two or three weeks a new locomotive will be ready, it is said, to run on the Hounslow-road, when we wish it may meet with all that success which indomitable perseverance and ingenuity merit.

TRANSMISSION OF SOUND.—During a recent lecture delivered by Dr. Faraday, at the Royal Institution, two remarkable experiments were exhibited, with a view to show peculiarities in the transmission of electricity. A long strip of wood was suspended from the ceiling of the lecture-room, touching a wooden box at one end. A tuning fork was struck and applied to the other extremity of the connected strip of wood, when presently a loud musical note issued from the box, though the sound of the fork at the other end was inaudible. The next experiment was still more curious. A rod connected with a pianoforte in a room beneath came through the floor of the lecture-room, and on the top of the rod Dr. Faraday applied a guitar to act as a sounding board. When the piano was played, the sound seemed to issue from the guitar as loudly as if the instrument were in the room, but the instant the connection was broken between the rod and the guitar no note could be heard. Another analogy between vibrations producing sound and electricity is the sensation, resembling that of an electric shock, communicated on touching a vibrating bar of metal, or a vibrating string. The school trick of fixing a wet string or piece of tape round the waist, and then pulling it through the fingers, was practised by Dr. Faraday on his assistant, for the purpose of showing how readily the sensation of an electric shock may be imitated by vibrations.

EXPENSE OF CONTRACT-TENDERS.—"One of the Trade" at Birmingham complains in the local *Journal* of an evil but too frequently and reasonably complained of in THE BUILDER, namely, the inconsiderate, or rather the unjust and dishonest practice of putting builders to the expense of taking out quantities on plans and specifications not previously reduced to a scale befitting the views or means of committees or individuals employing architects and builders. While suggesting "a removal of the evil, either by an organisation amongst architects and builders generally, or by some other means," the complainant asks "why a number of tradesmen should be put to an expense to give that information to a proprietor which he ought, through his architect, to be in possession of himself? If he is not satisfied with the opinion given by his architect, let him as a check submit the plans to some respectable building surveyor for a rough estimate of the probable cost of the building, which, without going too much into detail, could be easily made out, and then let him determine whether he intends to build or not. A proprietor would find his advantage in so doing, for when it is known that the money is ready, and that the building will really be erected, the inducement to tender becomes greater, which of course tends to the benefit of the proprietor. I should recommend builders," he adds, "to discountenance and decline giving estimates in all cases, unless their expenses are secured in case the plan should not be carried out. I would respectfully suggest to architects generally that they should recommend, and to proprietors, in particular, that they should adopt, the principle herein referred to."

THE ROTARY STEAM-ENGINE.—A patent has been secured for an American inventor of a new kind of rotary-engine. It consists of a "piston-wheel," on which a number of pistons are radially disposed in tangential curves, working steam-tight against the inner circumference of the cylinders. Around the periphery of the cylinder are openings, one less than the number of pistons, in which are slide stops, passing into the cylinder. The peculiar form of the pistons enables the stops gradually to recede from the interior of the cylinder, till they become flush with the surface, and allow the pistons to pass them, when they are again projected into the cylinder, to act as a surface against which the steam propels the piston-wheel forward.

LABOURERS' COTTAGES.—A correspondent remarks,—I have with care examined the plans for cottages, for agricultural districts, issued by the society for improving the conditions of the labouring classes; and as a constant reader of your valuable journal, I beg to remark that if the closets and washhouses were built independent of the dwelling, it would, I am certain, be a source of cleanliness and comfort to the working classes, which I have every reason to believe is the principal object of the benevolent society to establish. The reason for this remark is as follows:—The steam arising from boiling water, and the effluvia from pig's food, and many other things I could mention, are disagreeable, notwithstanding any precaution which may be taken. I am myself daily with many of the labouring classes, and speak from experience.

FRENCH PICTURE OF FRENCH EVENTS.—A clever picture, by Philippoteaux, of the events of Paris in February last, is about to be exhibited at the Egyptian Hall, Piccadilly. It is 22 feet wide by 12 feet high, and represents the Place de l'Hotel de Ville, with M. De Lamartine at the head of the Provisional Government, addressing the people. Although in the name of Philippoteaux, it is evidently the work of several hands; and even admitting this, the rapidity with which it has been produced is very remarkable.

PENNING'S NEW SYSTEM OF SLATING seems to us (although we have not had practical experience of it) well calculated for many cases wherein economy is desired: fewer slates and less timber are required than for the present method. The invention is not patented; and the inventor is seeking some return, for the time he has bestowed on the subject, by the publication of instructions for executing it.*

* At No. 2, York-street, Covent Garden.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th July, for the erection of a workhouse, &c., at Wokingham, Berks; by 8th, for the erection of a savings' bank at Saffron Walden, Essex; by 3rd, for extensive additions to the Newmarket union-house; by 20th, for the works required in the erection of the Durham new county infirmary; by 10th, for the execution of the different works in the extension of the male and female noisy wards of the Gloucestershire lunatic asylum; by 8th, for the formation of a tunnel and other works on the Bristol Waterworks Company's aqueduct; by same date, for the formation of a wrought-iron aqueduct, with cast-iron saddles for same; by 24th July, for the execution of the works of the Great Northern Railway between Copenhagen-fields and King's Cross; by 5th, for a supply of 100 passenger-carriages and 32 trucks, &c. for same; by 11th, for the erection of a circular engine shed, 150 feet diameter, for the Midland Railway Company; by 10th, of a schedule of prices for executing the works of the Reading, Guildford, and Reigate Railway between Ash and Farnborough, a length of about 4½ miles; by 4th, for the supply of turn-tables, switches, crossings, tanks, &c., for the general railway station at Shrewsbury; by 3rd, for the supply of 18,000 sleepers of larch, &c. for the Shrewsbury and Wellington Railway; by 5th, for laying about 13,000 yards of 2 to 8 in. gas mains for the Richmond Gas Company; by 6th, for the erection of a third story with attics to the Detachment Hospital at Chatham; and by a time not specified, for the reconstruction of the roof of St. Paul's Church, Bedford, and for relaying the same with lead.

YORKSHIRE UNION OF MECHANICS' INSTITUTES.—The eleventh annual meeting of this union took place at Ripon, on Tuesday week. From the report, says the *Leeds Intelligencer*, we gathered the following facts:—The union, at last annual meeting, consisted of 63 institutions, but now of 81. Seventy have 13,740 members—an increase of 1,500 members last year. In towns of above 10,000 inhabitants, one in every 53 of the entire population is a member of the local Mechanics' Institute. In towns of above 5,000 inhabitants, and under 10,000, one in every 37 is a member. In towns of under 5,000 inhabitants, one in every 27 is a member. Sixty institutions possess 57,169 volumes in their libraries. At 40 institutions 550 lectures were delivered during the winter (six months) session. Marvin Navvies have been instructed in several of these institutes.

UNION OF LITERARY INSTITUTIONS.—A meeting has been held at Hexham, for the purpose of establishing "a Northern Union of Literary and Mechanics' Institutions," for mutual interchange of good offices and assistance, engagement of lecturers, &c., on principles similar to those established in Yorkshire amongst the mechanics' institutions.

LONDON MECHANICS' INSTITUTION.—A second exhibition of models and drawings, executed by the members of the evening classes of the London Mechanics' Institution (consisting of specimens from the modelling, architectural, ornamental, perspective, mechanical, living model human figure, and landscape, drawing classes), will open on Monday, July the 10th, and remain open every evening during the week to members' friends and members of any other institution.

BUILDINGS IN FOLKSTONE.—Contracts were signed and the first stone laid on Monday last for twenty-one houses, forming part of the Marine Parade, Folkestone, Kent, Mr. R. Tress, architect. The tender of Mr. Lucas, of Folkestone, 22,000*l.*, was accepted, no other estimate being solicited.

CESSPOOLS.—A well-wisher to sanatory improvement says, he has recently seen men (apparently in the employ of the Metropolitan Commissioners of Sewers) engaged in emptying cesspools with a pump, &c., and asks whether, after the cesspools have been thus emptied, the commissioners allow them to be used again? In some situations there is no alternative.

ASYLUM FOR AGED FREEMASONS.—A site has been selected, and the building of the asylum, which is to cost 4,000*l.*, will at once be proceeded with. For that purpose there is at present available a fund of 4,338*l.*

THE GREAT CROTON AQUEDUCT AT NEW YORK, has failed in the amount of its supply, and the people are beseeching the authorities to use the water from the north or east rivers for watering the streets.

TO CORRESPONDENTS.

"*Underground Water-pipes.*"—An inquirer writes,—"Allow me to ask your scientific readers, whether zinc or galvanised iron would be preferable for underground pipes for the conveyance of water? or whether either can be recommended for that purpose?

"*H. G.*"—We give notice of all architectural competitions which come under our eyes.

"*S. H.*"—We must see for ourselves, before we can give publicity to so serious a statement.

"*C. H.*"—The sketch left will not suit us. We shall be happy to look at the others if left for us at the office.

"*Intonaco.*"—We cannot say: write to the patentee, whose name is given in the article.

"*B. H.*"—The word *jamb* is derived from the French, but pronounced as English; the *a* is sounded as in "ram," and the *b* silent.

"*B. K.*"—The metal rod or rope running up the Nelson monument (and which, by the way, greatly disfigures it), is a lightning conductor.

"*T. B.*"—If the matter has not been explained, write again to the editor.

Received.—"E. A.," "Junius," "E. W. G.," "W. D.," "E. C. L." (we will call), "W. G. J.," "J. H.," "W. P.," "T. C.," "W. M." (the inclosure shall be inquired for).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS AND BUILDERS.

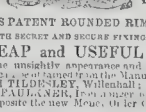
CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

By Her Majesty's — Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim locks, is recommended to the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN PAULGRAVE, Iron Ironmonger, St. Martin's-le-Grand, London, opposite the new Mount Office.



T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to their new Rim, Drawback, and Dead Locks and Latches, on other principles, possessing great advantages in form, over the usual Rim Lock, and also in the quality and finished nature of its details; each lock is warranted perfect and complete with patent shoe-spindle. Table and other FURNITURE of the Registered Scroll, Shell, Gothic, and other fronts may be had at their Ironmongery Warehouse, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass foundry, mortice locks and latches, plain, malleable, and tubbed; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRON MONGERY WAREHOUSE, 28, WEST SMITHFIELD.

Register Stoves, 6*d.* per inch.
Elliptic Stoves, 2½*d.* per inch.
Cottage Range, with Oven and Boiler, 3 ft., 3*l.* 3*s.*
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3*l.* 10*s.*
Drawing Room Fenders 14*s.* each, usually sold at 21*s.*
All Goods Warranted.
J. and J. Hartill are Iron-mongers, Fender and Fire-iron Manufacturers at Dudley. Established 1825.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No 6, Bankside, Southwark.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury: do not become hard or stiff in any temperature but are always perfectly flexible; and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India-rubber garden hose lined with brass tape, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

PUMPS on Sale at Mr. C. JACK'S, Nos. 8 and 9, Tottenham court New-road, to raise 100 gallons of water per minute, by one man, 8 to 9 feet 6 inches high; 35 gallons per minute, by one man 24 to 27 feet high; 200 gallons per minute, by one horse steam power, 22 to 25 feet high; and other sizes.—Patentees' Offices, No. 3, Moorgate-street, City.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL has the SOLE PATENT IMPROVED COPPER-WIRE CORD FOR WINDOW SASH LINES, Hoisting Ropes, Lightning Conductors, Bearing Portions, Clock Cords, &c., across other purposes for which hempen rope has hitherto been used. This new and valuable Patent is obtained by covering the core of the best iron wire, and its strength increased 50 per cent. All dealers and other parties connected with the above. The Wire Cord may be had wholesale and shipping on at the office of the Patentee, No. 151, Fenchurch-street, W. T. ALDEN, Agent; or retail of J. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 62, Cheapside; Messrs. GIBBONS and CO., 350, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS for BUILDINGS. SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings, on the choicest thunder-storing. Its peculiar and important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Fastening and Cill Bar, for French casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Clamps,
Patent Wire Sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Railings, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH, 69 Princes-street, Leicester-square, London.

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR; of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c. &c. 29, Great Charlotte street, Blackfriars-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 90, REGENT STREET, and 13, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of Wood, Iron, &c., consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two Methods of Shooting Bolts at the Edges of Wood Laths with Iron.—The Patentee having fitted up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of Police Public Offices, and others, having them in constant use, which fully prove and establish the Patent Safety Laths to be decidedly superior to any other Revolving Shutter for durability, security, and simplicity, with little or no expense of steel work and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters either iron or wood of any other Makers, whatever their pretensions. The extraordinary demand, arising from the universality of such a system of BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which seven thousands have been fixed in all parts of the Kingdom, having induced many other parties to attempt the like method, by the use of almost exploded patents, of country old and discarded inventions as Improvements, B. and C. assure the Public that the Shutters, Gearing, &c. of their Patent, are superior, and can be supplied cheaper; in all its purposes, than skill and experience could suggest. A great reduction has also been made in the price of Iron Shutters, as well as CHEAPER, as well as BETTER, than any others.

Specimens of the Patent Moulded Sash Bars, &c. have been received and ordered; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental, strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely fitted with the patent

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. have also some specimens for MARVIN and MOORES PATENT DIAGONAL GRATINGS, for areas of shop fronts, for shop windows, and bedroom floors, &c., which do not project into the street, thereby preventing accidents of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 38, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 486, New Oxford-street. The great importance of economy and usefulness in the laths (REVOLVING IRON SHUTTERS, on which principle increased security, is obvious, and it is only necessary to point out the fact, that the usual edge of the laths, as at present, is much stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved sash bar, for which they have the patent Shutters, which, possessing all the advantages of the old bar, is made and worked round each pane, and is fitted to form a weather-tight joint in the centre, so that the rain cannot lodge, and is at once simple and the cheapest bar for the purpose ever introduced, and is available for any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SWIFTEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally, either above or below the window or door, or vertically, for which position the greatly increased strength of the centre laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day (for a small fee) at the Britannia Life Assurance Office, corner of Princes-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Plans, and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 486, New Oxford-street, London.

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carving out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the new Pavement to be had only of JOHN DILKINGTON, PATENTEE AND SOLE MANUFACTURER OF PATENT BITUMEN PAVEMENT, OFFICE, 1, WHARF ROAD, CITY ROAD, N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

ROCKHILL PAVING STONE.—Shipped direct from the quarries in Baltimore, or from Mallett's Wharf, Wapping, by the undersigned to be ALEXANDER DUNN, 11, Seething-lane, Tower-hill, London.—Engineer's Quarry, class No. 11., in 6 feet, 4 feet, and 3½ feet 6 inches.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Great-st. Limehouse.

J. LUCARD, quai des Allantes Caen, exportateur de Carrières d'Allemagne, beg leave to inform Builders, Architects, and others, that he has on the above wharf a large stock of the best stone ready to meet the demands of purchasers. Contracts taken for any quantities.

Orders received by Mr. BASSHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—LUARD, BEEDHAM, and Co beg to inform Architects, Surveyors, Merchants, Builders, and others, that are now putting by large and frequent shipments, CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L. B. and Co., invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

Office, 13, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich. W. TUCKNELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE now in Wharf, and is prepared to contract annually to execute orders to any extent on the most advantageous terms. Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from stain, may be had of Mr MAGNUS at the PIMLICO SLATE WORKS, Upper Belgrave-place, Pimlico, at the low price that inferior Slabs in the rough, self-faced, are currently selling. These reduced prices are also subject to a very large trade discount. These Slabs have been selected best at their Welsh quarries, and are all of one thickness, the usual Vauxhall and Marsh Slabs, and all the Welsh Dressed, Rag and Rubble, Random, Rubble and Walkways, composed of the hardest and most durable of the Welsh quarries, to any extent. Wholesale carmen supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Bases, Fittings for Dressers and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS WORK in all its branches is executed on the most reasonable terms, in such manner as must meet the views of his Employers.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the requisite correctness and truthfulness.

ALTARS

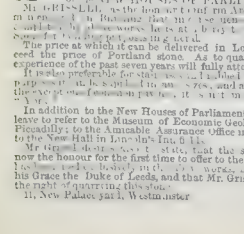
MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Tiles, namely,

St nes Chimney pieces, from . . . . . 12s.
Vein Marble 6s
Slate 6s

RESTORATIONS Executed for the Right Honorable S. C. has had considerable practice. Dairies fitted up, &c. &c.
Goods Loaded, Housed and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Mantle Work at the WESTMINSTER MARBLE WORKS, from the recent improvements in Working and Polishing Marble to Patent Machinery. All orders are executed in a style entirely unequalled



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney pieces and Monuments always on view, and sold at a very low charge; also all kinds of Marble Work executed to order.
Westminster Marble Company, Earl-street, Millbank.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, that the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so much celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests for the use of the New Houses of Parliament, and for the building of all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

ANSTONE STONE, used in the erection of the NEW HOUSES OF PARLIAMENT.

Mr GRISSELL, in the honour to find an Architects and gentlemen, and in business that he has been, having nearly completed the large contract he has to supply the Anston Stone for the new Houses of Parliament, begs to inform the Architects, Builders, and others, that he has now on hand a large stock of the above stone, which he has now the honour for the first time to offer to the public, and which has been tested by the Commissioners of Woods, from the estate of his Grace the Duke of Leeds, and that Mr. Grissell alone possesses the right of quarrying the stone.

11, New Palace-yard, Westminster

ITALIAN AND GALWAY MARBLE QUARRIES
Depôt, Bridge Wharf, Pimlico, London,
June, 1848.

MR. FRANKLIN, one of the Proprietors of the above Quarries, informs the Sculptors, Marble-Masons, Builders, &c., that he has received Shipments of Marble from the Quarries in Italy and Galway.

Just landed, ex "Victoria," 13 tons of Black Marble, cut into slabs of all dimensions.
Ex "Courrier," Leghorn, 200 feet cube of Sienna.
" " " 200 feet cube, Black and Gold.
" British Queen," Ditto 1,000 feet cube of Statuary.
Several Blocks suitable for large statues, from 8 to 10 feet each
Some pieces of specimens
Ex "Galway Packet," 40 feet in block, of Black Marble
Arrived in Bristol, Redcliff Wharf, "Highland Lad," with 1,200 feet cube of all descriptions of Marble.

TERRA-COTTA, OR VITRIFIED STONE WORKS,
King Edward-street Westminster road, London

MR. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been so universally patronized by them and others, in the old Original Works, where for the last 100 years has proved the imperishable nature of the material, the specimens of these works existing, all in the first class stage Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, flower and other ornaments for Gothic fine, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, as prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder." 2, York-street, Covent Garden, and at the Works

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Soil Weights, and other Castings, Low Walls for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-mouldings, Paterae, &c., &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. 58 patterns of Mouldings Trusses and Ready Trusing. JOHN HERBERT and SON, Modellers, &c., 43, Parker-street, Drury-lane.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Best Cement Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, and Depôt, Great Russell-street, Bloomsbury. Grey Stone Lime Depôt. Cement in bags, of every description

KEENE'S PATENT MARBLE CEMENT forms an extremely hard and serviceable Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a most efficient substitute for the use of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of Fire and the attacks of Vermin.

Depôt for sale, at Messrs. WHITE and SONS, Millbank-street, Westminster; and Wellclose-square.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently excellent to every other for hydraulic purposes, such as the Building of Locks, Docks, Aqueducts, Cisterns, Fishponds, &c. For Internal Stucco, and Roman and Cornice Cements, it requires neither Colour nor Paint, it never scales, and will carry from three to four times its own bulk of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious properties than any other cement, and may be used in every description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting the effects of fire, which it renders immediately convertible from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, Auctioneers, Mincing-lane; at the Manufactory, North Fleet, and Messrs. Wheatley and Co's wharf, Whitehall

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON of Patentees beg to caution their friends and the public generally against purchasing the Imitable Cement with others, recently said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following particulars which only it possesses.—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface, which may be made equal to that of the finest marble NEVER THROWS OFF ANY SALT, and will receive paint in four days, without any previous sizing or dry work.

It is peculiarly adapted to all internal stucco for walls, ceilings, cornices, and in fact, to all enrichments, as all kinds of ornamental work for internal purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the same purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniformity must give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DERBY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball, near Bridgwater. The Proprietors of these Works beg to call the public's attention to the superiority of their Cements, and that the Bath and Portland may be found to resemble these celebrated stones both in colour and durability. They are recommended as being superior to others, for the following reasons.—Being made of Inland Stone (and not landed from the Continent for Roman), they are not impregnated with salt, therefore vegetate or turn green as is generally complained of with Roman; they take a much larger quantity of sand than other Cement, never crack, blister, or peel off, and will bear a good face. The Improved Hydraulic, and will set under water in a few minutes as an external Stucco they are impervious to all kinds of water, and not affected by frost or heat; they improve both in texture and durability, and require neither paint nor colour to make them resemble Bath and Portland Stone, the natural colour of which is a pale cream or straw colour, therefore well adapted in many instances, staircases, passages, &c., the Bath and Portland Cements may if required be trowelled up to a face almost equal to marble, or may be painted or papered in a few days. The IMPROVED ROMAN CEMENT is made of the same materials, and will be found to possess all the qualities of Bath and Portland (except that of colour); it will be found in every respect better. Roman any portion is offered to the public, and only one trial need be made to appreciate it.

A stock of these Cements, as well as Blue Lias Lime ground for cements, always on hand, which may be had at BOARD'S Depôt Mason-yard, Paddington Station, and of the following Agents.—Mr. R. Croft, Surrey-street, Kent-square, Liverpool; Mr. Baker, 78, Dugbeth, Birmingham; Mr. Furze, Hotwells-road, Bristol; Messrs. Tothill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay, Bath; Mr. Grimsly, Oxford, Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Haraman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Tidgwater; Messrs. Southan, and Evans, Gloucester.

PREPARED FLOORING BOARDS.

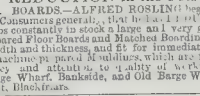
AS REDUCED PRICES.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 4 inch thick, for TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W CLEAVE'S Timber Yard, Walton-road, Pimlico, late of Great Smithstreet, Westminster.—Mouldings prepared by Machinery.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are finished with great accuracy and attention to the quality of the wood.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Barmondsey New Road, near the Brickhouses, Mills for Sawing, Planing, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, of Deals and Scant for every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panels, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing by the mill prices. Very extensive Drying Sheds.

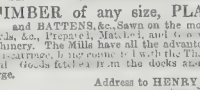


SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved by Muir's Patent Machinery. The Mills have all the advantages of navigation and railway carriage, being convenient both for Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents the least change, shrinking, or split in the floor. For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent is also applied to Mahogany, &c., RENDERED from 25 to 30 per cent. more valuable by the Process.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The best ENGRAVED and PLATE GLASS, PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and plated work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Jubber-street, Portman-square. Trade only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in Sashbars, Squares, Lights, or Cases, at 12s. 6d. per case, or cut to size, 3d. per foot.—Address, 37, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS WORK.

THOS. MILLINGTON, 37, Bishopsgate-street Without, London, begs to inform the Trade and Consumers that he is now supplying the above articles of the best materials and upon the lowest terms possible.

GLASS, SHEET and PLATE GLASS, in any quantity.
VARNISH, per Gallon, Wainscot, Best Carriage, 12s. per gallon; White Lead, 27s. and Colours and Brushes; Water-Closets complete, Sashes; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

GREAT REDUCTION IN THE PRICE OF PLATE-GLASS.

THE UNION PLATE-GLASS COM-PANY.—Pocket-nook, St. Helen's; 99, Hatton-garden, London; No. 13, York-street, Mosley-street, Manchester; and 26, North John-street Liverpool, manufacture and supply the public generally, at the above addresses, Crown Glass of plate price, 24 feet per foot; and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot. RICHARD YATES, Secretary

HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent to all houses having it; repay the cost every two years, abolish all danger to life and limb, cleaning and repairing. It is in full operation four different ways), forms a complete ventilator and sunblind, is simple, cheap, and effective. Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 15, Kingsgate-street, London

CHAS. WM. WATERLOW,



MANUFACTURER
of Sashes and Frames, and Joiner to the Trade, 151, Bunhill-row, Finsbury-square. Well-seasoned wood-work manufactured at lowest prices.—Upwards of 30 DOORS, and a large variety of Sashes and Frames, always on sale. Good goods securely packed for the country. Steam struck Mouldings in any quantity. A Steam Establishment is worth the notice of all engaged in building.



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ARCHITECTURAL ENRICHMENTS.

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The Builder.

No. CCLXXXIII.

SATURDAY, JULY 8, 1848.

A FEW days ago we were called to Edinburgh to give evidence professionally on a matter of construction, which will not be uninteresting to some of our readers. The journey, in our days, is nothing. You take a seat in the express train from the Euston-square station at nine o'clock in the morning, and by half-past nine at night—twelve hours and a half, mind—you have left nearly 420 miles behind you, and are in the capital of Scotland.*

Nor need the day be lost: it offers, especially, a good opportunity to get through a tough book which you desire to read, and yet, with others on the table at home for choice, have delayed attacking. There are many nice stations on the way, from which hints may be gained; and though much of the road is uninteresting, there are parts which are particularly beautiful—as, for example, soon after passing Wigan (where the restoration of the old church, some time since mentioned by us, appears to be making rapid progress), through Lancaster, Kendal, and Windermere, to Carlisle.

At this latter place,—the cathedral of which most of our readers know, if only through Mr. Billings' interesting work illustrative of it,—the station is well deserving of examination. It is Gothic in style. The first-class refreshment room has an open wood roof of considerable size, and other striking features. Mr. Tite, whose hands must be pretty well tied up with lines, is the architect, and has similar jurisdiction as far as Aberdeen. In Edinburgh the permanent station, not yet completed, will be of considerable extent, and, apparently, of good character.

One striking, though natural, result of the close connection given to heretofore widely separated localities by the railway system, is the disappearance of local peculiarities. Dress, manners, thoughts, are becoming everywhere the same: the shop-windows display the same prints, music, and books, as you have left in London, and the same matter affords subjects for conversation here as there. Local prejudices and narrownesses will follow. Probably the only peculiarity which would be observable by a stranger during a long walk, is the occasional occurrence of a notice-board, marked, "This land to *feu*,"—in another word, to let; but with this difference from our lettings of land for building, that it is granted in perpetuity,—the "feu duty" being so long paid.

Those of our readers who have not seen "the modern Athens," should take an early opportunity of doing so. They have all heard of the contrast afforded by the old and new town,—the Edinburgh of romance and the Edinburgh of the last five-and-twenty years,—they know of Calton-hill and its monuments; the castle on the rock, high above the town; Arthur's seat and the Salisbury crags; the Scott memorial, work of poor Kemp; and houses ten stories high. They will probably expect to see finer buildings than are to be found there, though there are many of very great merit, but as respects the appearance presented by the city generally, the ever varying combination it presents, the splendid views afforded by the heights around it, their imagination is not likely to carry them beyond the reality.

Most carefully should the citizens preserve the natural beauties of their locality,—keeping a watchful eye both on their own town council and the Woods and Forests. The necessity for such watchfulness was shewn not long ago, when the destruction of Salisbury crags was commenced, to provide metal for road-making! Let them take care that no smug, prim villas creep up Calton-hill,—no awkward squad of settlers effect a location on Arthur's seat, singing, though with very different meaning, from the old song which Scott so loved,—

> "Now, Arthur's seat shall be my bed;
> The *streets* shall ne'er be 'fyled by me."

Even the Queen's drive, Victoria road, which has been formed at an immense expense, all round the latter, and affords such a ride as can no where else be obtained, is an approach to the trimming and subjugation of this noble hill, and barely escapes our lament instead of extorting our admiration. The variety of view here is quite unrivalled. Looking from one point we have the piled up city, old and new,—man and man's work. A few steps onwards, and in the place of this we get a perfectly rural scene, with far extending fields, the village of Duddingston and its quiet church. Again, but a little further, and the whole is entirely changed; the Firth of Forth spreads far out before us, and, skirting it, is seen the sea-port Leith and its pier.

Holyrood, famous in story, and which is close to the Queen's drive on the city side, displays, in the chapel attached to the palace, one of the few remnants of antiquity left in Edinburgh, and is a very interesting example of early English (early Scotch?) architecture. The advice of Knox "destroy the nest, and the crows will fly away," appears to have been fully and fatally carried out; nor is the preservative spirit yet recovered,* spite of Scott's malison on those who destroyed the City cross in 1756:—

> "Dun Edin's cross a pillar'd stone
> Rose on a turret octagon;
> But now is razed that monument,
> Whence Royal edicts rang.
> * * * *
> O! be his tomb as lead to lead,
> Upon its dull destroyer's head."

Another remnant of ancient Scotland, and one of the best specimens of Gothic architecture in Edinburgh is on the borders of destruction. The ancient collegiate church of Edinburgh (Trinity) has been purchased by the North British Railway Company for a waggon shed! The Scottish antiquaries made some show of fight, we believe, but resistance appears to have been unavailing.†

Moray House, in the Canongate, of which we gave a small wood-cut,* some time since, with its curious balcony, and stone spires on the gateway, is being repaired. There is much that is curious about this house, especially two domed and panelled ceilings,† and the terraced garden, with fountains and other decorations, at the back. The house was built in the early part of the 17th century, was once Cromwell's head-quarters, and afterwards the scene of important proceedings connected with the treaty of union with England.

The old Parliament House is a work of about the same period as the singular little structure last named, and deserves a visit, on many accounts. It is of considerable size, and has an open wooden roof, the expiring reflect of the beautiful roofs of the 15th and 16th centuries. As one of the last of a series, this roof is exceedingly interesting to the architectural inquirer.

In this noble apartment there are several good pieces of sculpture by Chantrey and others: we must specially mention a monument to Duncan Forbes, by Roubilliac—a splendid work, and one of the finest of the artist's productions,—his grace, elegance, and fine drawing, being displayed without the flutter and affectation which disfigure many of his figures. There appear to be few sculptors resident at this time in Edinburgh. Mr. Steele has nearly finished his statue of the Duke of Wellington, which is to stand opposite the Registry-office, and will add more to the sculptor's reputation than his sitting figure of her Majesty on the top of the Royal Institution, which, although well-intentioned (the pyramidal form is aimed at), is little less than a failure.

Mr. Ritchie, who has done much for the architecture of Edinburgh, is about a group of children for the doorway of the new Western Bank, which is nearly finished externally, and will be referred to again when we continue our notes next week. He has also two of the "Barons" for the House of Lords to execute, and has shewn reasons to the commissioners why they should permit him to vary the uniformity of armour, by dressing one of the statues in senatorial robes. Ritchie was a pupil of Thorwaldson, and, like all who knew that great man, speaks of him with affectionate reverence.

ARCHITECTURE AT THE ROYAL ACADEMY.

NOTWITHSTANDING the unquestionable decline in the influence of art in that one of its fields of development with which it is our more especial duty to concern ourselves,—notwithstanding that that most apathetic body of professors, the architectural, mailed in indifference to the welfare of their own order, as to their capability of doing public good, are content to rhapsodize on art, and lament their inability to exercise it, rather than to advance and popularise it; notwithstanding that the whole world has been ransacked in the search for fragments of all forms and ages, whilst the question of beauty has been little concerned in the search, and the question of ART—considered as the engine of the production of beauty and delight—never: notwithstanding that, and in the history of architecture for the first time in an accurate manner, ancient models have been delineated, without the true value of ancient models being felt—phases of the general false position of architecture, of which we have at different times spoken, and which "come tardy off" in these degenerate days, leave "the mission

* The arrangements on the London and North-Western line are generally good; but we owe it to the public to note that the confusion on the platform at Euston-square station, on the occasion of the departure of the special train which on this occasion carried us, coupled with the want of attention to the passengers and their luggage, was very discreditable and without any justifying circumstances. We saw our portmanteau on a porter's barrow fifteen minutes before the train started, and yet were compelled to leave without it,—the only reply to our repeated statement that it had not been brought up, being the cool and not over-courteous remark—"We can't help it: if you don't get in, we shall go without you." It is true that the guard obligingly dropped a note at the first station, and that the trunk was forwarded by the next train, but this will in no degree excuse the confusion and inattention at starting. We hope this statement may lead those who have the power to make an improvement in this respect.

* Relative to Knox's own monument, we learn that the funds placed at the disposal of the Committee for raising this, amounting to about 3,000*l.*, have enabled them to secure all the property at Knox's Corner, in the Canongate, which is required for their purposes, including the ancient domicile of the Reformer.

† This church was founded by Mary of Guelders, wife of King James II., in 1469. The remains of the foundress, which were interred there, have been removed to the abbey of Holyrood. A cut of the north aisle of the church was given in THE BUILDER a short time since—see p. 114, *ante*. Illustrations of the church will be found in "The Baronial and Ecclesiastical Antiquities of Scotland," by R. W. Billings and W. Burn.

* P. 114, *ante*.

† One of these is engraved in "The Baronial Antiquities."

of art" in the system of the world unaided, and therefore powerless for the benefit of mankind;—notwithstanding all these particulars in the state of art, science, and practice, we could not have expected that any doubt should arise that architecture *is* an art, and kindred with painting and sculpture—nor, further, that she is the most complete impersonation of art, and as such properly comprises all attributes and capabilities of production within herself.

Architecture, something as well as art, is something more than the world calls "architecture." The painter and the sculptor may each produce the highest efforts of design in their limited range, without the slightest knowledge of what produces the beautiful in buildings, whilst the architect is wanting in the education which architecture properly requires, if he be ignorant of painting and sculpture. To produce beauty in architecture, painting and sculpture are almost indispensable, but, although there is no doubt that the combination of the decorative features of buildings with representations of natural forms enhances the beauty of the latter, we should hardly go to the extent of saying that the necessity for the use of the vehicle of art, in one case, is as great as in the other.

But it is unnecessary to urge further the inseparable relationship of those called *sister*-arts. The association, perhaps less apparent now than it was once, ought never to be interfered with, and the arts of architecture, sculpture, and painting, have, till lately, been deemed equally worthy of encouragement. In all well-constituted academies of art, the great demands of architecture in the system of academic instruction are recognised; we find classes for the study of theoretical architecture and the orders, classes for perspective, classes for ornament, and, even in those which profess to be, like the Royal Academy of London, merely academies of "art," construction itself not neglected. And this is right: the anatomy of buildings has no less concern with the beautiful in architecture, than the anatomy of the human form with the beautiful in painting and sculpture. The French Academy supports an academy at Rome, mainly for its architectural students, who certainly have done honour to their country by talented publications, of which we grieve to say the architects of England, as a body, are wholly ignorant. The Academy of London professes to send *one* architectural student about once in nine years, but at the last opportunity did not send any. Whatever be the reason for omitting to do so, we charge the omission as indicating one still greater on the part of the academy. In the Academy of St. Luke, at Rome (no art *could* be forgotten in "the eternal city,")—each class of artists are held to have equal claims to the honours of membership, and the presidency is held by an architect, a painter, and a sculptor, in rotation. In the Academy of London for some years past, whenever an election to the presidency has had to be made, we do not believe the idea has once been entertained of electing an architect, although it cannot be doubted that the architects who have been members of the academy, have been generally well qualified for the post, whether from their eminence as artists, as men learned in art, or as being fitted for the peculiar duties of the president on certain occasions, which duties have often rendered the selection from the class of painters a matter of the utmost difficulty. We believe that the chair of architecture is, and has generally been, filled so as to confer honour upon the Academy, and we might even contrast the attendance at the lectures of Sir John Soane, and at those of the present professor, with the average interest which is excited by the lectures on painting and sculpture.

The Royal Academy, indeed, is not an academy of ART, but a school of painting and society of painters, tolerating a few sculptors and architects in the list of R. A.'s, and at annual dinners, but rigidly excluding them from participation in the advantages which the Academy should confer upon all its members alike, and by preventing the architect and the sculptor having any influence over popular taste in their particular branches, rendering the title of "Royal Academy of Arts" a misnomer. To prove this, it is only requisite to enter the rooms where the works of architects and sculptors find indifferent light and begrudged space; but in the case of architecture there is still more and increasing ground for complaint. The teacher of perspective, the Academy might do its best for its students in choosing from the class of architects, who, judging from the incapacity observable in the works of painters generally, are the only artists who properly understand it. Indeed, so important is the knowledge of perspective to the architect, that we might be justified in expecting to find this important office held by an architect in all cases. In the Royal Academy it is always held by a painter.*

We will say nothing against the Academy, because of the miserably inadequate advantages which it holds out to architectural students; but it is bad indeed to find its attempts to foster a taste for architecture in the public, annually grow less and less. We need not say another word of the room now miscalled "the Architectural," or of the indifference of the architects who are members of the Academy, to the advancement of their art; they, the Institute, and the profession generally, are alike indifferent to what ought to be matter of earnest endeavour to all. We have shewn sufficiently, that we condemn the principle which allows any one of the sister arts to be secondary in importance, or less worthy of attention in an Academy of Arts. We have shewn that we believe architecture to be eminently one of those arts, whose humanizing influence contributes to the attainment of virtue and happiness, and that it is the duty of all who may be placed in the position to develope such influence, by creating and extending a love of it amongst the public, to use the powers which are allowed them. We entertain a strong opinion of the advantages of architectural exhibitions, and whilst we think that the value of the more frequent exhibition of those drawings which can be fully understood merely by professional men, is not properly appreciated by architects, we hold that every opportunity should be taken to familiarize the popular eye with such representations of buildings as can be generally comprehended. For one description of architectural exhibitions, either by promoting more frequent exhibition of competition designs, or by forming collections occasionally, in their own rooms, the Institute might, we think, do something, were it not, as we have said, oppressed with the general apathetic *incubus*. A small architectural society at Manchester, which we fear is now defunct, did much in a few years with the object of improving the system of competitions, and through that means towards advancing the art, by throwing open its rooms for the exhibition of designs sent in competition, which had to be collected at great expense after they had been returned to their owners, and might be imitated by the Institute in aid of the art and the class, which we hold they are specially chartered to foster and protect. But the exhibition of coloured perspective views at the Royal Academy, is calculated to be of the greatest benefit to architecture, as long as it meets with something like the attention which architecture requires in an Academy, or which is given to painting in the Academy of London. This attention it has by no means received; it has become gradually less and less interesting and improving to the public, less advantageous to architects, and is now scarcely valued in any degree by them. Our friend of the *Art-Journal* gives the *coup-de-grace*, the last kick, by coolly saying that architectural drawings "have no business" in the gallery. We think we might just as reasonably say, that being a journalist of art, he has no business to meddle with architecture;—*lucus a non lucendo;* we would rather welcome him as a co-operator in the work, to which we are sure he in his better moments endeavours.

* We would not have our remark apply disparagingly in any way to the present professor, Mr. Knight, who, we believe, performs his duty most efficiently. We are dealing with the broad principle.

THE NELSON TESTIMONIAL.—Another of the alto-relievos intended to adorn the pedestal of the Nelson column, is completed, and on the eve of casting. The subject is illustrative of the battle of Copenhagen, in which Mr. Ternouth, the artist, has seized a well-known incident (sealing the dispatch) which strongly marked the coolness and forethought which prevailed on all occasions in the mind of our great naval hero.

THE THEATRES AND PORTICOES OF ANCIENT ROME.

BY THE REV. R. BURGESS, B.D.*

IN looking among my antiquarian and literary stores to prepare a subject for the Institute, I again found that it was not necessary for me to go out of old Rome, for although in a series of papers spread over some twelve years, I have led you "O'er steps of broken thrones and temples," and placed you in forums, baths, or halls, I have never yet described to you the theatres and porticoes which formed so important a feature in the architectural beauties of Rome.

The amphitheatre was an edifice unknown to the Greeks, the theatre was hardly ever naturalized among the Romans, and with the exception of some tragedies, ascribed to Seneca, which are lost, it does not appear that a single Roman tragedy was ever composed upon a Roman subject. Porticoes which were generally in the vicinity of theatres and circuses at Rome, are the natural growth of a climate subject to great heat and sudden rains: we lose in these northern regions that great ornament of a city the portico. Our admiration is limited to arcades and covered markets, which it must be confessed are more for use than ornament. But I return to the theatre. The ancient and modern drama differ as widely as the buildings in which they were respectively acted, and I shall hardly succeed in making my Roman theatre intelligible, unless I first indicate a few of the leading features which run through the Greek drama and its Roman descendant. The subject is by far too vast and intricate for me to attempt anything like an essay upon the Greek stage, and therefore I must limit my observations to what is strictly necessary for explaining the internal arrangements of the edifice. The Greek drama dealt more in set speeches than in broken dialogues, and did not admit more than three interlocutors at once: the action or event represented was brought within the space of time, in which it might in reality have been accomplished. As a general rule there was no change of scene during the piece. In every tragedy there was a body called a chorus, who took no part in the action of the piece, but reflected upon what was going on, and generally expressed what might be supposed to be the sense of the audience. The chorus did not come upon the stage, but occupied the orchestra, varying the dialogue which they sometimes held with the actors by choral songs and dancing. These terms of *stage* and *orchestra* I shall have shortly to explain.

Dramatic entertainments, both in Greece and Rome, formed part of the public expenditure, or they were exhibited gratuitously by some wealthy or ambitious citizen. The theatres, therefore, were of immense size, for they were meant to contain (in Greece, at least) the whole male population of great cities. The performance usually took place also in an uncovered theatre in Greece, but Roman luxury, at a later period, invented the awning. I once described to you, when I read a paper on the Colosseum, how this awning was contrived to cover such an immense space; and I must be allowed to suppose that you have not entirely forgotten that description. If any of you are desirous of satisfying your curiosity upon the Greek stage, I must refer you to Butenger de Theatro, for I now hasten to the buildings themselves, which it is the principal object of this paper to describe. The origin of the theatre is rather ignoble;—it was originally a waggon, in which Thespis conveyed his actors about, with their faces besmeared with lees of wine, and from which they spoke their parts to the crowd assembled around them. To the ambulatory waggon of Thespis succeeded a moveable wooden structure, which was set up and taken down at pleasure, and it was in consequence of one of these structures having given way under an unusual crowd, that the first stone theatre was erected in Greece, by Themistocles, not long after the defeat of Xerxes. From this they began to increase in number, and we have the remains of several yet existing, both in Greece and in that part of Italy which was Greek in language and customs long after it came under the Roman dominion. We have also those

* Read at a meeting of the Royal Institute of Architects, already noticed.

remains of Greek theatres in Rome, to which I shall shortly direct your attention. A theatre became so necessary an appendage to a town, that Vitruvius gives systematic direction concerning the selection of a site. In his fifth book, cap. 3, we have the following:—"When the forum is finished, a healthy situation must be sought for, wherein the theatre may be erected, to exhibit sports on the festival days of the immortal gods, for the spectators are detained in their seats by the entertainment of the games, and remaining quiet for a long time, their pores are opened and imbibe the draughts of air, which, if they come from marshy or otherwise unhealthy places, will pour injurious humour into the body. Neither must it front the south, for when the sun fills the concavity, the inclosed air, unable to escape or circulate, is heated, and then extracts and dries up the juice of the body. It is also to be carefully observed that the place be not dull, but one in which the voice may expand as clearly as possible." One cannot let pass this quotation from the great architect of the Augustan age, without remarking that the selection of a site for an important public building was considered by Vitruvius as falling within the province of the architect. A healthy place for the theatre selected, we come next to consider its shape and disposition.

The form of the Greek Theatre originated, as is thought, in the natural recess of a hill side, and most of the theatres whose vestiges I have visited in Greece, occupy that position. Manteneia, built in a marshy place, offers an exception, and I believe there is another exception in Asia Minor; but it was evidently the practice to lighten the labour of erecting such buildings by making use of a ravine, or locality adapted to the purpose. At Megalopolis I was able to trace the whole cavea or hollow of the theatre, partly cut out of a hill; but the seats are overgrown with thick brushwood. The same economy is observed in most of the Greek stadia also, and even the council of Areopagus sat on seats, cut out of, or inserted into Mars' hill. At Nicopolis, near Prevesa, the form of the theatre on the hill-side is preserved, and much of the proscenium. At Smyrna I was able to trace the cavea in a similar position, and also at Ephesus we get to the slope of Mount Prion, which overlooked the Temple of Diana, in the plain of the Cayster, before we find the theatre. Whilst the Greeks, however, hewed seats out of the rock, or excavated to a depth suitable to their purpose, as the nature of the ground allowed, the Romans usually built their theatres upon arches, and massive walls rose (as we see the theatre of Marcellus still existing at Rome), with two or three orders, like the Colosseum. The hollow which perhaps originally was adjusted according to the nature of the ground, in no definite curve, ended in a perfect semicircle. This was called in Greek "κοιλον," and in Latin "cavea," and was the part for the audience. The other part was devoted to the business of the play, and thus we arrive at the two principal parts or divisions of the theatre. The κοιλον, or cavea, is easily described; it was bounded by the segments of two concentric circles, the inner arc separating it from the orchestra; in the Roman theatre it seldom exceeded a semicircle, but sometimes the extremities of the semi-circular arc were prolonged by straight lines; the Greeks took more of the circumference of the circle, and cut the κόλον by lines drawn from its extremities converging towards the centre of the circle, by which arrangement more space was made in width for the scene or stage. The cavea was fitted up with rows of seats rising in succession so as to afford each tier an uninterrupted view: the whole was divided, as in the amphitheatre, into flights by διασωματα, or "prœcinctiones," which is the Vitruvian term for our landing-place. The prœcinctio ran round the whole, and afforded an access from one flight to another. The entire arc was again cut into subdivisions, called κερκιδες, in Latin, *cunei*, from being formed like wedges: the lines which effected those subdivisions were called κλιμανες, or *scalæ*, these (which in the Roman circus were called *viæ*) led from the bottom to the top of the theatre; and they all converged to the centre of the orchestra. The lowest seats were considered the best, and were, in fact, the reserved seats for the magistrates and persons of office. As the audience rose in height, it descended in quality, until it reached the open portico at the very top, which has its counterpart in our shilling or sixpenny gallery. This portico, however, in an uncovered building was of some use in confining the sound and giving shelter to the spectators from a passing storm. A κοιλον, or cavea, such as I have now described, would contain, in some of the largest theatres, as many as 30,000 or 40,000 spectators, which is about the capacity of those whose remains are yet to be seen in Rome. I now come to the other part of the theatre, which is more complicated and more difficult to describe. In Greek we have to deal with the three terms of ορκηστρα, σκηνη, and παρασκενια. In the Roman language, we have the three corresponding terms of orchestra, pulpitum, or scena, and postscenium, to which we are to add the porticus. I shall content myself with describing the Roman arrangements, and simply pointing out where the Greek theatre differed. Taking the cavea to be a semicircle, the concentric arc which separates the audience was also a semicircle, and this space, bounded by the diameter, was the orchestra,—not so called from anything relating to music, but because it was the place for the dancers. In the Greek theatre the segment was less than a semicircle; but if the circle be completed and a square inscribed in it, whose sides are parallel to the diameter, the side farthest from the cavea fixes the front of the stage; but in the Roman theatre the diameter itself determines the front of the stage, or pulpitum. The stage, therefore, in the Roman theatre, is brought nearer to the audience, and made deeper. The length of the stage was two diameters of the orchestra. The increased depth was rendered necessary on account of the greater number of persons assembled upon it; for the Romans put both the chorus and the musicians upon their stage. The points from whence the several staircases began to ascend the cavea were fixed by the vertexes of four equilateral triangles, inscribed within the circle (when completed) of the orchestra. In the Roman theatre, as we have already observed, the front of the stage was called the pulpitum; and it was from that part that the interlocutors spoke. Some think the pulpitum was a little elevated above the level of the stage; but at all events, the word has passed into use for designating a place to speak from in our sacred edifices. The lowest range of seats was raised above the area of the orchestra (one-sixth of its diameter), and the seats themselves did not exceed 1 foot 4 inches in height. The stage in the Roman theatre was only elevated 5 feet above the seats in the orchestra: in the Greek theatre it was double that height. I have only hinted at the geometrical precision with which all these things were defined, and I shall relieve you from such dry details by a reference to the drawings behind me. The postscenium speaks for itself: it was a long narrow gallery behind the scene, where the actors retired, and where apartments or compartments were provided for them. From the postscenium were passages into the porticoes and gardens, which generally surrounded the theatres: but to these I shall have occasion to refer when I have finished the history and description of the theatres at Rome, to which I now come.

I have already remarked, that the earliest theatres at Rome, as well as at Athens, were but temporary erections of wood. The Romans were satisfied with standing-room for 200 years, and no seats were allowed, "lest," as Tacitus says, "if the people sat, whole days might be spent in idleness." Notwithstanding this prohibition to build permanent theatres, the temporary edifices were constructed with a magnificence which surpasses all belief. The wealth which supplied those theatrical exhibitions was generally the plunder of rich provinces, easily earned, and as easily dissipated, merely to obtain favour with the people, and procure still more lucrative appointments. All the bribery and corruption that ever came before a committee of an English House of Commons sink into insignificance compared with those times "when Rome was free." The treating of our "worthy and independent electors" at the open house of the candidate was economy and parsimony compared with the lavish expenditure of a candidate for the honours and emoluments of a Roman governorship; and we cannot doubt, that whilst those worthy citizens were feasting for whole days at the expense of a Scaurus or a Curio, they would be loud in the praises of liberty; and had they known how to put their exclamations into the polite language of modern Europe, the air would have resounded in the midst of those entertainments with "Vive la Republique." It was not until the year of the city 699 (that is within 53 years of the Christian era), that a theatre of solid materials was built at Rome, and this was constructed by Pompey on his return from Asia, at the close of the Methridatic war; but even Pompey found it expedient to pay a deference to the popular feeling. "Therefore," says Tertullian, "Pompey the Great, less great by his theatre only, when he erected that stronghold of wickedness, dreading lest the rebuke of the censor might injure his memory, he built a temple to Venus on the top of it, and when he invited the people to come to the dedication, he did not call it a theatre, but the Temple of Venus, to which," he said, "we have subjoined seats for seeing shows." The seats were therefore considered as the steps by which to ascend to the temple. We may call this either a pious fraud or a legal fiction. A piece of marble was found, in 1525, near the site of Pompey's Theatre, on which Marliano read the words, "Veneris Victricis." This building was erected in the third consulate of Pompey, and when the inscription came to be placed on the frieze, a dispute arose whether it should be *cos. tertio* or *tertium*. The matter was referred to Cicero, who advised the disputants to settle the controversy by writing *cos. tert.*

At the dedication of his famous theatre, Pompey produced twenty elephants; and when he was accused in the senate of introducing too much luxury into the city, he convinced the conscript fathers that it was an economy to build a solid theatre at once instead of raising a temporary structure on every occasion of giving shows. The Temple of Venus served very well as a pretext for making seats "*gradus spectaculorum*;" but it could not equally be alleged for erecting a solid stage. It was not until the reign of Tiberius that this part of the theatre was added, and finally completed by Caligula. It was dedicated anew by the Emperor Claudius, who restored it after a fire, and it reached its greatest splendour in the time of Nero. Two vanquished chiefs, that came from the north of Germany to render submission to the emperor, were taken to Pompey's theatre in order that they might see the greatness of the people. It contained, according to Pliny, 40,000 spectators; and when Tiridates, King of Armenia, came to Rome, Nero caused the whole to be gilded, to shew off the magnificence of the Romans to the vanquished Asiatic. It passed through a succession of fires until Theodoric commissioned Symmachus to rebuild it; but not long after it shared the fate of the rest of the splendid edifices of Rome, and finally came into possession of the Ursini family, who occupied that quarter of the city in the wars of the middle ages. In the fifteenth century, an inscription, found with the name of Pompey, directed the antiquary to find out its site. Another indication of the place where this theatre stood was given in the finding of the famous statue which is now in the Palazzo Spada. That statue was found under the partition wall of a house, and lying across in such a way as to give two proprietors of the house a claim to the treasure: not able to agree about dividing the spoil, they came to the resolution of cutting Pompey in two, and each man taking his own half. The matter having reached the ears of Cardinal Capodifezzo, he hastened to Pope Julius III. to inform him of the judgment that had been pronounced upon the statue. The astonished Pope dispatched a messenger with all haste, and sent 500 scudi to be divided between the litigants, instead of Pompey. Flaminius Vacca, who relates this anecdote, says the statue was found near the Palazzo della Cancelleria, in the Vicolo dei Scutari. The statue did not stand in the theatre, but in the Curia which Pompey built as an appendage to it; and the belief still obtains that it is the statue at the feet of which Cæsar fell. Being thus directed to the site of this famous building, we find ourselves in the immediate neighbourhood of the Church of St. Andrea della Valle. From near that church to the Palazzo Pio, the site is marked by a gradual

rising of the ground, but no vestiges meet the eye. In order to see the remains of Pompey's Theatre, we enter the court-yard of the Palazzo Pio, and, descending into the vaults upon which the Palazzo is built, we find ourselves, at the depth of 40 Roman palms, among the foundation arches. These have been originally hollowed out of the natural rock, and they are pointed at the angles with large blocks of peperine stone. One of the "Cunei" or sections of the cavea belonging to the lowest tier may be perfectly traced; and, after ascending to the court-yard again, and entering the stables, we see a second story of arches for supporting the seats. The construction is remarkable for its solidity; and it would not be difficult to trace, among the modern buildings and in the cellars of the Palazzo, at least one-half, perhaps two-thirds, of the whole cavea. I will not stay to describe to you blocks of peperine and "opus reticulatum,"—for the great point gained by tracing the "cunei" is the fixing of the position of the scene or stage. This appears to have reached very near the present site of the Church of St. Andrea. But the most remarkable circumstance attending an investigation of the buildings erected by Pompey in this part of Rome is the being able to present a ground-plan of them, although they have almost all vanished from off the face of the earth. In the sixteenth century there was found behind the Church of SS. Cosma and Damiano a plan of ancient Rome, done in marble, and which had served to encrust the walls of the temple (it is supposed) of Romulus and Remus. This marble map, where the ground-plan of all the public buildings was laid down, was found broken into fragments; some of them irrecoverable; others, gathered up with care and put together, presented an idea of a building. They now encrust the walls of the staircase of the Capitoline Museum, and are known under the designation of the Pianta Capitoline.* The two fragments most perfect happen to represent the Theatre of Pompey and the Portico of Octavia. By a reference to that fragment of the Pianta, you will not only see the ground plan of the theatre, but also of some other buildings, which were attached to it. Vitruvius cites the Porticus Pompeiana as an example of what a portico should be, when attached to a theatre for the convenience of the actors, or for the people to take shelter in in case of rain. We know, from Martial, that Pompey's Portico had a hundred columns. Eusebius calls it, in consequence, Hecatonstylon. The "Pianta Capitolina" exhibits some of those columns, but the fragment is imperfect. This celebrated portico was painted by artists of renown—Antiphilos, Pausias, and Niceas—the subjects being suited to the atmosphere which Ovid's lovers breathed. About the portico were rows of plane trees, interspersed with stone statues of beasts; and a fountain threw up, or poured out, its sparkling waters. The Pianta Capitolina exhibits two rows of columns, running in a direction towards the river, and not unlikely conducting to a grove along the banks of the Tiber. Besides these appendages to the theatre, there was the Curia, or Senate-house, which is, no doubt, identical with the "Regia Theatri" of Suetonius: but I must forbear to expatiate beyond the proper limits of my subject. A careful inspection of that part of Rome where all those buildings stood, with the aid of the Pianta Capitolina and the antiquarian notices which I have cited, might still furnish a fine subject for the genius of a restoring architect; and when we consider that those extensive and magnificent buildings (whose very remains, at the end of nineteen centuries, excite our wonder) were erected out of the private resources of a single individual, it will be long before we find in another republic a popular favourite, who may vie in wealth, taste, and splendour, with citizen Pompey.

I shall pass quickly over the next theatre, which time and floods have not spared. It was erected in the twelfth year of the Christian era, by Cornelius Balbus, in compliment to Augustus, and was capable of containing 33,000 spectators. I am not aware that a vestige of this theatre remains, but Piranesi took considerable pains to ascertain the site, and found some remains of one of the "Cunei." The Palazzo, and Monte Cenci, now point to where it stood, and Camucci, one of the oldest of Roman antiquaries, who probably saw some remains of it in his time, states that from its vicinity to the Tiber, it frequently suffered from inundations. We are not aware of any portico attached to this theatre, but there was a crypta Balbi, which stood near it, and of this there are some remains.

The third theatre which adorned imperial Rome was that of Marcellus, and along with it I take the portico of Octavia: when I have given you some account and description of these two objects, I shall relieve you from this tedious *conversazione*.*

* These fragments were first engraved and illustrated by Bellori, and are reproduced at the end of tom. i. of the Grævius' Roman Antiquities.

* The remainder next week.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE TRIFORIUM.

AT the closing meeting of the session of the institute, which was numerously attended, Mr. Bellamy took the chair; Mr. Chas. F. Reeks was elected an associate. A list of donations was then read, including a communication by Mr. Roberts on the subject of labourers' cottages adapted to agricultural districts, with specifications, &c., according to a design recommended by the Society for the Improvement of the Condition of the Labouring Classes, and to which the chairman drew attention. There were also amongst the donations, particulars as to the great clock at Westminster, presented by Mr. Bellamy.

Mr. Eaton Hodgkinson was then introduced on his election as an honorary member of the institute, when he was addressed by the chairman, who said the institute hailed with satisfaction the advent to their ranks of a gentleman whose investigations into the nature and the laws which regulate one of the most dangerous materials with which architects and engineers had to do, had paved the way to a better knowledge of that material, and especially entitled him to the thanks of their profession.

Several foreigners were introduced by Mr. Donaldson, among whom was Dr. Forchámmer, professor in the University of Keill.

The monthly report of the committee on students was read, and prize books were awarded to Mr. Thomas Hill and Mr. Bright Smith, when the opportunity was taken to recommend the students to adopt a larger scale of drawings, to put in simple tints, and carefully project their shadows.

The Chairman stated that Earl de Grey had been quite unable, from the precarious state of Lady de Grey's health, to preside at this meeting, as was expected, and that the presentation of the medals and prizes would be postponed till the opening of the ensuing session.†

A discourse was then delivered by Professor Willis, on the triforium of ancient churches, in which he displayed much research and ingenuity in unravelling the mystification into which successive alterations, and changing purposes and habits, and meanings of terms have plunged this question. As for the term itself, there was something rather curious in its history. The only ancient work in which such a term could be found at all, was a history of Canterbury (by Gervase), in which it occurred in three places, and with a local meaning quite different from the sense in which it is now used. He verily believed that the modern term was a mere clumsy latinization of 'thoroughfarium.' In the Basilicas the manifest triforium was an upper gallery, high and lofty, and so arranged that men with business to transact might have freedom to walk and talk without interruption. In front was a high parapet, for the sake of privacy; in fact, it was a practicable gallery for business transactions. The first ecclesiastical triforium was that of St. Sophia, at Constantinople. Privacy was here, too, more particularly preserved, as it was intended for women, the separation of whom from the men was thus provided for by the formation of an upper floor. In the Ravenna churches the triforium was still a practicable gallery; and where flat roofs were used, it is evident there was a reason for the introduction of a triforium other than the mere desire to turn the space beneath a high roof to some account, or to get rid of the difficulty by converting it into a gallery without reason or purpose at all. The professor then, with the assistance of diagrams and models, referred to the peculiarities and alterations affecting the triforium in a multitude of churches, including, as to its origin, those in the east, a few in Italy, with the early basilican churches at Rome, Romanesque and Lombard buildings, with curious triforia. On the banks of the Rhine he remarked, no ancient triforia were to be found, nor in the Romanesque churches of Germany. In its ritual use the sexes had changed places, but at length the triforium went to sleep with ancient usages, and was lost. The awkward way of getting rid of the triforium at York was pointed out by aid of models, &c., and also the curious changes at Ely. One great object in many alterations of the triforium was evidently to remove darkness; and thus the triforia, in many cases, became practicable galleries lighted from without. The way in which high roofs were converted into flat ones, with the outer wall raised and ornamental windows, visible from the body of the church, introduced, was ingeniously illustrated by models made of card-paper, stuck into mortices sunk in a base plan, and capable of being transfigured in a moment like the changes in a harlequin's dress. The professor, ostensibly for behoof of the students, described the way in which they were prepared, mounted, taken to pieces, and stowed away into portfolioes like any other mere flat drawings. In some of them all the three or four sides of the model consisted of but one piece, tinted, cut out, and folded into proper form when mounted. By these means the alterations from one form to another, in several edifices, were rapidly illustrated.

The chairman said, that of all vexed questions, none had been involved in greater obscurity than the subject of the triforium, and none had given more scope to the imagination; but Professor Willis had entered practically into this question, and by a comparative analysis had shewn them clearly that triforia were really lighted thoroughfares. His discourse had carried to his mind an entire conviction. As to the models; there was a simplicity as well as ingenuity in these models, that he especially recommended students, in connection with what had been already said, to carry out substantially.

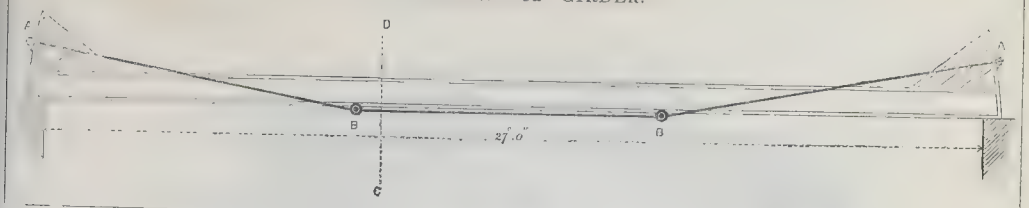
Some discussion then ensued between Mr. Donaldson and Mr. Willis on the subject of the term "early English," which Mr. Donaldson declared he did not think sufficiently definite, while, on the contrary, Mr. Willis regarded it as of value, chiefly because it involved *no* definite hypothesis, but was a mere general term ranking with others, such as early German, early French, &c., each of which comprehended peculiarities.

Mr. Tite asked whether the period was known when that division of the sexes to which allusion had been made was most prevalent or most generally ceased, as it might shed some light on various particulars connected with the triforium, and the history of its changes or alterations?—In reply, Mr. Willis admitted that his knowledge on this particular point was rather imperfect. He feared it was impossible to form a continued history of the triforium, and its changes in the western churches. After the period when processions to chapels in the different stories, including the triforium, ceased, it had failed in use and died out. The time of the Reformation was hinted at as probably a critical period in the history of the triforium, the use of which, as the chairman observed, then ceased, and buildings were no longer erected on the same type; but the separation of the sexes did not then at once cease.

The chairman announced that the council were making an arrangement to furnish members with copies of the papers read before the Institute, and he hoped it would be matured before the opening of the new session. In announcing the close of the present session, and the opening of the new on 6th November, the chairman exhorted his friends to make the most of their time in preparing something worthy of the attention of the Institute, for which, in the present locked-up state of the Continent, they would probably have more opportunity and leisure at home than usual.

† The death of this estimable and accomplished lady, which has since occurred, will be deplored by all our readers who remember her kind receptions and considerate attentions.

ELEVATION OF GIRDER.



EXPERIMENTS ON A GIRDER TRUSSED WITH WROUGHT-IRON RODS.

The following experiments made at Mr. Cubitt's works, Thames Bank, on a girder trussed with wrought-iron rods, will be found to supply important deductions, and claim the serious attention of engineers, especially of some who are at this moment about to use girders trussed precisely in the manner which these experiments shew to be worse than useless.

The girder was of cast-iron 28 feet long, 10 inches in depth, parallel, and of the same section throughout; a strong frame was cast upon the ends of it, in order that the inclination of the tension rods might be varied, or rather that the ends of them might be raised to different heights above the bottom flange.

The tension rods were of wrought-iron, 1 inch in diameter, one on each side of the girder, attached at the points BB to iron pins 2 inches in diameter, which passed under the bottom flange; at the points AA they were connected by means of plates clipping the ends of the girder, and tightened up by nuts and screws.

A weight of four tons was placed upon the centre of the girder, and the deflexion (2 inches and 1-8th) carefully taken. The tension rods were then put on and applied in various places, and the weight required to produce the same deflexion is given in the following table: the distance of bearings was in all cases 27 feet.

No. of Experiment.	Distance of points AA above the bottom of girder.	Distance of points BB on centre of pins below the bottom of girder.	Weight required to produce the same deflexion of 2⅛ inches.	
	Inches.	Inches.	Tons.	Cwt.
1	30	1	3	19
2	24	1	4	0
3	18	1	4	1
4	10	1	4	11
5	24	6¼	4	8
6	10	6¼	6	1
7	5	6¼	5	12

After the above experiments had been made, the tension rods were removed, and the deflexion with four tons was found to be the same as at the commencement.

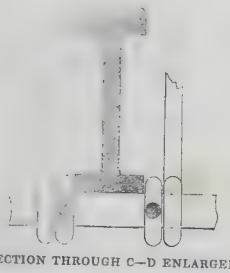
Our readers will observe that, strange as the fact may appear, when one end of each tension rod was 30 inches above the bottom of the girder and the other end one inch below the bottom, the same deflexion was produced by one cwt. less than when there were *no rods*.

When the distance of the points AA above the bottom of the girder was lessened to 10 inches, and the distance of the points of suspension (BB) *below* the bottom of the girder was increased to 6¼ inches, the girder was strengthened 50 per cent.

In some girders recently put up, the points of suspension are actually *above* the bottom flange, and serve with other arrangements to weaken the girders, at considerable cost, instead of strengthening them; while they give a false assurance of strength, which, under some circumstances, may lead to very serious results.

Blind Builders.—The following tenders for two cottages, to be built in Southmolton, Devon, says a correspondent, are worthy of notice:—

Cock	£170
Henry Baker	129
Smyth (accepted)	90



SECTION THROUGH C—D ENLARGED.

NOTES IN THE PROVINCES.

The New Catholic Church of St. Osmund, at Salisbury, is fast approaching completion. The roof of the chancel has been highly decorated and emblazoned in colours and gold; and a carved oak altar-screen is being thrown across to divide the chancel from the body of the church. The bell tolled for the first time on Tuesday week, for the funeral of the late Mr. John Peinston, for many years the county surveyor.——Scaffolding for the pointing of the spire of the cathedral at Salisbury, is being put up. From a platform round it, immediately below the weather door, the workmen will be lowered as the work may require.——The Chapel of Plush, in the parish of Buckland Newton, Dorset, has been rebuilt, and will shortly be consecrated.——There is a suspension of divine service at Honiton New Church, owing to the unsafe state of the roof.——The first stone of that one of the two Corn Exchanges now being built at Worcester, which is to occupy the old site, was laid on Wednesday week. Some time, according to the local journal, has been occupied in perfecting the foundations: in the first place, by erecting a wall around the whole area of the building, at a distance of about a foot and a half outside the foundation walls, the space between the two walls forming a dry air chamber, for the obviation of the damp which is often arising in the walls of large rooms; and in the second by the construction of recesses, that hot air may be introduced into the rooms when required, and the ventilation be kept uniform and perfect.——A site near Abergavenny has been purchased for the erection of the new Lunatic Asylum for Herefordshire and adjoining districts. At the sessions recently it was stated, that Mr. Fulljames, the architect, had prepared a rough estimate for the erection of the building for 200 patients, at the sum of 21,200*l.*, and afterwards another for 212 patients at 24,300*l.* This being a great excess upon the former estimate, the committee referred the matter to the commissioners in London. Their consulting architect suggested several improvements, and though there was a portion of the money to be expended in ornament, according to Mr. Fulljames' plan, thought that there were more projections and more staircases than necessary, and that the whole might be completed at 100*l.* per patient. Mr. Fulljames was accordingly requested to correct his plan in conformity with the suggestion of the Commissioners of Lunacy.——On Tuesday week, the new church at Hixon, near Stafford, erected at the expense of Earl Talbot, was consecrated. A parsonage house adjacent has also been erected.—— It was recently stated that there are 1,000 untenanted houses in the township of Toxteth Park, Liverpool. ——The new Independent Chapel in Cavendish-street, Manchester, erected by the congregation of the Moseley-street Chapel, from the designs of Mr. E. Walters, of Manchester, was opened on Thursday week. This chapel, which comprises nave, transepts, side aisles, and apse, with a lofty tower and spire at the south-west corner, and is capable of accommodating 1,500 adults, and 380 children, has been erected in fifteen months, at a total cost of nearly 11,000*l.* The style, as we have before noticed, is the early English, and the principal windows are filled in with stained glass. The schools in connection with it, for 1,000 children, at an estimated cost of 5,000*l.*, are about to be commenced. Including 6,000*l.* for land, the total expenditure on this mass of building will be 22,000*l.* —— On Saturday week the stonework of Bridlington New Pier was finished, when the contractors gave the workmen a bountiful refreshment, to commemorate the occasion. The pier is 500 yards long.——A monument has been erected in Berechurch Church, for Sir Henry Smyth, Bart., M.P., designed and executed by Mr. J. Edwards, of London. It is 9 feet high by 4 feet 6 inches, of Carrara marble, and comprising a group of three figures—a female in alto-relievo, and two angels in thin relief. The inscription is on Sicilian marble.——The new Corn Exchange at Saffron Walden, noticed on 17th ult. in The Builder, is now in active progress. The south wall appears at nearly its full height, and the east and north sides are in a very forward state, so that the building will at least be fit for occupation on 29th September. It is to be in the Italian style of architecture, surmounted by a bold clock-tower, supported by Doric columns, and will consist of sixteen corn merchants' offices, a committee-room in the angle, and public reading-room in the north-east end; these enclosing an 11 ft. covered ambulatory round the area, and leaving a clear opening in the centre of 25 ft. by 35 ft. The intended new post-office is in a still more forward state as to the external walls, which are continuous from the south front of the Exchange, and corresponding in style of architecture, from a design by Mr. William Beck, of London, architect. The post-office itself will be under a colonnade, supported by two Doric columns, with a passage, and pilasters, surmounted by a public room, with a waiting room, &c., at the rear. On these buildings Mr. Erswell has about eighty men at work. The entire cost of the Exchange will be about 2,500*l.*, independently of the post-office and public room, which will cost about 1,200*l.* A new savings' bank office is about to be erected contiguous to the above, in a similar style of architecture, and to cost about 900*l.*

Exemption from Brick Duty.—In the Court of Queen's Bench, in the sittings at Nisi Prius, after Trinity Term, at Westminster, before the Lord Chief Baron and a special jury, in the case of the Attorney-General *v.* Walker, the question was raised, whether in the erection of any bridge, for the purpose of passing over newly-made drains, parapet-walls, and other small erections for the public safety, or for the support of any such bridge, were to be regarded as drain-bricks, which, under the 2nd and 3rd Vic., c. 24, an Act for draining certain wet lands and marshes in Lincolnshire, are exempt from duty. The jury gave a verdict for the defendant.

STEYNING CHURCH, SUSSEX.





STEYNING CHURCH, SUSSEX.

STEYNING is one of a series of churches, situated on the Sussex coast, second to none in England for interest. The very early church of Sompting is but two miles from it, which Rickman was inclined to consider bore traces of early Saxon architecture. Broadwater, with its beautiful chancel, is but a few miles farther; while Old and New Shoreham lie close to the sea, and within a few minutes' ride, by railway, from Brighton. There can scarcely be a more interesting district for the ecclesiologist, while the lover of nature will be repaid by the beauty of the scenery around him.

Steyning lies at the foot of the elevated downs, which, rising a little inland, inclose a valley singularly fertile and beautiful, surrounded by hills on all sides, and embracing an area of great extent, dotted with churches and villages, many of a primitive character, and which are of most ancient foundation. The beauty and fertility of this spot attracted even the Romans: and at Bignor, on the one side of this amphitheatre, some of the finest pavements in England have been discovered and are still preserved.

Steyning, in the time of the Saxons, appears to have been a place of considerable note; and here St. Eadmon and Ethelwulf, the father of Alfred the Great, was buried, and their relics religiously preserved long afterwards. King Edward the Confessor gave lands to the Monastery of Fescamp, in Normandy, which includes this place; and William the Conquerer founded an Alien Priory of Benedictine Monks here, which, being granted to the Sion Monastery by Edward IV., continued to be part of its possessions until the dissolution. The church is dedicated to St. Andrew, and consists of the nave only of a larger cruciform structure, which must originally have been one of the noblest and most elaborately decorated in the kingdom, but of which we can only form a faint notion by the fragment which now remains.

The interior is magnificently enriched. The nave exhibits on each side four ornamented arches, each surmounted by a round-headed window, and they have been copied in the repairs of Arundel Castle. For variety of detail, and richness of effect, they equal any specimens extant of Norman work. Our smaller cut exhibits some few details of this portion of the building. Fig. 1 is a capital on the north side, shewing the details of the circular arches which it supports. The arrangement of the chevron upon the arch to the right of the spectator is peculiarly rich in its effect; the points of each series of zig-zag mouldings are arranged like a fan, with their angles forward. Fig. 2 is an ornament adopted for the edge of another arch. Fig. 3 is a double arch springing from a grotesque head, and is withinside the southern arches, immediately beneath the roof of the side aisles, which are very low. A pillar in the wall on this side exhibits some curious sculpture in a sunk tablet beneath the capital, but it is partly hidden by the beams and woodwork of the gallery; figures in Norman costume appear to be gathering grapes, or are engaged in the woods. At the east end of the church, where the transept is intersected, are clusters of columns and arches for supporting a central tower; a lofty Norman arch leads into the

ANCIENT HALL, SAFFRON WALDEN, ESSEX.



chancel. The present tower on the west is of more modern date; it is a heavy piece of building, of flint and rubble-stone, laid chequer-wise, with angular buttresses. The porch conceals a door slightly ornamented, and coeval with the chancel. The row of windows above the chancel arches are the most striking external features in the church; they have each a double recessed arch, supported by pillars on each side, and are connected by a string course, decorated by fillet-mouldings, or entirely plain. Above is a corbel table, with grotesque heads, &c.

ANCIENT HALL, SAFFRON WALDEN, ESSEX.

The curious relic depicted in our engraving was so completely hidden by the sub-division of walls and ceilings within it, to adapt it to the necessities of a dwelling-house, that, until the demolition of the buildings in the spring of the present year, all that could be seen were the carved heads of the ends of the hammer-beams. These heads were beautifully and spiritedly carved, and, indeed, the ornamentation of the entire hall was well and boldly cut. It was of small dimensions, the side pillars seen in our cut being in the centre of the hall, and was cleared of modern floorings, &c. before it was demolished, in order that its construction might be perfectly visible. The buildings with which it was connected were old, but no record of the history or occupation of this place is known, except that about two centuries ago it was an inn, the sign being *The Iron Crown*. The Hall appears to be of the time of Henry VII., judging from its detail; it may have been the hall of some wealthy tradesman (Sir John Crosby, in London, and John Halle, in Salisbury, have each left specimens of their in-door splendour), for Walden had many rich traders in the olden time; or it may have been the spoil of some monastic edifice in the neighbourhood which had fallen in the days of Henry VIII.

The name of Walden is said to be derived from the Saxon words *weald* and *den*, signifying a woody hill. At a later period the place was called Waldenburgh, and in the reign of Stephen, when Geoffry de Mandeville, Earl of Essex (who built the castle, of which a fragment still remains, and who was the grandson of one of the most distinguished followers of William the Conqueror), procured from the Empress Matilda, the grant of a market previously held at Newport, the town took the appellation of Cheping-walden. The present designation owes its origin to the culture of saffron in the neighbourhood, which is supposed to have been introduced by Sir Thomas Smith early in the sixteenth century, but has long since been discontinued; the device of the seal of the corporation is a rebus on the name, being *three saffron flowers walled in*, about as bad a heraldic pun as any on record.

The ancient hall and the buildings with which it was connected have been pulled down, in order to construct a new market-place. The carved heads from the hammer-beams (six in all) have been preserved by the Hon. R. C. Neville, in his museum, at Audley End.

THE NEW BUILDINGS ACT.

THE MASTER CARPENTERS' SOCIETY.

The anniversary dinner of the Master Carpenters' Society was held on Wednesday in last week, at Blackwall; Mr. H. Biers, president, in the chair. Mr. Stephens, in proposing the health of the chairman, took occasion to say, as it was probably the last time that their chairman would occupy the president's chair at their anniversary, how much was owing to him for exertions during seven years in opposing or promoting, as they might be deemed injurious or useful, the many measures brought before Parliament in the shape of buildings' bills, and which question was even now left in a most unsatisfactory and discreditable state. He said they all knew that a committee was selected by Lord Morpeth in October last, but up to this period (the end of June) they were, as regarded the Metropolitan Buildings Bill, precisely in the same state that they were in this time last year. As their chairman was upon that committee, and as he had appeared there the representative of this society, he (Mr. Stevens) thought they might look to him on the present occasion for some statement on the subject.

The president, in acknowledgment, stated, that as this was the last time he should have the honour to fill the president's chair at their anniversary, he would very shortly reply to some of the observations which have been made, especially upon the very important subject of the Buildings Bill: he wished he could foretell a future and improved edition of it. In October last he was sent by the society as its

representative, to work upon a committee appointed by Lord Morpeth to examine and to report upon the emendations necessary in the present absurd and obnoxious Metropolitan Buildings Bill. From October to February last the committee met at least once a week, and gave to the subject the most persevering attention for six or seven hours at each meeting. In February last a report of the committee was sent to Lord Morpeth, but from that time to this not a word of communication had been forwarded to any one of the committee either by or on behalf of his lordship.* The Chairman continued:—Whatever might be the interests of individuals under the present regulations, he would assure the society that the committee had not been deterred from proposing any amendment, or any regulation, or any improvement that was deemed necessary or desirable for public improvement, or that might relieve the public in general from the operation of the many absurd and obnoxious regulations in the present bill. At the commencement of the labours of the committee, it was agreed that until after the report of the committee had been sent to Lord Morpeth, the committee was not to report to their respective constituencies, and he (the Chairman) had since understood that it was still the wish of Lord Morpeth that for the present the recommendations of the committee should be prevented from being laid before the public. This being so, he was prevented laying before the society a detailed statement of the proceedings of the committee, but without committing any thing like a breach of confidence, he thought he was justified in saying that the whole, or very nearly the whole, of the amendments proposed by the society of master carpenters had met with the approval of, and were supported and recommended by, the committee. In establishing the recommendations and improvements, he was greatly indebted to Mr. Piper, also on the committee, the able honorary secretary of the Builders' Society, whose views met the views of this society so exactly and so completely, that it would almost appear that there was but one society represented by two persons. In conclusion, it will appear that about 79 of the clauses in the present bill are altered, amended, or expunged; that the schedules are also altered most materially, and a large proportion are recommended to be entirely removed. Having stated this much, he was sorry that he could not give the information as to when the recommendation of the committee would either be adopted or taken into consideration; at all events, he thought that Parliament would not be troubled this session with any improved bill; but still the society ought not to lose sight of, and ought not passively to put up with, the buildings regulations, but from time to time energetically and unceasingly impress upon the members of the Legislature, that the present bill is obnoxious, unjust, and ambiguous, and ought to be displaced by a much more simple and reasonable enactment.

* Some time since, we forwarded to Lord Morpeth a request to be permitted to publish the report; but his lordship considered it was not desirable that the same should be made public at present.—ED.

SOME ARCHITECTS' PRACTICES.

SIR,—Before you can induce any uniformity or consistency in the charges of architects to their clients, you must persuade them all to forego their "commission at the other end." At present very many in the profession always expect, and very often receive, either a direct per centage, or an indirect "consideration," from the parties whom they recommend, or who work under them, and, although I allow there are many honourable exceptions, these are more rare than you perhaps imagine. Some, indeed, there are who are far too respectable to touch gold, or a cheque, even if offered—but then they do not expect to be charged for any work done at their own houses, or, if charged, never think of paying the bill.

I do not make this charge at random, but from certain knowledge and costly experience. I hand my card as a guarantee of good faith, but I cannot afford to have my name published in connection with the subject.

Of course the practice is baneful to all parties concerned, and not least to the upright and fair-dealing architect.

A TRADESMAN.

SIR,—As some of your non-professional readers may not be acquainted with the manner in which cheap building is now managed, I wish to enlighten them a little on that subject, by illustrating a case. We will suppose A to be a person of moderate fortune, who has at different periods erected a few cottages on his estate, for which he has employed B, a respectable builder in his own neighbourhood, who has hitherto given him entire satisfaction, but being about to erect a residence for himself, he of course calls on an architect C, who finding it an eligible situation for display, makes a very elaborate design, with which A is very much pleased. B is then applied to for an estimate, and being well acquainted with the locality and the expense of getting materials to the site, makes a very careful calculation, allowing himself a fair remuneration: but his estimate far exceeding the sum stated by the architect, A, at C's suggestion, advertises for tenders, and a lot of half-inch contractors, men without either money or character to lose, come forward, and the result is that a tender, 25 to 50 per cent. lower than B's is accepted; the works are proceeded with immediately; a few extras of course are found by the builder, for which he is paid. A then furnishes his house, and by the time he has got completely located therein, he begins to find rather alarming symptoms of going to pieces; floors gape, ceilings crack, and various other signs of slippery work and unseasoned materials begin to show themselves, and A in great distress sends for the builder, but he is not forthcoming, for having taken the work at a price less than the actual cost, he cannot (and never intended to) pay his creditors, and is undergoing the process of whitewashing in the court of Bankruptcy. A, being an honourable man, has then to endure the punishment of living in a house that is a continual eye-sore to him, and which he has the additional mortification of feeling is partly erected at the expense of the timber merchant, stone merchant, and brickmaker.

JACK-PLANE.

*** We have received a long statement respecting certain tenders for repairs at the Russell Institution, but cannot insert it without inquiry.

RAILWAY JOTTINGS.

THE calls due in July amount to nearly 4,000,000*l.*, or about 1,500,000*l.* more than those of June, and greater than any this year, except in January, which was nearly 5,000,000*l.* Compared with July, 1847, there is a decrease of nearly 1,500,000*l.* The total amount of calls to end of July is 22,437,931*l.*, against 27,394,220*l.* in 1847, being a decrease of 4,956,299*l.*——A railway velocipede, for official visits of inspection, has been tried on the Lincoln and Nottingham line. It is so light that four persons might lift it out of the way on the approach of a train. To put it in motion, two men, who stand upon it, turn a wheel round which a strap passes; the strap also passing round a small wheel in the middle of one of the axles. Without any great expenditure of strength, a speed of 20 miles an hour can be kept up. This, however, is by no means a new machine, although it is so called. We have seen it at work on one of the Scottish lines some years since, under the direction of Mr. Errington, C. E.——"Mr. A. C. Tarry," says the *Gateshead Observer*, "writing from Lucca to his friend in England, on the 31st ultimo, says:—'it gives me much pleasure to inform you that, during the war here, we have been much indebted to the manufacturers of England for locomotive engines, the transit of so many soldiers requiring their constant use night and day, and the Yankee engines we have here requiring continued repairs. Since I came here, an engine, made by Messrs. Sharpe, Brothers, of Manchester, has run the unprecedented number of 81,000 miles, without requiring a sixpence of expense in that way, with the exception of furnace bars, which were speedily rendered useless, from the softness of the material used in their construction.' Our locomotive-builders are cleverer fellows than our shipbuilders, if your Hudsons and your Bentincks are to be believed. Notwithstanding the high wages which our Stephensons and our Hawthorns, our Sharpes and our Longridges, pay to their workmen, they can find customers for their engines in countries where wages are low. Is it to some statute akin to the Act of Navigation that their superiority is owing? or are they indebted to their own skill, and energy, and enterprise?"——The falling of so many railway bridges, and the burning of that at Newport, involves a question as to which is really the best mode of construction. It cannot be claimed for us, as a nation, says the *Mining Journal*, that our engineers adopt, in every case, plans founded on the truest mechanical bases; but, in numerous cases, we have seen enormous structures, and immense iron girder bridges, absolutely crushed into ruins by their own unwieldy weight; while lighter structures, but possessing large mechanical power, have been entirely passed over. Among the many descriptions of bridges which we have had occasion to notice, we know of few which combine the elements of safety with lightness and economy such as that under Ryder's patent, though of American origin. The model, which we some time since inspected, 4 feet 6 inches long, weighing 12lbs., has supported shot, in bags, weighing 1,500lbs.; one, 40 feet span, weighing 4½ tons, has borne, we are informed, 50 tons; and a bridge, with a double track, on the New York and Harlem line, weighing 13 tons, has heavy trains passing over it every day, without sensible oscillation or vibration; to test the methods employed of allowing for expansion and contraction, the two last named ones have been exposed to temperatures varying from 110 degrees to several degrees below zero.——The following is a description of the bridge over the Tweed: it is to be of stone, and is to consist of 28 semicircular arches, each 61½ feet span, resting on lofty piers, carrying the level of the railway 103 feet above high-water mark, 126 feet above low-water mark, and 135 feet above the deepest part of the bed of the river. The whole length of the bridge, with abutments and wing-walls, is 2,140 feet. The 28 arches are divided into two series by a broad pier, 28 feet in thickness in the middle. The piers of the arches are 8½ feet in thickness at the springing, increasing by steps towards the bottom. The work will not be completed for 16 or 18 months, but a temporary bridge will shortly be ready for traffic.——The viaduct over the valley of Dunglass, between Dunbar and Berwick, not far from the once celebrated Pease-bridge, crosses the valley and banks by six semicircular arches, each 60 feet span, and then the deep ravine by a single arch, 135 feet span, and rising 105 feet above the bed of the stream.——The Ballochmyle viaduct, across the water of Ayr, on the Cumnock extension of the Ayrshire railway, is similar to that of Dunglass in crossing the valley on three semicircular arches, each 50 feet span on each side, but crosses the deep ravine in the middle by a single semicircular arch, 180 feet span, and rising 150 feet above the bed of the stream. The adjacent rocks furnished vast blocks of stone, greatly facilitating the construction. The arch stones are 5 feet 3 inches deep at the springing, and 4 feet 9 inches at the crown. ——On the Blackburn and Accrington portion of the East Lancashire Line, just opened, there are several viaducts. In passing from Blackburn a tunnel and cutting are first met with, and the line soon reaches its apex on a gradient of 1 in 140 at Rishton Moor, near which is the first viaduct, crossing a canal, and formed of heavy timber on four stone piers, "the woodwork," it is said, "being knitted together in a peculiar manner, securing very great power." At Rishton, also, the reservoir is crossed by a viaduct 240 feet long and 30 feet wide, constructed of timber "strongly knitted together by iron plates and bolts." The roadway over the reservoir rests on nineteen bearings, the crossheads of which are at a height of 45 feet from the iron points of the beams, of which there are six to each bearing. The piles are 10 feet above the water, 20 feet in it, and 15 in the earth. The line again reaches and crosses the canal in Church parish, where a viaduct

occurs which is part of a continuous series of nearly half a mile long. This structure contains thirty-one spaces of 25 feet wide each, the extreme height of the line above the brook being 72 feet. This viaduct is of timber, set upon piers of masonry. At the entrance to Accrington a line is sent off on the left to Burnley, over a stone and brick viaduct of twenty-two arches of 40 feet span; the highest point being towards its centre, where the distance between the water surface and the roadway is about 60 feet. The first arch of this viaduct is of hewn stone. The contractors for these and other works are Messrs. Smith and Pearce.——It may not be generally known, says *Herapath*, that large quantities of gunpowder are frequently and safely conveyed by railway. As much as 11 tons in one day, and in a few months above 100 tons have been carried on the London and North-Western line to Liverpool, Manchester, Leeds, and other places. The waggons are made expressly for the purpose. There are eight of these on the London and North-Western, constructed in accordance with the patent of Mr. Henson. The body of the waggon is formed with sheet iron on the outside: the interior is lined with 2-inch plank, between which and the iron outside a thickness of felt is carefully placed. These are screwed to either from the outside, so that there is nothing but wood inside, except on the floor, which is covered with sheet lead. The door fits close with a double rabbit, so that it is almost air-tight, and it is therefore impossible for any fire to get to the powder. The axles are cased with wood. The comparative absence of the usual noise and vibration in the movement of these powder-wsggons is very remarkable.

ELECTRO-TELEGRAPHIC.

The use of the telegraph enters into the everyday business of the press in America. Journals distant a day's journey from Congress have its speeches and proceedings in print while the speaker is in possession of the floor. This wonderful power, however, has been greatly abused; and just indignation at this want of principle in our transatlantic brethren has been repeatedly excited. With them the treachery of the telegraph appears to to be "pretty considerable." It has almost universally happened of late, on an arrival from Europe, that the wires have been broken at some point along the line, and thus all correspondence has been cut off. When managed with integrity, the telegraphs radiating from New York furnish the papers with intelligence of ship news and other matters, at the rate of fifty dollars a week. The approach of the steamer *Cambria* has been announced in Boston, by means of the marine telegraph, while the vessel was yet nearly forty miles from the harbour. This news did not stop at Boston, but was, within five minutes, also announced in New York. At New York, the progress of the *Cambria* was also known as she entered the harbour, and at the moment she passed into the dock. By this wonderful medium of intelligence, the arrival of the steamer was reported in Springfield, Hartford, New Haven, New York, Philadelphia, Baltimore, and Washington, before the vessel reached the wharf in Boston; and the principal items of news were published in most of those places at the same time, and within one hour from the time of their publication in Boston.

Architectural Prizes: University College, London.—The following is a list of the students who have received prizes in architecture. As a *Fine Art*, 2nd year, 1st prize: John Norton, of London; 2nd prize: John G. Hall, of Hampstead; as a *Science*, 1st prize: Charles Poland, of London; 2nd prize: John G. Hall. *Fine Arts*, 1st year, 1st prize: Edward W. Tarn; 2nd prize: Thos. Hill, of London. *Science*, 1st year, 1st prize: Thos. Hill; 2nd prize: Edward W. Tarn.

Engineering Prizes: University College.—1st year, prize and 1st certificate: Gerard B. Smith, of London. 2nd year, prize and 1st certificate: Samuel S. Blackmore, of London. *Surveying.*—Prize and 1st certificate: John Young, of Chatham. *Mechanical Principles of Engineering.*—Prize and 1st certificate: Alfred Warren, of Kentish Town.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday morning in last week; the Right Hon. Lord Morpeth, M.P., in the chair.

Mr. Hertslet, by order of the court, produced a list of the officers employed by the old, with those retained by the present commission, with the salaries attached.—The Hon. F. Byng said that statements had been put forth that the salaries paid by the present commission considerably exceeded those paid by the former commissions. Now, what was the fact? Why, with a staff of officers far more efficient than what they formerly possessed, a saving had been effected on the present quarter of no less a sum than 1,351*l.* 13s. 4d.; and taking that sum for each quarter, the annual saving on this head alone would amount to 5,406*l.*—Lord Morpeth said this was a very important statement, and ought to be generally known.

Mr. Hertslet then read the following reports from the Ordnance Committee:—

"We have to report that the continuation of the survey of London by the Ordnance, as sanctioned by the court, is now in progress, and we have been assured that no time will be lost in proceeding rapidly, and at the same time effectively, with the work. Already a considerable force is stated to be on the ground.

The district previously surveyed by the Ordnance, and comprised within an area extending from Westminster-bridge, by the Birdcage-walk, Constitution-hill, Knightsbridge, Brompton-road, Milman's-row, and thence by the river to Westminster-bridge, is represented to be finished, and we expect the sheets on which this portion of the metropolitan survey is plotted, to be delivered to the commissioners from the Ordnance office within a very short time.

As soon as these sheets are received, the results of the subterranean survey of the same district, comprising the lines of sewers, with levels of numerous points on the inverts of the main and principal branch sewers, can be immediately inserted on them, this portion of the subterranean survey being nearly completed, so that the commissioners will then be in possession of a general view of the drainage of this portion of the metropolis.

At the same time they have correct information respecting the transverse and longitudinal forms of the sewers, the present condition of the materials with which they are constructed, and the state of sewers, as regards sediment and general contents, at the time when each sewer was examined."

"It appearing, upon examination, that the radius of eight miles from St. Paul's extends to districts to which it is not desirable the survey of London should be rapidly carried, inasmuch as such districts are unimportant, while, at the same time, other districts on the confines of the area thus determined, such as Brentford, Kew, Richmond, and others, are important, and would be inconveniently divided from the general block plan as at present arranged, we would request authority so to apportion the survey, that the unimportant districts should be omitted, while those on the confines of the area of eight miles from St. Paul's, and important for the consideration of the general drainage area, should be substituted, it being always understood that neither the limits of the commission, nor the total amount of area to be surveyed, and for which the estimates have been framed, should be exceeded. We have reason to consider that by an adjustment of this kind a less area will, on the contrary, be found desirable.

It being extremely important that the subterranean survey, comprising the investigations noticed in our previous report, should always be so far advanced that when the plotted sheets of the block plan are received from the Ordnance Map Office, the directions, levels, and other information connected with the sewers may be immediately inserted, so that general views on the subject of drainage may be entertained at as early a period as possible; we would also request authority so to proceed with the subterranean survey, by increase of force, including draughtsmen, that this desirable object may be obtained."

Mr. Chadwick rose to move that these reports be received and adopted; but in consequence of the low tone in which he spoke, with the echo of the room, and the incessant noise of masonry-work on the outside, but very few of his observations were audible. He was understood to say that by the reports presented it would be seen that a necessity existed for proceeding with two surveys simultaneously, viz., the survey of the surface of the ground and the survey beneath the ground, or what might be termed the subterranean survey. Until the present commissioners took office, there was no knowledge, or at any rate but a very imperfect one, of ancient sewers; and even recently-constructed sewers appeared to be nearly useless, as they had been constructed without any relation to levels or other important considerations. When the Ordnance maps were presented, they would be made available; but they were unable to commence new sewers until they got complete information; and with this view a set of questions had been submitted to the ratepayers to know whether their houses were drained or not, and on the general state of house-drainage. When they had obtained the information sought to be derived from these sources, it would form the base for future improvement. He believed that about 1,000 acres of the subterranean survey were now completed, and the committee hoped that the court would sanction such additional force as would enable them to keep pace with the Ordnance, and that the whole work might be completed with speed and efficiency.

Lord Ebrington seconded the motion.

Mr. Bullar was anxious to know something of the extra expense of these proceedings.

Mr. Leslie considered that the whole matter should be referred back to the General Purposes Committee to report upon it, as the plotting could not be commenced for a short time. He would ask Sir Henry de la Beche whether that short time did not mean a fortnight or three weeks? Another question he wished to ask was, whether the sum of 19,000*l.* required for the survey included the military pay of the officers and men, engaged in the work?

Sir Henry de la Beche said, with reference to the first question, he believed that in a fortnight or three weeks the plotted plans would be delivered to them, and when these plans arrived, they would then be able to lay down their own for subterranean purposes. As to the increase of expense, they asked for but two more levellers, with five or six men, and that the amount should be extremely limited, they proposed to take but 500*l.* on account. It would be perceived that it was very desirable to plot without delay, and to proceed at once with the work. With respect to the entire expense of the work, it appeared that a great error had arisen, and being anxious to obtain correct information, he had inquired at the Ordnance-office whether the amount of 19,000*l.* would include the military pay of the officers and men engaged in the survey? He was happy to state that this amount *included the whole of those charges*, and that any additional expense which had been stated was quite erroneous. He thought the sooner the public mind was disabused of this impression the better.

After a few words from Lord Ebrington, Mr. Bullar, Mr. Broderip, and the Rev. W. Stone—Lord Morpeth suggested that the case might be met by the adoption of the following resolution:—"That the reports now read be referred to the General Purposes Committee, and that the Survey Committee be authorised to order the expenditure of the sums immediately required for the purposes of the subterranean survey."—Mr. Chadwick objected to any reference, but other members having expressed their opinion, the amendment of Lord Morpeth was put, and carried by a large majority.

Mr. Hutton then proposed the following resolution:—"That the Ordnance Survey Committee be authorised to determine the boundary of the survey with reference to the line of eligible drainage area, and in accordance with the legal opinion which has been taken for their guidance; and that they report to the next court."—Carried.

It was ordered that a rate of 9d. in the pound be prepared for the Poplar and Blackwall district.

Various proposed works were ordered to be carried into effect, and the court was then adjourned to the 25th of July.

Correspondence.

COMPETITION AGAIN — NORMAL COLLEGE FOR WALES.

Sir,—Strange conditions as you know creep into the "Instructions to Architects," issued by the local committees of our day. Perhaps one of the strangest, and certainly one displaying very ingenious economy, appears in those forwarded to applicants "by the Building Committee of the Normal College for Wales, to be erected at Swansea." You will perceive that the said clause provides the committee with a contractor, without any further fuss or expense: but what will the architects' answer be?

The following is a copy of the condition: let them judge. The two premiums offered are 25 guineas and 15 guineas, and no pledge is given to employ the happy first-prize-holder in the erection of the building.

"The sum which the committee anticipates being able to devote to the buildings will be from 3,000*l.* to 3,500*l.*, and it will be required of all parties competing, that they shall be prepared with approved contractors, who shall undertake to carry out their plans for a sum not exceeding the amount stated in the letter to the hon. secretary, which must accompany the plans. * * * *

"The buildings must be so arranged as to enable the committee to adopt either the warm-water, hot-air, or such other plan as may be agreed upon as the most approved for heating the principal apartments, the cost of which must be included in the estimate for the whole."

This is sufficiently *rich* in itself—comment would mar its humour.

An Architect of the Cymru.

Improvements at the Bank of England.—A number of workmen are now employed in the contemplated improvements at the Bank. It is intended to raise the front about six feet with ornamental stone-work, in order to render the structure more in harmony with the adjoining buildings. It is said that the alterations will be made in such a manner as to afford greater protection in case of any disturbances arising in the metropolis. Poor Sir John!

Miscellanea.

Projected Works.—Advertisements have been issued for tenders, by 20th July, for the erection of the Durham new County Infirmary; by a time not specified, for the reconstruction of the roof of St. Paul's Church, Bedford; and for relaying roof of same with lead; by 18th, for piling and timber-work and repairs to stations, &c. on Brighton and South Coast Railway; by 17th, for repairing two streets at Wapping; by 12th, for a supply of 1,000 tons of granite lumps for Poplar Union; by 10th, for the boiler and cooking-apparatus for the Kensington new workhouse; by 13th, for 100 iron bedsteads for same; and by 18th, for paving, granite, and gravel, &c., for St. Mary, Newington, Surrey.

Drainage of Cardiff.—In our journal of the 3rd of June, a rate-payer of Cardiff asked our opinion as to the efficiency of a mode of drainage determined on for the workhouse of that town. Since then we have received additional information on the subject, and additional pressing for a reply; and though we do not feel bound to answer such inquiries, knowing that we might, without having much fuller information than is usually sent us, commit injustice or compromise ourselves, we will say, that although the pipe is small, there seems reason to believe that the arrangement proposed will be found sufficient for the purpose.

Liverpool Architectural Society.—The new association took, last week, the first of a series of archæological excursions,—the ancient church of Bebington, on the other side of the river, being the point of rendezvous determined on. The weather was unpropitious, but the ardour of the members brought a respectable, and, for the weather, numerous gathering, at the appointed place. Bebington Church is interesting to the architect and antiquary, from its containing, in spite of modern alteration, specimens of every style of mediæval art, from the Early Norman to the Late Perpendicular. The weather confined the visiters to the investigation of the interior. Sketch books, measuring-lines, and ladders were in requisition, and the company, divided into parties, delineated every portion of the building possessing claim to be recorded. Amongst the professional members present were Messrs. J. A. Picton, A. Holme. C. Reed, George Williams, Horner, Kilpin, Culshaw, Gee, Barry, Brown, and others. At the first meeting of the society in the ensuing session (in the first week of October), it is proposed that the drawings shall be exhibited, and a paper read on the history and antiquities of the church in question.

Dilatory Gleanings from the Engineering Harvest.—In a late sitting at *Nisi Prius—tamen tempori—re* Albano *v.* Duke, an engineer sought to recover the sum of 3,321*l.* odd, on account of services, at the rate of 10*l.* 10s. per diem, in surveying a projected "Oxford, Witney, Cheltenham, and Glocester Independent Railway," with an extension line from the same (all on paper merely) for which services it appears that the defendant, Sir James Duke, a provisional committee-man, was deemed by the plaintiff, Mr. Albano, responsible, as "monarch of all *he* surveyed." An additional sum of 1,300*l.* odd, the amount of a bill, was also libelled on, but "could be a matter of no dispute, for it was a sum admitted by the provisional committee to be due," inasmuch as, "after the failure of the project, and at a meeting of the shareholders, that committee represented that a balance of the deposits, amounting to 6s. 8d. (a very important sum in the eyes of a lawyer, at least) remained, *which would be required to meet the engineer's bill, amounting to* 1,300*l.*" Mr. I. K. Brunel gave evidence that, taking into account the great demand for engineers in 1845, the sum of ten guineas a day was certainly not too much. The expense of surveying, he added, on cross-examination, might average from 80*l.* to 100*l.* per mile. 80*l.* is a low price. 150*l.* is higher than the average, but he has known the cost to exceed 160*l.* Plaintiff and defendant, however, ultimately decided on their own verdict, to be taken on behalf of the plaintiff for 500*l.*, the defendant at the same time stating that he did not consider himself liable for that sum. Verdict accordingly—damages 500*l.*

Beard's Daguerreotype Portraits.—Daguerreotype portraiture is still a mystery and a marvel: the results of the action of light on surfaces chemically prepared are made more and more evident to our senses by the efforts of manipulators; but, so far from bringing us nearer to a clear understanding of the process, serve, in many cases, to contradict our previous views, without supplying new ones. None of the mysteries of religion at which sceptics laugh "because they are contrary to reason"—their reason—are so irreconcilable with our *ignorance*, so apparently impossible, as results which are now every day before us. Just think of this fact, for example, that a ray of light of a violet colour, falling upon a common sewing-needle, will convert it into a magnet! Who can understand it? We know little or nothing about light. The improvements which Mr. Beard has made in the process by which portraits are produced, at his establishments in King William-street, City, and the Polytechnic Institution, result from an entirely different treatment of the plate from what previous knowledge would have suggested. The effect, with which alone we are able to deal, is greatly improved; white and its modifications are more perfectly produced than was formerly the case, and that, too, without lessening the force and depths of the blacks, which was all the difficulty; the colouring, too, is less superficial, more a part of the plate than it was, rendering many of the recent specimens which we have had an opportunity of examining perfectly life-like and beautiful.

The Rating of Mechanics' Institutes.—Mr. Hutt, M.P., says, in a letter of the 23rd ult.,—"The Attorney-General communicated to me this morning that the Bill which he had introduced, by which the buildings of literary and scientific societies would be brought under the tax-gatherer, would be abandoned and withdrawn." It is only due to the Attorney-General to add, that the obnoxious clause, against which the committee of the Gateshead Institute petitioned, formed no part of the original Bill, but was thrust into it in committee.

Holborn Hill.—A design is at present under consideration of the Committee for City Improvements, for widening Skinner-street, taking down the houses from Farringdon-street to Shoe-lane, setting back the churchyard, &c., and on the space thus provided, erecting a viaduct over the hollow from Hatton Garden to Sea Coal-lane, with carriage-way, 20 feet high and 24 feet wide, and a flight of steps for foot passengers at the corner of Farringdon and Skinner streets. The demolition of the houses from Field-lane to Victoria-street, now effected, and the destruction of two of the old and ruinous houses between Shoe-lane and Farringdon-street by fire, together with the half untenanted state of the north side of Skinner-street, afford a singularly favourable conjuncture for the accomplishment of some such scheme.

The Marine Glue.—Mr. Jeffrey, the patentee, who is said to have sacrificed his prospect of public support for the last six years to exclusive exertions in order to render his marine glue available to the British navy, appears to have reaped the ordinary reward of Government benefactors, namely, the consciousness of having made himself useful, enhanced by "the most flattering and disinterested testimonials" from influential parties, together with the most ample acknowledgments and hopeful promises from parties still more influential. In place of a remuneration equivalent to the admitted benefit and the permanent saving yielded and to be yielded to the country by the adoption of a glue admitted to be of "great durability," the Admiralty have had the penny wise wisdom to offer the patentee, as their ultimatum, virtually a premium on its adulteration, or a powerful inducement to deprive it of at least 'a leetle' of its "great durability," in the shape of "a price per ton for the quantity used,"—an offer equally munificent as wise, if Government wish to tempt the patentee to remunerate himself by lowering the intrinsic worth of the article and its economical value in the public service, but certainly not otherwise, since, "from its great durability, it would yield but a paltry sum towards anything like a fair compensation for such a public benefit."

The Builders' Benevolent Institution.—We are glad to perceive that the list of stewards for the anniversary dinner, which it has now been resolved to hold on the 19th inst., in place of the 18th ult., is still on the increase, more especially by the addition of names whose weight is of greater moment than even their number. Our desires, however, on this point are not very easy to satisfy, and we therefore still exhort every one of our influential metropolitan builders who has not yet found time to add his own name to the list, forthwith to do so. They do not overlook the fact, we hope, that this is in truth the workman's cause no less than the cause of the master—nay, in the latter respect even, it is but the cause of the unfortunate master who has been reduced to the poverty of the workman himself, so that this is peculiarly the workman's cause—a cause which at this moment demands that every iron shall be thrust in the fire, to solder and amend those evils which otherwise threaten the entire disintegration of the social relationship between master and workmen. And that a Builders' charitable institution is, above all, important in the present crisis, we have only to look to the deplorable state of our continental neighbours to be but too well assured. In their struggling, sinking death-grip, what are all straining after for the physical and temporal salvation of the unemployed of every class, but building—building—public works. So is it in France, where master builders are henceforth to be in the ascendant for behoof of the starving multitude. So is it in Austria: so is it in Prussia. Let our British builders, then, have the noble merit of themselves, in their own especial sphere, taking voluntary and exemplary part in *preventive* measures for the general behoof, while their foreign brethren, already in the midst of ruin, are only now being beseeched and enforced by their respective Governments, to take part in measures desperately *remedial* of ruin already consummated. The Builders' Benevolent Institution is capable of doing an immensity of good, and it only awaits the laying of a strong and sufficient foundation of class influence, and the preparation of abundance of the good strong mortar of *cash* to enable it to rear a firm and goodly building in the eyes of the world, even out of a host of poor decayed and broken bricks.

Payne's Preservative Process for Timber.—Leaving out of sight the question of who really invented and brought to perfection the mode of preserving timber called Payne's process, concerning which we were once called on to speak, it appears to be a patent of considerable value, available with usefulness to a much larger extent than it has been yet applied. The chief object is, by filling the pores of the wood with an indissoluble substance by means of exhaustion and pressure, to preserve it from rot and the attacks of insects. Beyond this, however, the process is said to make the timber uninflammable, and a few days ago some experiments on a large scale were made on the patentee's premises in Westminster, which appeared fully to bear out the statement. Two model-houses were subjected to the action of ignited shavings; one of unprepared timber was destroyed, while the other, formed of timber which had been impregnated, remained little injured.

Passage of Guards along Trains in Transit.—Sir: A constant reader of your valuable journal would feel gratified by your deeming the accompanying plan for a safety railway carriage worthy of notice. Many advantages, I conceive, might be possessed in point of safety by carriages founded upon the principle proposed, and, perhaps, should you favour the suggestion with a corner, more competent persons than the writer would consider it further.—I am, &c., G.S.

*** The plan proposed by our correspondent consists of a division of each carriage, along the middle of the interior, by a train-passage 2 feet wide, into two compartments, with seats diagonally arranged, so as to be somewhat longer than if they met right across the passage, while the angular corners are set apart and inclosed for luggage. The plan is simple, and appears to possess convenience and other advantages too, besides means of safety.

OPENING OF THE ROMAN CATHOLIC CHURCH, ST. GEORGE'S, SOUTHWARK.—This, which is the most important structure raised in the metropolis by the Roman Catholics of the present day, and has been in progress about eight years, was consecrated on Tuesday last. When we saw it, it was filled with a thronging crowd, voices were pealing, censers waving, and examination was out of the question. We must take some other opportunity to go overit. In the chancel, and the two chapels east and west of it, with their enclosing metal work, the high altar, rood-screen, pulpit, and font, Mr. Pugin has lavished his admitted skill, apparently unconfined by thought of expense, and has produced no ordinary effect.

A NEW MINERAL USEFUL IN ARTS.—We learn that Mr. Blake, of Akron, Ohio (U.S.), has discovered a mineral, in the neighbourhood of the latter place, which promises to be of great value. He has visited Washington, and obtained a patent for it. "When first dug up, it is of the consistence of tallow, and gradually hardens in a few days, so as to resemble slate, and finally it becomes as hard as rock. It is of the colour of indigo. It is impervious both to water and fire, and admits of the finest polish. When reduced to powder, and mixed up with linseed-oil, it has the appearance of black paint, and may be spread over wood, canvas, &c. Roofs have been guarded by it against fire; and as it does not absorb the rain, it protects the rafters from decay. It consists of about one-half of silica, one-fourth alumina, with less proportions of magnesia, black oxide of iron, sulphate of iron, lime, and carbon."—*Sheffield Iris.*

DWELLINGS FOR THE POOR.—Lord Willoughby d'Eresby claims attention in the *Times* to the following, among other proposals for the improvement of the condition of the labouring classes by establishing a national or uniform poor-rate. 1, The excise duty to be remitted on bricks and flooring tiles used in repairing cottages and other dwellings rated at less than 8*l.*, or 5*l.* in the country and 8*l.* in towns; 2, also on bricks and flooring tiles used in erecting new cottages and outbuildings rated at less than 8*l.*, provided the height of the rooms is not less than 9 feet clear, and that no underground cellars or apartments are used for habitation.

ANTIQUARIES' PROTEST!—It is very coolly proposed in Prussia that the cathedrals and churches should be rifled of their ancient relics, which have the misfortune to be of gold or silver, for the immediate service of the State. A shrine of gold and silver, at Aix-la-Chapelle, surmounted by a crown, in which repose, it is said, the bones of Charlemagne; the shrine of the three kings, in Cologne Cathedral; and a rich high altar in another cathedral, are pointed at for immediate transference to the melting-pot. Such useless barbarism would be a disgrace to the age; the State that would attempt to save itself by such short-sighted means is not worth the saving.

FIRES BY WHOLESALE.—In the district of Pera, at Constantinople, another of those immense fires which are the curse of this wooden city, has just destroyed upwards of 1,800 houses and shops, occupied by the rich Armenian, European, and Greek population, at a loss estimated at 880,000*l.* The magnificent stone palace constructed by the government for the medical professors of Galata-Serail, has also been consumed, and a number of large stone houses have been greatly injured.——Orel, a town in Russia, was destroyed by fire on 7th June, and most of the inhabitants lost all they possessed. Upwards of 1,237 houses, including 50 of stone, 80,000 tschetwerts of grain, 100,000 poods of flax, and four bridges, were destroyed. The four stone churches were much injured. The loss is officially estimated at 3,425,000 silver roubles. The Emperor forwarded the sum of 50,000 roubles to the poorer people, and the ministers 10,000 roubles.——The small town of Winsen, in Hanover, has also been visited by a similar catastrophe: 27 houses, and 41 benthouses, were destroyed. The inhabitants were celebrating an annual *schützenfest-fest.* ——Had the coming comet ere now arrived, it would have no doubt had to bear the blame of all the *fires*, physical and psychical, which have lately been *raging* over the face of our unhappy little planet.

TENDERS

For the erection of ten pair of semi-detached Villas, at Albert Grove, Peckham. Mr. R. Tress, Architect.

Coleman, for five pairs			£3,950
Glenn,	five	,,	3,750
Underhill	five	,, (accepted) ..	3,450
Walbutton,	five	,, (accepted) ..	3,450

For new offices and general repairs at 29, Great George-street, Westminster. Mr. G. Vulliamy, Architect.

Bicks	£1,494
Trollope	1,353
Armstrong and Smith	1,210
Smith and Son	1,211
Kelk	1,084

For two houses at Amherst-road, Shackelwell-green. Mr. Ashpital, Architect.

Lawrence	£1,285	0	0
Clarke	1,263	12	6
G. Carter	1,241	0	0
Lloyd	1,240	0	0
More	1,210	0	0
Glenn	1,194	0	0
Hayworth	1,126	0	0
Laynes	1,120	0	0

TO CORRESPONDENTS.

"*Pipes for Conveyance of Water.*"—In reply to an inquirer, a correspondent recommends the *glazed terra-cotta pipes* as preferable to iron or zinc for the required purpose.

"*J. B.*"—We are unable to further his views.

"*De la Fon's Locks.*"—120, Long Acre.

"*W. C. L.*"—The Institute medals are open to all.

Received.—"R. C. B.," "J. W." (Glasgow), "P. P." "R. S.," "J. E. O.," "J. T. T.," "J. W.," "S. E. R.," "Bude-light Nogo," "C. H. C.," "C. W. O.," "T. W. P." "Westminster Review," July; "Blackwood's Magazine," July; "Tait's Magazine," July: "Dolman's Magazine," July. View of "The Grove." Hammersmith: Messrs. Thompson and Morgan architects. View of Interior of Saffron Walden Church: by W. Dopley. "The Sugar Question, in relation to Free Trade." (Nichols and Son.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c &c.

70, York-road, Lambeth; and 93, Cross-street, Blackfriars-road.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention. WILLIAM PIRGOTT, 115 Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

RICHARD A. C. LOADER, 24, Pavement, Finsbury respectfully solicits all parties about to furnish, and requiring FURNITURE, to inspect his stock, which will be found to consist of the newest designs of Furniture of the best seasoned materials, at the lowest possible terms. An estimate given for any quantity of goods from one room to an entire house. Books of prices may be had on application, and also books of designs lent. An early inspection is respectfully solicited, and your particular attention to the address is requested in full. RICHARD A. C. LOADER, 24, Pavement, Finsbury.

R. A. C. LOADER has just introduced a unique and beautiful article of Furniture, which he designates the SULTAN EASY CHAIR, made of fine Spanish mahogany, spring and hair stuffed, and covered with the finest quality of Morocco. The price, complete, is guineas. The GONDOLA EASY CHAIR, of the same quality, 3*l.* guineas.

ROCKHILL PAVING STONE.—Shipped direct from the quarries in Caithness, or from Malkott's Wharf, 536, Wapping, on application to ALEXANDER DUNN, 11, Savage gardens, Tower-hill.—Landing, ex "Ebenezer," a cargo, class No. 13, in 6 feet, 4 feet, and 3½ feet courses.

ARCHITECTURAL CARVING COMPANY, Ecclesiastic place (late St. F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

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Depot, Bridge Wharf, Pimlico, London.
June, 1848.

MR. FRANKLIN, one of the Proprietors of the above Quarries, informs the Sculptors Marble-Masons, Builders, &c., that he is constantly receiving Shipments of Marble from the Quarries in Italy and Galway.

Just landed, ex "Victoria," 13 tons of Black Marble, cut into slabs of all dimensions.
Ex "Courrier," Leghorn, 200 feet cube of Sienna.
200 feet cube, Black and Gold.
"British Queen," Ditto 1,100 feet cube of Statuary.
Several Blocks suitable for large statues, from 5 to 10 feet each.
Some opened spotless
Ex "Galway Packet," 500 feet, in block, of Black Marble.
Arrived at Bristol, Redcliff Wharf, "Highland Lad," with 1,200 feet cube of all descriptions of Marble.

TERRA-COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of this invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore street, Lindhouse.

P. LOUCARD, quai des Alattes Caen propre to re de Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 30,000 feet of the best stone ready to meet the demands of purchasers. Contracts for any quantities.

Orders received by Mr. BANNET, at 29, Stone street, Borough Market.—Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—LUARD, BEEDHAM, and Co beg to inform Architects, Surveyors, Sculptors, Builders, and others, that an importation, by the last few ships arrived, of CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L. B. and Co., invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

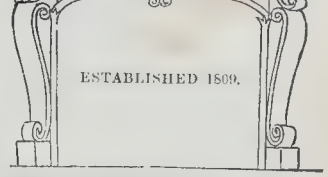
Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE in his Wharf; he is prepared to meet constant arrivals to execute orders to any extent on the most advantageous terms. Shipments made to any port direct from his Quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS, Upper Belgrave-place, planed both faces at the price that inferior Slabs in the trade are planed one side only. These planed faces are also done to a very fine face for the Billiard Table Slate bed, extensively used at Buckingham Palace, Stratfield Saye, the Royal Mint, the Military Knolle Portland, the Model Prison, Pentonville, the Coutts-square, Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTBOURNE MARBLE WORKS, from the great advantages possessed in the getting up of Monuments under Watering and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney Pieces and Monuments always in view, and the limited scale of low charge; also the prompt and economical manner of their execution.
Westminster Marble Company, Earl street, Millbank.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity, at the shortest time, of the best value of the most celebrated Parish quarry, of a uniform colour and texture, as well known, having been selected by reference to all other quarries, by the Commissioners of Works and Forests, for building the New Houses of Parliament. It is very superior for Monumental Purposes, &c &c. Facilities are at hand for forwarding to all parts of the Kingdom. Applications to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

ANSTONE STONE, used in the erection of the NEW HOUSES OF PARLIAMENT.

Mr GRISSELL has the honour to inform Architects and gentlemen engaged in Building, that in consequence of having nearly completed the above works, he is at liberty to supply the Anstone Stone for building purposes at present.

The place at which it can be delivered in London does not exceed the price of Portland stone. As to quality and colour, the experience of the past seven years will fully attest its superiority.

It is also preferable for staircases and Public Buildings, for which purpose it can be applied in any size; and as it stands set with the exception of common panels, it is not more expensive than "York."

In addition to the New Houses of Parliament, Mr Grissell has just been selected by the Museum of Economic Geology at present to be removed to the Arundel. As a guarantee of its durability, it has been used exclusively in the above works, by the express desire of his Grace the Duke of Leeds, and that Mr Grissell alone possesses the right of quarrying this stone.

11, New Palace-yard, Westminster.

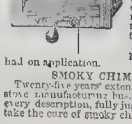
ANSTON, or ANSTONE STONE.—W. WRIGHT and Co deem it important that the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, as it is now being the property of the Duke of Leeds, and that Mr Wright and Co

"Anston" is the name of the village, and is correctly spelled without the E

By Her Majesty's Royal Letters Patent.

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BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent from the original Tariff. Their extensive and successful application to public offices, hot-houses, and the purest fancy conservatories, at moderate prices. Plans and estimates for churches and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, 59, Newman-street, Embosser, 19a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



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Purfleet Wharf, Earl-street, City, near Blackfriars bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half rounds and O. G. Guttering, Socket Pipes for Water or Gas, Plinth Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete to be laid in sets or in parts. Prices equal to all cash upon Contracts taken to any extent.

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TO ARCHITECTS, BUILDERS, &c.

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and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hangers, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hemp rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and their employers, as being much cheaper. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No 161, Fenchurch-street, W. R. ALLEN, Agent; or retail of G. and J. DEANE, 98, King William-street; R. PARKS, 140, Fleet-street; T. JONES, 63, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

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BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE, is now extensively employed for the protection of CHURCHES and other buildings from the effects of thunder-storms. It possesses important advantages over other forms of conductors. Experience has proved it far more perfect than those first used for CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS.—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so universally approved of, and supplied by them for its safety and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Clamps,
Patent Wire Sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Shop Rooms, Plain and Ornamental Palisading, Railings, and Columns. Also, Wood Sashes, Shop-fronts, Wall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

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They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATH-rooms and Lavatories, with every modern and useful improvement. Also upon their plentiful supply of Hot Water fit Baths and Lavatories of Mansions and Private Establishments.

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Best Wrought Bars and Best Pittings.

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51.	6l.	8l.	1l.	18s.	1s. 1½d. per 1,000.
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Best Town Glue 9s. Do Scotch 7s. per cwt.

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48.	3d.	5s.	6s.	7s.	8s.	12s. per gross.
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IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven and Wrought Bars :—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in	4 ft.
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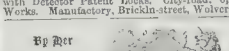
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The Builder.

No. CCLXXXIV.

SATURDAY, JULY 15, 1848.

THE current number of the *Westminster Review* is disfigured by a very ill-natured article on the new Houses of Parliament,—an article wholly devoid of that high and generous feeling which, even while pointing out errors or shortcomings, ought to be exhibited towards the most extensive, arduous, and finest work of our own time,—and appears to have little other purpose besides finding fault, and so gratifying what would really seem to be a personal or party pique. The ground of this inference, which the very excellent conductor of the Review in question will probably think derogatory to the character of his journal, is the following, and appears to us irrefragable. We could perfectly understand, and perhaps admit the force of, many objections, which might be raised by one who passed over the building alternately praising and deploring, and might even admit as possible, good faith, impartial judgment, and absence of bias, in one who saw more to find fault with than to praise, however much we might differ with him;—but when a critic, in commenting on the work to the extent of about fifteen pages of letter-press (the remainder of the article relates to other structures—the British Museum, Buckingham Palace, and the Royal Exchange), finds fault page after page, without discovering *anything* to admire—without a single word of applause and encouragement, or the slightest admission of ability displayed in this elaborate, and, in many respects, novel structure, the pains whereof to its architect none but an architect can rightly estimate,—the candid mind cannot believe in his impartiality, and is led to suspect the predominance of personal feelings throughout.

The main objections which the writer urges are excessive decoration and want of height:—

"So unaccountable, indeed," he says, "has been the inattention to this latter quality, that it almost seems as if the architect had been able to waste it and give it away, since the level of the basement-moulding, from not having been properly attended to, appears likely, as it proceeds westward from the clock-tower towards Parliament-street, there to lose itself in the ground, from the rise of the earth, or to run so close to it as to be deprived of its just effect. If this is so, it is unaccountable. The ground-line should have been the same as that of Westminster Abbey, or Canning's statue. The suggestion was made to Mr. Barry. The objection that the level of Westminster Hall was too low was anticipated; it was proposed to raise the Hall (it is 8 feet below the base of the statue). Had this been done, the building, instead of being now sunk, as in a well, by the side of Westminster-bridge, would have been nearly on a level with the ground at the foot of it. A few hundred thousand extra cubic feet that might have been required for raising the basement some 3 or 4 feet would have been but a trifling addition to the cost of the whole building, in order to confer upon it that importance which it wants, and which is now sought to be attained by raising the towers beyond their original intention."

The statements here made are not all correct, and the general inference is altogether an unfair one. The defect in apparent height belongs to the site, and not to the building, which is higher than most modern edifices,—practically, indeed, too high, as those who have to attend parliamentary committees know to their cost. The base-moulding of the south elevation will be 6 feet above the ground when the levels of the adjoining streets are altered as intended,—it is at present 4 feet.

It was suggested to Mr. Barry, the writer says, that the ground-line should have been the same as that of Westminster Abbey or Canning's statue; but, as the writer probably knows, Mr. Barry had no power to avail himself of the suggestion. Cost had to be considered. If the ground-line had been raised 8 feet as here suggested, it would have added at least 150,000*l.* to the expenditure, and the building would still have been 12 feet below the roadway of the bridge at the foot of it, and not on a level with it, as the writer says. The ground-line, moreover, of Canning's statue is but *five* feet above the level of Westminster Hall, not 8 feet, as stated, which would have made the advantage even less.

Nothing short of an extra elevation of 14 or 16 feet would suffice to obviate the defect caused by the bridge, if the bridge is to be allowed to remain as it is, as is proved by the reviewer himself, when he says, that even now that the roadway has been lowered several feet "an omnibus passenger will discover the Serjeant-at-arms at breakfast on the first floor."

"The original design," continues the objector, "was calculated for five acres of ground, but the wants of the state, or rather the pretensions of those who serve it in waiting upon the legislature, and the aspiration of the architect, extended it, though in a horizontal direction only, so as to cover two more acres with masonry, but without any corresponding addition to the elevation. What might have been a fair proportion for five is not suitable for seven, but this reflection does not seem to have occurred in time. However, the towers are to produce great effect; we are told to wait, and see when they shall have arrived at their height how they will rescue the rest of the mass from its comparative humility. This is doubtful." To us it seems not doubtful at all: they cannot fail to carry upward the whole mass. As respects the enlargement of the site, one effect was to place the building further from the bridge. The principal front was but little increased in length, and an additional height *was* given to the building in consequence. To talk of raising the whole mass in proportion to the extension of area covered is nonsensical. The reviewer very unfairly compares the structure in respect of height with the Abbey—a building of different style—ecclesiastical instead of domestic, and, moreover, one of the loftiest edifices, even of its own kind, that we have. Practically, as we said before, the Houses of Parliament are already too high: the defect is in the site, and even here it will be greatly lessened when the bridge is rebuilt, the neighbouring levels altered, as proposed, and the elevated portions of the building carried up to their full extent.

In speaking of the excess of ornament on the exterior, the writer laments that the architect should not have understood that the value of all ornament, whether in architecture or in dress, depends much upon its being set off by some plain smooth space. "What a source of beauty," says he, and with truth, "results from the exemplification of this principle in the buildings and attire of classical antiquity. How the plain repose and shade of the cella in the temple set off the flutings and capitals of the columns that surround it; how the quiet architrave in the Doric brings out the richness of the sculptured frieze above. [Though, by-the-way, when the former was painted, and hung with shields, as was the case in the best examples, the illustration disappears.] Later, how impressive is the sparing ornament of the Norman style on the massive solids, surmounted by its strings and cornices, or pierced by its deeply-recessed apertures!" The palaces of Rome, too, he urges, derive almost the whole of their success from the contrast of the mouldings and decorations with the unbroken area. But what, after all, is this but saying that the Greek style of architecture, or the Norman style, or the Italian style, is not the Late Pointed style? The excess of ornament objected to, the universal panelling, and the absence of plain surfaces, are the very characteristics of the style and exemplars used, and the adoption of which, as the reviewer afterwards says, be perfectly approves of. The new houses are no rivals in this respect with Henry VII.'s chapel; the panelling is much larger, the carved ornaments are fewer than in that instance; and if we compare it with those to which it even more closely assimilates, the foreign Hotels de Ville (Ghent, Louvain, and others, at once occur to us), the same may be said with equal truth.

The position of the Victoria tower, at its further extremity, he considers "now irretrievably wrong," situated as it is, "at what is, and always must continue to be [there is no *must* in the case], the most remote corner of it." The fact is, the position of the tower was dictated by the plan adopted by Mr. Barry, and is a question of judgment, to the soundness of which we must suppose the Commissioners subscribed when they adopted Mr. Barry's plan rather than others which were submitted to them. There can be no doubt, too, that it was of the utmost consequence to the effect to be hereafter produced, to mark the extent of the building at this end, admitting it to remain the most remote corner, by a tower: further, it will be more striking than in a central position as being seen in its entire height. The writer flippantly observes that the tower appears "*stans pede in uno*, doing an eternal sort of goose-step at one end of the building;—the blue sky seen corner-wise through the huge arch, which seems to lead to nothing, making it appear almost like the portal of heaven to the pilgrim on his way to a place most unlike that cœrulean region—the Nine Elms terminus of the South-Western Railway!" And again, "the mass now, with the huge height in the rear and the smaller towers in the north and centre, is something like a vessel under jury, main and foremasts, with a disproportioned mizen: a highly ornamented Bucentaur, with a standard pole erected in the stern!" The *animus* of a reviewer who, in speaking of this great work, can use such far-fetched, flippant, and childish comparisons is somewhat obvious. Mr. Barry in this grand structure has achieved as much as could be expected from any living architect, at home or abroad,—we ought perhaps to say more; and in the name of English art and English artists, we do strenuously protest against such a derogatory and contemptuous mode of dealing with such a work.

The reviewer does not join in the vulgar cry of delay, raised in the House of Commons by persons avowedly profoundly ignorant of art and its processes, to the extent of those gentle-

men's assertions, but it would not do to lose the opportunity altogether, and therefore he denies the claims for rapidity of execution, which we and others have set up for the architect in reply to that cry: points out how many appliances of modern science and machinery were at command, omits all mention of causes of delay over which the architect had no control, and winds up with the remark that it "is not, after all, any extraordinary performance." We will simply put our word against the reviewer's, and we assert, as we have before done, that it *is* an extraordinary performance, and there stands the building to justify us. He then proceeds to point out sundry contemplated objectionable arrangements, which were prevented by "the able remonstrances and observations" of Lord Sudeley.* "In the midst of the Victoria Tower was to have been a central pillar, as a sort of pivot for the state coach, with its eight prancing horses to whirl round; then when this was abandoned as inexpedient, a gateway was provided for the admission of the royal equipages, but so narrow, that there were not six inches on each side of the wheels to allow for a swerve of the quadrupeds, or for the passage of the attendants who on that occasion accompany the procession on foot." And then her Majesty, on alighting, was to ascend twenty-five steps in a flight, without rest or landing place. The writer forgets to say that the proposed diameter of the tower was 70 feet when the central pillar was contemplated, instead of what it now is. And no one would fancy that the gateway for the royal equipages and foot attendants which he alludes to, is merely for the carriage to draw off into an inner court, to wait until wanted. As to the steps, they may or may not have been ill-considered: but there are many Italian precedents for a greater number of steps in a flight than are here mentioned. The propriety of the arrangement would of course greatly depend upon the rise and tread of the steps, of which, for want of knowledge, we can say nothing.

According to our critic, "the only parties who have really been attended to, seem to have been the officials of either chamber, for whom the architect has obligingly provided, at the public expense, dwelling-houses and dining-rooms rivalling the magnificence of Belgrave-square." The force of this remark is shewn by the fact that, within two or three days after its publication, another class of objectors in the House of Commons, inquired why certain alterations were being made, and were informed that it was in consequence of the *want of sufficient accommodation for the officers of the house.*

"Of so much of the interior as is completed," says the reviewer, "it is impossible to speak without a *certain* degree of disapprobation." Most candid and considerate critic! One might imagine, from the tone of the expression, that the whole of the preceding observations had been devoted to the extolment of beauties, and that at last the writer found it necessary to qualify his too ardent praise by the expression of "a certain degree of disapprobation." The interior, he says, has been committed, it is believed, by Mr. Barry to Mr. Pugin. No such thing is believed. As we have said several times, the whole of the internal decorations are executed from the sketches and directions of Mr. Barry: Mr. Pugin only operates with Mr. B. in carrying out his ideas. In a letter which Mr. Pugin addressed to us in 1845, soon after his appointment, he says, first stating what his province is,—"In fulfilling the duties of my office, I do not do anything whatever on my own responsibility; all models and working drawings being prepared from Mr. Barry's designs, and submitted to him for his approval or alteration previous to their being carried into effect. In fine, my occupation is simply to assist in carrying out practically Mr. Barry's own designs and views in all respects."* It is only just to Mr. Pugin to say, therefore, that while Mr. Barry is entitled to all the praise which is due to a successful result, he also is alone responsible for defects which may be justly complained of.

These defects in a candid mind will weigh little put beside the many beauties and merits of the design, the simplicity and excellence of the plan, the goodness of the details, the artistic power shewn in the decorations, and the scientific skill and variety of resources exhibited in the construction.

* The article savours strongly throughout of what may be termed the Sudeley faction.

* See Vol. III., p. 426,

DESCRIPTION OF A BUILDING ERECTED IN QUEEN-STREET, GLASGOW.

IT has occurred to me, that were architects in the habit of writing descriptions of the buildings they erected, especially when circumstances influenced in any peculiar manner the design or arrangement, or their own ideas had taken any peculiar bent; and were such *notanda* to be permanently recorded in a journal like THE BUILDER, a mass of precedents would be accumulated which would prove of much use to the profession; and, if the practice were general, would reward those who took the pains to do so, and who thus gave away the results of their experience. Sir John Soane published his works; as, also, did Mr. Foulstone, of Plymouth; and there may be other instances, which I do not at present recollect, of architects who have put into a useful form, not the designs merely, but the practical particulars, of their executed works: it has been urged, too, how useful publications such as these would be; but, I think, if the authors were to bring forward these precedents at their own proper junctures, all the greater would be their utility and interest; for the latter, at least, is often as much dependent on the circumstances of time as on those of place.

It was under impressions such as these, that I threw together some memoranda of a building, for mercantile purposes, I have just completed in Glasgow, for James Lumsden, Esq., of Yoker, the late Lord Provost; and which, with an outline of the elevation, and some constructive details, I beg to subjoin.

The elevation is that of the front to Queen-street, the gateway in centre leading into Canada-court.

Fig 2 is a transverse section of the roof.

A leading innovation in this building consists in the use of two colours of stone: the principal, *white*, for shop-piers, entire first story over shops, architraves and other window-dressings, rustications, cornices, strings, parapet, and chimney-shafts; and the other *red*, for the walling of the two upper stories. London readers will readily understand the effect produced, seeing the number of buildings having a similar appearance, which have been erected in the metropolis of late years, having red-brick walling, and stone, or imitation stone, dressings: in the present case, the whole being rubbed-ashlar masonry, the courses in the red portion range with those of the white, and the former is of a less fiery hue than red brick. The thing has been questioned here, by some unused to such polychromic combinations; and the idea being first proposed and then deprecated, of imitating, in a country rich in stone, the practice of a locality where brick, of necessity, takes its place; without its ever occurring that, in London, in order to produce the effect desired by the artist, instead of the ordinary saffron-coloured stock-bricks being used in similar cases, additional expense and trouble are gone to to employ the red bricks, by which a pleasing contrast is to be obtained. The object sought in employing the red stone was, of course, to enhance the effect of the white, and give greater relief to the moulded-work.*

Mr. Edward Richardson made lately, in THE BUILDER,† some remarks on contrasts in stone, which contained sentiments exactly corresponding to my own notions on the subject.

The fire-clay of the Garnkirk works, near Glasgow, I gladly made available for the panels of honeysuckle ornament under the first floor windows, and the trusses supporting balconies, shop cornice, &c., by which means a much greater degree of durability is secured for the small carvings than would be obtained in free-stone. In the metropolis, some time back, terra-cotta ornaments were a good deal employed, though not to the extent to which they might be with advantage. The use of this material for exterior ornamentation is of ancient date, for it was usual to introduce subjects executed in it within the pediments of the Roman temples; the quadrigæ, also, with which these are believed to have been surmounted, was, in the case of the temple of Jupiter Capitolinus, composed of the same. The reader will probably remember the medallions of the Roman emperors which are inserted in the walls of Wolsey's portion of Hampton Court Palace: these bear testimony to the enduring nature of terra-cotta, and suggest that, had they been of any other stone, and thus exposed to the vicissitudes of our climate, these beautiful works of art would not now present themselves in so perfect a condition.

In these times, when so much discussion arises touching the best forms of cast-iron beams, it may be worth mentioning that I was afforded, through the agency of the destructive element which rendered these works necessary, an ample opportunity for adapting broken pillars to lintelling purposes; and, with the aid of new templates — square outside and curved within — to form solid end-bearings: very good lintels they made: two of them, 6 inches in diameter, over an 8-feet opening in a 2-feet stone wall, made a very satisfactory support to a very considerable superincumbent weight. Where cast-iron beams of considerable span were necessary, I had occasion to introduce a wrought-iron rod, with forked ends, let into the underside of the beam, secured at each end with dowels of wrought-iron let down through the bottom flange of the beam into the masonry on which it rests. In introducing these rods, I was actuated by the consideration that, in mercantile warehouses, there are not only very weighty loads to be borne, but, occasionally, severe concussive forces to resist; and that, as a precautionary provision, they would be efficient, in the event of a beam being suddenly broken, in preventing the serious consequences which would ensue from its fall. In other cases, where the span was not so great, I adopted a mode which has lately obtained here, wherein a rolled plate of malleable iron is introduced between two flitches of timber, and the whole well bolted together: the beams I employed were to a span of about 26 feet: the timbers were 13 inches by 6 inches each, the iron the full length by the full depth, and half an inch thick. This combination appears to me to make a very satisfactory beam,—the iron giving *strength*, and the wood contributing, besides its strength, the *stiffness*. With this compound beam there are not the same grounds for hesitation in regard to mortising for floor joists as with a beam consisting solely of timber, since its main strength does not lie in the portion to be cut.

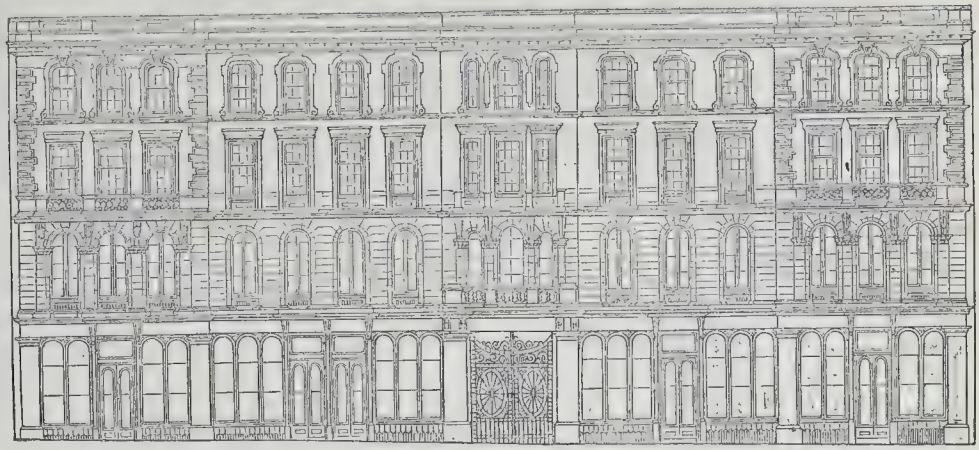
In the sunk basement, and under part of Canada-court, there is a rather extensive vaultage, in forming which I had occasion to use a considerable number of cast-iron columns. These columns I made of the + in preference to the O section, notwithstanding Mr. Hodgkinson's having satisfactorily shewn that "the strength of a pillar formed like the connecting-rod of a steam-engine, compared to that of one containing the same metal, but formed of a uniform hollow, is but as 17,578 to 39,645;" for I had found that there was this serious risk attending the tubular form,

* A similar combination is presented in the new City Schools at Bristol, and with good effect.—ED.

† *Vide* p. 319, *ante*.

STREET ARCHITECTURE.—ELEVATION OF BUILDING ERECTED IN QUEEN-STREET, GLASGOW.

Mr. JAMES WYLSON, Architect.



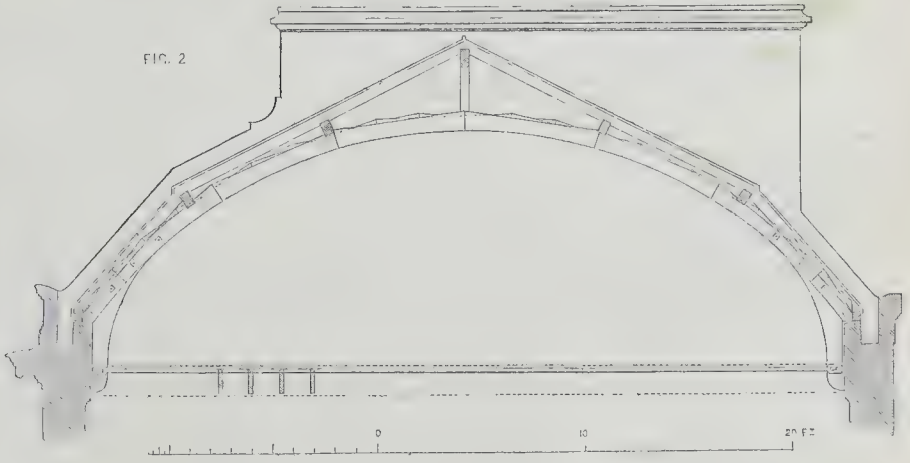


FIG. 2

that the core, in casting, might bend so much out of its proper concentric place in the mould, as to turn almost the entire substance of the metal to one side, and leave little more than a mere scale at the other. I had observed this in some of the broken columns already referred to, and on mentioning the subject lately to a founder, was told by him of a case wherein some of the iron columns of a large granary gave way, fortunately during the erection of the building, and thus led in time to a discovery of the nature of their deficiency: in this case the contractor was bound responsible for the stability of the building for a year after its completion; and there is no saying how disastrous might have been the result had these columns stood good until the building was heavily loaded with grain.

Having arranged for the vaults above-mentioned being paved with asphalte, which is a very disadvantageous material to have to break open to get at pipes or drains, I preserved the access to these, in their various ramifications, by means of stone curbs set in flush on either side, with flagging introduced between them. In regard to asphalte, it is known that much of the material used is nothing but coal tar; and as there are variations in quality, from that

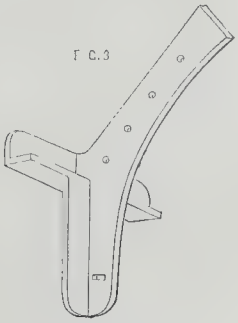


FIG. 3

which softens with in-door warmth until casks and table feet make deep impressions in it, or under the influence of the summer sun becomes adhesive under-foot to the toiling pedestrian, to that other extreme which comes off in black dust, ready for conversion by moisture into a dirty mud, it appears to me that the cause of these opposing conditions lies in the under or over-boiling of the aforesaid coal-tar. We know that in preparing tar for use as a protective coating to wood-work, &c., it takes some three or four hours' boiling to "pitch" it; and that if it is too much boiled it loses its elastic quality, and becomes crusted and perfectly effete. Here appears the risk in regard to the so-called "asphalte;" what with the admixture with the other ingredients, the partial emptying of the boilers, and the cooling of the residue in them at the completion of one job, and the reheating, or making up, of the same at the commencement of another, the due amount of boiling seems liable not to be attended to. The blocks of "asphalte" which are prepared at manufactories for the purposes of paving, are generally too much impoverished: in the first place, a black varnish is obtained from the tar, which is used by boiler-makers and others; and the tar is then subjected to a process of distillation, in order to separate the spirit or naphtha; the residue is then boiled up again with an admixture of ground chalk, and formed into blocks, and this, as far as I am aware, completes its preparation as an article of commerce. It appears, therefore, that in using

the tar in its natural state as it comes from the gas-works, a less economical, but a much better article is employed, more liable to soften, but less liable to break and crumble away.

In Glasgow, where there is no Buildings' Act, rendering compulsory the use of parapets, the houses are, to a great extent, without that feature, the ordinary finish being a cornice and blocking-course; the consequence of which is that in winter, during boisterous weather, many chimney-pots are blown into the streets, to the imminent peril of her Majesty's liege subjects. The evil I allude to is common to this and other towns exempt from legislative interference in matters structural; and even where life and limb may be safe, the vast amount of expense annually incurred in the damage to roofs, partly by the falling off of the ill-favoured appliances referred to, and partly in the breakage by slaters employed to replace them, whether knowingly or unmeditated, is of itself highly suggestive of endeavours to find means for its mitigation. The mode in which I avoided the latter part of the evil, consisted in inserting in the stone chimney cap a cast-iron socket for receiving the lower end of the funnel, which I made also of cast-iron: the fitting together of the funnel and socket was ensured by their meeting surfaces being turned, and both being tapered downwards. The socket is steadied by three projecting stubs, flush with the top of the stone cap; and the funnel is provided also with three stubs round its circumference at the mouth, as a provision for its receiving one of the common clay caps, should such be found desirable. It is besides surrounded at the base, with a projecting flange to protect the socket joint. I may remark, in passing, that the principle of the common old-fashioned chimney-pot and cap appears to me to be fully as philosophical as that of any of the tortuous contrivances of the present day, by which smoke is endeavoured to be wheedled into a rebellion against natural laws. The cap is usually put on for the mere purpose of lengthening the funnel, or, perhaps, as a finish to it: the more subtle consideration that the course of the ascending column will be accelerated by the current created in the cylindrical space preserved between them by the stubs, forming no part of the argument. That, however, we may consider of minor importance, if benefit be derived from the practice; only, it is remarkable that, in practice, we find many things done on philosophical principles for a long while before the fact of their being so is detected. In many cases these principles have been set out with by the inventor, and afterwards get completely overlooked, and allowed to lie dormant, like the symbolism and geometry of the middle-age architects.

In order to obtain a commodious attic, with a roof perfectly exempt from outward thrust, I constructed it as shewn in Fig. 2, the circular ribs being each composed of five 1½ inch flitches, cut circular only on their under edge, and the abutting-joints breaking bond twice in each length: in each haunch of the arch, there is an iron casting which takes the place of a portion of the middle flitch, and, by an extension downwards, affords the means of tying the roof together under the floor-boarding; accompanying this, which may be considered the web of the casting, a level portion about 2½ feet long, serves as a template or bearing-plate for the arch ribs, and, turning up on the outer edge, furnishes also an abutment for the pole-plate—to resist any thrust in the common-rafters. A lateral return also of the lower portion of the web, on either side, giving it a T section in that part, tends further to give it stability and strength: the tie is of 1½ inch bolt-iron, forked at either end, and with an elongated eye in each prong, for receiving a pair of wedges, which pass through the web of the castings, and tighten the rods to their proper degree of tension. The arch-ribs are placed about 12 feet apart: at one end of the building there is a return wing at the back, which renders necessary a diagonal rib of a considerably larger span; this is formed of seven flitches. In the interior, the soffit of the ribs is lined with wood, beaded on the angles, and the sides plastered; the purlins also are cased in wrought and beaded lining: ceiling-joists are carried between the two centre purlins to carry the plaster lining across horizontally. Fig. 3 represents one of the haunch irons.

From a fourth to a third of the small apertures which appear like dots along the principal cornice in the elevation, are perforations about 3 inches in diameter through the wall, at the level of the skirting in front and rear of the attic, for the purpose of ventilation: the escape of the impure air is provided for by valved wooden trunks, leading from the ceiling to round zinc chimneys behind the ridge, having raised conical caps, with smaller inverted cones inside of same to facilitate escape.

In the plumbing department, stop-cocks having screwed nozzles, are provided on the several levels, for attaching hose to, as a precaution against fire,—the standing mains being 2-inch, and the water at high-pressure.

JAMES WYLSON.

THE THEATRES AND PORTICOES OF ANCIENT ROME.

BY THE REV. R. BURGESS, B.D.*

THE remains of the theatre of Marcellus are worthy of the architect's admiration. Eleven arches of both orders and part of a twelfth are conspicuous, though mutilated and disfigured by the dusky habitations into which they have been metamorphosed. The first order is nearly half interred, but the capitals of the Doric columns, as well as the entablature, are well preserved in several places. The second story exhibits a specimen of the Ionic order, as it was brought to perfection in the age of Augustus. Within those arches which formed the "ambulacra," as in the amphitheatre, the "gradus spectaculorum" rose, and some of the "cunei" may be traced in the stables of the Osteria della Campana. The materials are Tufo, mingled with brickwork, resembling those in Pompey's theatre, and one may perceive by a solitary column in the Via Savelli, standing at an angle with a piece of wall running in the direction of the scena, that the stage and its outworks must have touched the very banks of the river. The Palazzo Orsini, formerly Savelli, is built upon the ruins of the stage. Piranesi has calculated the capacity of this theatre to contain 25,000 persons; it was therefore the smallest of the three. Julius Cæsar, perhaps, laid the foundation of this edifice, but it was left for Augustus to complete it, and he dedicated it with the name of the Young Marcellus. On the feast of the dedication it is said that 700 wild beasts from Africa were consumed, and then, for the first time in Rome, there was seen a tamed tiger. We have an account of a fire having partly destroyed this theatre, but we hear very little of its history until Pierleone, in the twelfth century, made it a fortress. It passed successively into the possession of the Savelli and Orsini families, and there is no reason to suppose it has existed otherwise than it now presents itself for several centuries: in Carnucci's Antiquities, we have a drawing of it, bearing date 1565, and it is there exhibited just as we see it at the present time. I may mention that its exterior walls are of travertine stone. The 25,000 spectators are now replaced by some workers in charcoal and some mules, the former occupying the places reserved for the magistrates, and the mules having taken possession of what was the orchestra. Near to the theatre of Marcellus stood the famous portico of Octavia, to which I have finally to call your attention. And although we must penetrate into the filthiest habitations in Rome, among stinking fish, in order to see the remains of this splendid work, it will amply repay us for our excursion, and stamp indelibly upon our memories the flavour of the Pescheria and the conservative habits of the Jews who live within the portico of Octavia.

The first marble building ever erected at Rome was a portico which stood on this self same site. It was built by Metellus Macedonicus: two temples were comprised within it. The architects were two Spartans, whose names were Sauros and Batrachus. They not only contributed their skill, but, as they were rich men, they employed their wealth also in the undertaking. The only reward for their services which they asked of the Romans was that their names might be mentioned in an inscription on the temples; but this honour being refused, they contrived to introduce their names allegorically: Sauros meaning a lizard, and Batrachus a frog—those animals were introduced into the capitals of the columns. The architects of the portico of Octavia were also Spartans, and they respected the works of their distinguished countrymen. The new portico comprised in its circuit, the two temples, made more magnificent and probably much enlarged: the fragment of the Pianta Capitolina, with the mutilated inscription "CVS OCTAVIAE," gives us the plan of those splendid works. Bellori, in his illustration, computes about 270 columns. I confess I cannot make out that number with the utmost stretch of my feeble imagination, but I can present you with a plan made on the authority of the fragment and the ruins which still exist, adjusted on the dark tints, which shew them in their proper places. By this plan, it will be seen that the principal remains consist in six large columns of the vestibule or entrance (and who that has seen Rome has not admired the magnitude and elegance of those Corinthian columns), eight more columns of the exterior row of the Perystyle, which are only to be seen by contending with the fish-stalls made out of the spoils of the portico; and there are also further remains of one of the temples to be seen in a Vicolo behind the church of St. Angelo: three columns standing at an angle indicate the position of the prostyle of the Temple of Juno, the other was dedicated to Jupiter. I must leave you gentlemen to rear from this ground-plan, and from the splendid vestiges which remain, the elevations and architectural views of the portico and its temples; but even your ingenuity would not be able to restore to their proper niches, or affix on their respective walls, the works of art which once adorned the portico of Octavia. In the Temple of Juno was her statue, made by Dionysius and Polycles; and a Venus by Philiscus of Rhodes. In the corresponding Temple of Jove was the much admired statue of the god, which was equally well executed by those sons of Timarchus. There was a group representing Pan and Olympus wrestling together, the work of Heliodorus; and perhaps the Venus of exquisite beauty which Pliny tells us adorned this portico (the work of Phidias) may be the very Venus de Medici which Santo Bartoli declares was found here in the Pescheria. In a part of the building called the Schola Octaviæ was the famous Cupid of Praxiteles, which called forth the eulogia of Cicero, Strabo, and Pausanias. It is more than probable that several of those statues perished in the fire which took place in the reign of Titus, and still more might be lost in that which happened under Sep. Severus. The paintings which adorned the walls and vaults were not less celebrated. There was the famous work of Artemon representing Hercules ascending from Mount Oeta to Olympus, having put off his mortality with the consent of the gods; there was the painting by Antiphilus, where four figures of satyrs were grouped around the noble Hesion; and Alexander and Philip, with Minerva. You may exhibit to us an elevation restored; a few columns will direct you to complete the portico, and a medal will give you a finish for the pediment. You may square us off the basements, and crown the balustrade with colossal statues and urns; and you may festoon or tryglyph the entablature; but you cannot paint afresh the works of Artemon and Antiphilus, nor mould again the forms which the innate flash of the mind of a Phidias or a Praxiteles could produce. You must therefore be content with the bare recital, and inscribe upon the very best edifice I can describe, "*Stat nominis umbra.*" But you will remark in the enumeration of the names of those celebrated artists, that they were all foreigners, and Rome owed her most splendid works of art, I may say all of them, to the Greeks, and they owed much of their theatrical amusements to the Syrians and Egyptians. It is, in fact, a mistake to attempt to nationalise either art or science. If there be such a thing as communism in the world, it exists in the realms of genius, and no petty jealousy should ever attempt to exclude the foreigner who brings his originality of thought and genius to adorn a country of which he is not a native. It was written over the tomb of Ludlow, in Switzerland, "*Omne solum forti-*

* See p. 329, *ante*.

patria," and the same may be said of the man of true genius, he belongs to every country; and I should say it generally betrays a sense of inferiority wherever there is an attempt to exclude from fair competition the genius which comes from a foreign shore. The Romans did not this, even in the histrionic art; they excelled in gladiators, but they were inferior in sculpture, and painting, and architecture: by admitting foreigners they ended by taking the lead in architecture at least, and perhaps the studio of Emilius might have furnished a work worthy of the best Greek sculptor. And let me remark, that there are some things which no patriotism or spirit of nationality will accomplish. It will never make a man of taste admire an ordinary painting or an ungraceful statue; it will never reconcile him to a meagre elevation or an ill-designed public building.

I have generally attempted, in my papers which I have had the honour to read at the Institute, to shew the influence which the public institutions under consideration might have upon the character and destiny of the Romans; and perhaps there is much more connection than at first sight appears between the works of the architect and the national character of a people. The architect is called upon to create only those works which are suitable to the habits of the people, and his object should be to study to do these well; and I, for one, do not regret that he is now compelled to study the construction of churches and schools rather than that of theatres and porticoes. I am more than satisfied with the unarchitectural erections of Covent Garden and Drury-lane for theatres, and for porticoes and groves Vauxhall and the Surrey Zoological.

I am still compelled to speak only of the comparative innocence of our places of public resort; they are immeasurably inferior in architectural beauty, but they are a great improvement upon the moral aspect, and the restraints and the reflective influence of Christianity have even reached our public amusements. We cannot wonder at the indignation with which the early Christian writers viewed the theatres and places of public entertainment among the Romans, where every brutal passion or lascivious desire was gratified, and where vice in every form was enthroned by universal suffrage. We can excuse these holy men applying to these rendezvous of iniquity the title of "Devil's houses," for which I would hope no member of this Institute will ever have to give a plan. It is to my mind a happy circumstance that the "cavea" is now transferred to the lecture room, the orchestra transformed into an Exeter-hall platform, the stage to the floor of the House of Commons, where sometimes members offer to die, and the pulpitum to the place from which the people are instructed in the truths and duties of Christianity. You will excuse me, then, if I rather rejoice over the ground you have lost in modern times for the exercise of your beautiful art; and that *my* profession has so amply supplied, by the sacred edifice, the field that is gone from you in the profane. I rejoice, not because either you or I have a stage more or less for our exertion, but because I think that the best interests of mankind and the happiness of the human race are more likely to be promoted by a church than by a theatre; and if we compare the national tastes of two neighbouring and rival countries in this respect, we at least shall be satisfied with the results;—and although I am loath to end this paper with a sentiment that may sound harsh to some, I cannot but be of opinion, that as the influence of Christianity prevails, and sober-minded pursuits follow as a matter of course in its train, theatrical representations, except for children, will give place: meanwhile, whatever tends to purify our places of public resort, and make them really places of recreation, is a benefit conferred upon the morals of the rising generation.

Small-pox Hospital Competition.—Fifty-four sets of designs for the new Small-pox and Vaccination Hospital have been received, and are now under the consideration of two architects appointed by the committee, in pursuance of the printed regulations, to select five designs for the committee's choice. We understand that many of the designs are very good.

THE SECRETARYSHIP TO THE COMMISSION OF FINE-ARTS.

The *Art-Journal*, with reference to the remarks we made some time ago on the contemplated appointment of an Italian gentleman to take Mr. Eastlake's place as secretary to the Fine-Arts' Commission, says, we "made the giant we desired to kill," and asserts, "on good authority," that the present secretary is *not* about to retire, and that the foreigner in question "has *not* been appointed by the commissioners to any office connected with the commission, nor is any such appointment contemplated. The secretary's occasional employment of the gentleman in question in *subordinate official matters* (our contemporary admits), may have given rise to the statement referred to—which is simply absurd."

Absurd or not, the appointment of this gentleman would have been more so, and worse: and so far from now having greater doubt about the truth of the rumour which led to our observations (and which we then put most guardedly), we are more strongly satisfied than ever of its truth, and that we did not speak a minute too soon.

More than one, two, or three correspondents, who give us their names and speak with authority, state positively that the Italian gentleman does at this moment receive a salary for the performance of some of the duties devolving on Mr. Eastlake as secretary to the commission, and that but for our protest, and the response it elicited in several very influential quarters, he would have been in a very short time virtually, if not in name, the secretary.

The *Athenæum* remarked, when quoting our objection, and earnestly backing it, that, "In certain high quarters the patronage of the continental artist in nearly all the departments of art has grown into an offence to English genius." This appointment would certainly have clinched it bravely. We have no reason to regret our part in the "absurdity," and do not intend leaving the stage till the piece is played out.

EXTENSION OF SOUTH-WESTERN RAILWAY TO WATERLOO BRIDGE.

On Thursday, in last week, Captain Simmons, the Government inspector, made a careful survey of all the works composing the extension of the South-Western Line from Nine Elms to the York-road; on Friday following the Board of Trade authorised the opening, and on Tuesday this took place. The extension is on a viaduct formed by about 250 brick arches, averaging 20 feet high, and is two miles in length.* It has four lines of rails throughout. It is carried over the first road it crosses, that from Vauxhall to Lambeth, by an oblique iron bridge, about 60 feet span. After passing some intermediate streets, it reaches another road of some importance, the South Lambeth-road, which is crossed by a sheer iron bridge, with side arches. The line now bends round to avoid Vauxhall-gardens, and crosses the Vauxhall-road by another iron bridge, in a span of fifty feet. The line is again deflected to the east, by the palace of the Archbishop of Canterbury. Near this it crosses the ancient road called Lambeth Butts, by a small bridge, and the main road leading to Lambeth Palace and Church, by a very extensive sheer iron bridge of two arches, having a pier in the middle of the road. Proceeding eastward, the line crosses the national schools of the parish of Lambeth, which have been rebuilt at the cost of the company in the Tudor style of architecture, from a design of their architect, Mr. Tite. After crossing the Westminster Bridge-road by a sheer bridge of iron of one span, and Granby-street and York-street by an ingeniously built bridge, the terminus is at length attained. The bridge across the Westminster-road is in one span of ninety feet, and it is exceedingly oblique. The terminus is raised on a terrace of arching, and will have an area nearly square, and covering eleven acres of land. Eventually, this station is intended to have four distinct termini, with a façade of 600 feet towards the York-road. The length of the present iron-roofed platform is, we are informed, 300 feet, but when completed it will be 600 feet. Its full width is about 150 feet. The Nine Elms station will be converted into a locomotive depôt and workshops. *Sic transit gloria.*

Mr. Locke, M.P., is the engineer, and Mr. W. Tite, F.R.S., as already mentioned, the architect, under whom the works have been executed by Messrs. Lee and Son, the contractors.

A bill for the further extension of this line at the other end, namely, from Salisbury to Yeovil and Exeter, passed the Lords in committee on the 7th instant.

* These arches are covered with Seyssel asphalte, to prevent the penetration of wet.

ARCHITECTS' LIABILITIES.

IMPORTANT CASE.

In the case *Fitch* v. *Martyr*, tried on the 7th, in the Court of Common Pleas, the plaintiff was a builder and the defendant an architect. In 1846 the plaintiff was employed to build a house by contract for a Mr. Formap, as a sub-contractor under Mr. Banks; and the defendant was employed as an architect to superintend the erection of the house according to the plans. It was one of several houses recently built on the property of Archdeacon Burnie. The amount claimed was nearly 22*l.* in respect of extra work, in reference to a window extra the contract. The defendant pleaded his non-liability.

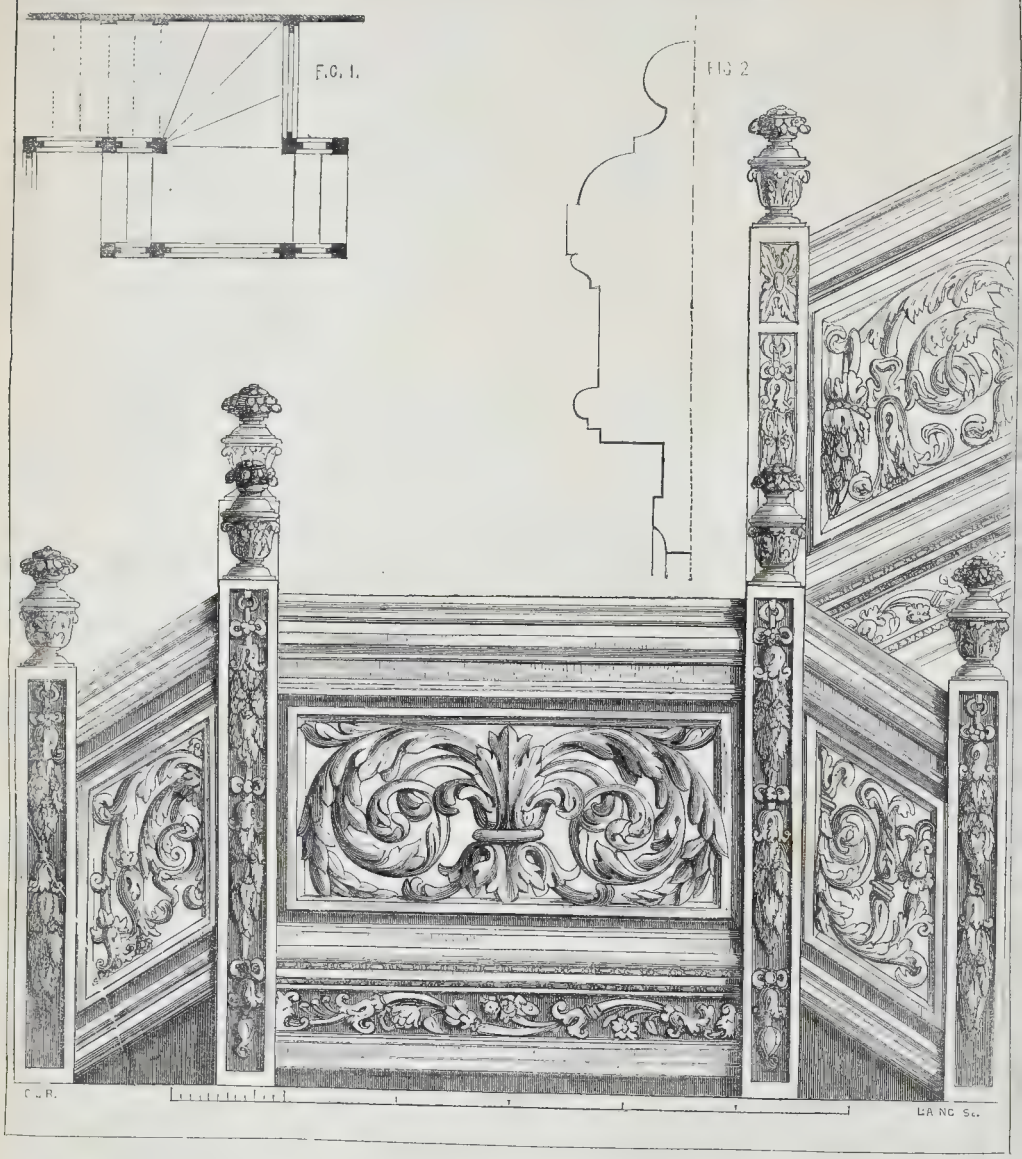
It appears that Banks, the contractor under whom the plaintiff worked, had become bankrupt, and had not got his certificate; and, also, that the plan and specification on which the house in question was to be built had been departed from in the alteration and finishing of a window, the extra cost for which was the amount claimed,—the alterations having been made at the suggestion of the defendant, as the architect, without the sanction and acquiescence of Mr. Forman, the owner of the house. It was now sought to make the architect responsible as a principal, he having gone out of the usual course of his calling. The value of the work done was undisputed, the only question being who was liable for its payment?

For the defence it was contended, first, that Banks, as the contractor, was liable to pay the plaintiff, as a sub-contractor under him, for extra work beyond the contract; secondly, if not Banks, that Forman, for whom the house was built, was liable; at any rate not the defendant, who was the mere architect between Banks and Forman. It was also objected that the alteration was a new contract, and being for an amount above 10*l.* it came within the provisions of the Statute of Frauds, and should have been in writing, and could not, therefore, be proved by oral testimony.

The jury, after an absence of a considerable time, found a verdict for the plaintiff for the amount claimed, on the ground that the alteration was a distinct job, not done on the credit of Forman, but on that of the defendant. We doubt the legality of the decision.

Fire-Escapes in the Country.—A correspondent remarks—"Whilst observing with satisfaction the frequency and utility of these in the metropolis and suburbs, I have not—'in populous city pent' for many years—heard or read of their extensive use in the *country*, where, on the whole, they may be as necessary; and, of course, the danger to human life is equally important. They should be now nearly as common as *fire-engines*, though never superseding them, especially as the price is low,—a good 'escape,' I believe, not exceeding 30*l.* The best, and perhaps only really good one, is, on many accounts, the *canvas trough*, with a ladder forming the upper side. The management seems so simple that it might be safely trusted to strangers, and the materials are not likely to tempt robbery, so that it might be left loose near a church or market, &c., &c. If, happily, occasions of using them do not very often happen, there will be the same sense of security as in locks or bolts to doors and shutters, with the added motive of preparing it for others also [illegible] helpless. Fire-escapes might be washed with an anti-combustible solution, as mentioned by the writer in the *Mechanics' Magazine* [illegible] year back."

STAIRCASE AT AN OLD HOUSE AT GREENWICH.



STAIRCASE AT AN OLD HOUSE AT GREENWICH.

OUR plate shews a portion of the curiously carved staircase at a well known old house at Greenwich by the water side, adjoining Trinity Hospital. Our engraving represents the staircase at its commencement in the basement. It is carried up through the whole height of the building in the same style: the ceiling or soffit under the stairs, is enriched with ornamental plaster work. The house was erected by Andrew Coggan, a merchant of London, about the year 1633: he married Mary, daughter of Sir Hugh Hamersley, knight, and alderman of London. In the centre of the enriched plaster ceiling of the dining-room are the Coggan arms impaling those of Hamersley.

The interior of the house is very nearly in its original state. There is a very curious internal court. The rooms have several good doorcases and ornamental plaster ceilings.

Fig. 1 is a plan of the stairs, shewing the double approach. The diagram adjoining it shews the half section of handrail. Fig. 2 shews section of the entablature under steps, with the carved pendant under newel; and fig. 4 shews the top of one of the newels at large.

NOTES IN THE PROVINCES.

THE first stone of a new synagogue was laid on Monday week, in St. Faith's-lane, Norwich. —— The report on the improvement of the sanitary state of Ipswich estimates the cost of a perfect system of sewerage at 60,000*l*. This includes means for supplying every house with water, and for carrying off both surface and household drainage, under two systems: it also includes the entire repaving of the town, which at present is in the most disgraceful state.——It has been resolved by the parishioners of St. Thomas, Newport, Isle of Wight, to commence a subscription of 5,000*l*. to 6,000*l*. for the rebuilding of their church, which appeared, from a report by Mr. Hardwick, to be in so ruinous a state that complete repair would have been little less than entire restoration at any rate. Some few years, it is thought, will transpire before a sufficient fund for the rebuilding will be accumulated.——At the late quarter sessions for Radnor a discussion arose on the propriety of repairing the Radnor half of Glasbury-bridge, while Brecon refused to do anything whatever to strengthen *its* side, which is 'by far the worse.' An estimate had been made out by the surveyor, Mr. Wishlade, from which it appeared that 257*l*. odd would be requisite for the Radnor side, unless the bridge were to be rebuilt in stone, in which event the Radnor side would cost 800*l*. to 1,000*l*. The Rev. J. Price said he could not see the use of the county repairing their side unless the other also were repaired, and he wished to know what would become of the wooden half if it were repaired while Brecon determined in

STAIRCASE AT GREENWICH—DETAILS.

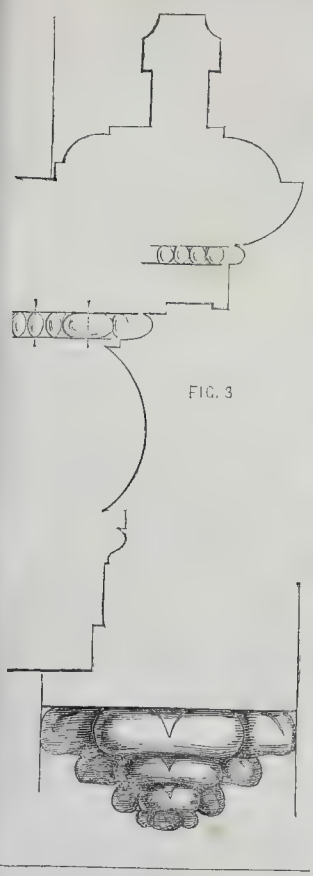


FIG. 3



FIG. 4.

favour of stone? The Clerk of the Peace informed Mr. Price that it was no uncommon thing for a bridge belonging to two counties to be built in two different styles, as each county had a right to build its own half as it thought proper! and so, in the spirited exercise of this truly independent principle, authority was forthwith given to enter into contracts under the surveyor's plan and specification for the repair of the Radnor side, and the work was thereupon undertaken by Mr. Llewellyn of Hay. The public safety, it is to be hoped, will not suffer much in its but too probable *fall* between two such wooden county stools as those of Brecon and Radnor.——A site in Gem-street, Birmingham, has been given by the governors of King Edward's School for the Free Industrial School, for the erection of which the Educational Committee of the Privy Council have voted 500*l.*, and other friends 800*l.* The estimated cost is 2,080*l.* The design, by Mr. C. W. Orford, comprises workshops, stores, and kitchens on the basement story, and school-rooms, both for boys and for girls, baths and washing rooms, committee rooms, and dining-hall on the ground-floor. The style is simple and appropriate. This institution is a sort of ragged school on an extended and improved system, and well merits a speedy completion of the subscription-list, which is yet short of the estimated cost by 780*l.* Tenders for the erection were advertised for in last week's Builder.——The Liverpool council mean to apply to the Treasury for permission to raise 25,000*l.* for the erection of more baths and washhouses.—— The Lichfield Diocesan Church Extension Society, meeting at Wolverhampton, have lately made the following grants:—Towards building a new church at Lann Head, Willenhall, 850*l.*; increasing the accommodation at Horton Church, by re-pewing, 20*l.*; rebuilding, with enlargement, the parish church at Codsall, 150*l.*; building a parsonage-house at Wetley Rocks, 200*l.*; ditto at Little Eaton, 150*l.*; ditto at Woodville, 50*l.*; and ditto at Ellenhall, 200*l.*—— The Church of St. James, Woodside, Horsforth, according to the *Leeds Intelligencer*, to which we are indebted for the following condensed account, was consecrated on 30th ult. It was designed by Mr. C. W. Burleigh, of Albion-street, Leeds. The style is second-pointed, or decorated, and the edifice has been built with reference to future enlargement, by the addition of another aisle and a western tower. At present it consists of a nave and chancel, north aisle and porch, and a bell-gable at the west end. The placing of the porch on the north side has been rendered necessary by the nature of the site, there being no southern approach. The length of the nave is 60 feet, that of the chancel about 30 feet. The west window is of four lights, the east window of three. The tracery in nearly all the windows is varied, and of purely geometrical character. The hood moulding over the interior of the windows, though of simple construction, casts a depth of shadow upon the upper portion of the tracery. The roof is of high pitch, and open to the ridge. An octagonal font, designed by the architect, was presented to the church. Lithographic views of the exterior and interior are to be published. The entire cost, including land, repairs' fund, site of parsonage-house, and repairs of damage recently done to the church by lightning, will be about 2,500*l.* The expenditure on the church itself, and the wall inclosing the churchyard, has been about 1,800*l.* Sittings for 400, all free. The foundation stone of this church was laid on 26th October, 1846.——Watton Church, near Driffield, has been considerably renovated, and the interior repainted.—— Recent explorations have led to the discovery that the Anglo-Norman arches of the old church of St. Kentigern are still remaining, built up within the thick whitewashed walls of the present somewhat plain-looking parish church of Irthington. The arches, says the *Carlisle Patriot*, "so far as yet revealed, seem fine specimens of the period, rich with the *chevron* or zigzag ornament, and raised on low sturdy cylindrical pillars. The arch between the chancel and the nave, though disfigured by paint, has long been admired as one of the finest examples of the Early Norman in the county; and we doubt not every lover of what Camden calls 'venerable antiquitie' would rejoice to see the church restored throughout in its pristine style. We hear that such restoration, consequent on the recent discoveries, is contemplated, and that funds are not likely to be wanting."

EXPERIMENTS ON THE STRENGTH OF CEMENTS.

The following is an account of experiments by hydraulic pressure conducted at Messrs. Grissell's, Regent's Canal Iron Works, on blocks composed of Portland and Roman cements and bricks of J. B. White and Sons' manufacture, with a view to ascertain the greatest resistance to crushing of the several materials. We were not present, but believe in the correctness of the statements.

The blocks were uniform in size, 18 in. long, × 9 in. × 9 in. Pressure was exerted on the ends: the power of the press was 75 tons. The trial took place 10th and 31st December, 1847.

Experiment No. 1.—On a block of neat Portland cement, 30 days old.

Pressure. Tons.	Effect.
22½	Scaled at one corner.
37½	Scaled at other corner.
52½	Slightly splitting.
56½*	Gone, apparently, for practical purposes.
67½	Slightly going.
75	Ditto.

On removal, found that the pressure held the materials slightly together; virtually for building purposes block destroyed by being split down the side, but not otherwise broken up. (Block in possession of Mr. Rendel.)

No. 2.—Block of neat Roman cement, 30 days old.

Pressure. Tons.	Effect.
22½	No effect.
26½	Ditto.
27†	Broke up suddenly.

This block was fitted remarkably square to the iron plates, hence no appearance of scaling at the edge (as in experiment No. 1) in the first instance.

No. 3.—Block of White and Sons' stock bricks, set as a 9-inch pier with neat Portland cement, 30 days old.

Pressure. Tons.	Effect.
15‡	Bricks crushing.
16	Crushed.

Cement not gone, but bricks crushed; a red-headed soft brick in middle of pier.

No. 4.—Block of stock bricks set as a 9 in. pier, with Portland cement 1 part, sand 3 parts, 30 days old.

Pressure. Tons.	Effect.
26½§	No effect till this pressure was put upon it, when it cracked, and crushed up suddenly in the direction of its length. Defect in bricks as before.

No. 5.—Brick pier of same description as foregoing, set with neat Roman cement, 30 days old.

Pressure. Tons.	Effect.
30‖	Broke up suddenly, but no appearance of crushing prior to this weight being applied.

No. 6.—Block of Whitby stone from Cragwell quarry, vertical bed.

Pressure. Tons.	Effect.
45	Scaled at bottom corner.
71½	Scaled at top corner.
75¶	No further effect.
	Not crushed up, and the body of the stone not apparently injured beyond the scale at the angles.

* 56·25 tons on sectional area of 9 inches is 1,555 lbs. per square inch, or 70·3125 tons per square foot.

† 27· tons on 9 inches area is 746 lbs. per square inch, or 33·75 tons per square foot.

‡ At 15 tons is 470 lbs. per square inch, or 18·75 tons per square foot.

§ At 26½ tons is 726 lbs. per square inch, or 33·125 tons per square foot.

‖ At 30 tons is 829 lbs. per square inch, or 37·50 tons per square foot.

¶ 75 tons per 9 in. area is 2,074 lbs. per square inch, or 133·3 tons per square foot.

No. 7.—Block of Bramley Fall stone.

Pressure. Tons.	Effect.
75	No perceptible effect.

No. 8.—A block of concrete stone (for description see below) 48 days old.

Pressure. Tons.	Effect.
22·5	Cracked.
24·375*	Gone for all practical purposes.
30	Broke up.

This block was composed of pieces of Portland rubble stone, cemented together with Portland cement and sand in proportion of one part cement to two parts sand. The small block sawn out of a larger one of 3 tons weight, which was cast in a mould.

No. 9.—A block of concrete stone, 70 days old.

Pressure. Tons.	Effect.
15	Scaled at corner.
16·875†	Crushed.

The same description applies to this block as the foregoing, with the exception that the cement was mixed with sand in parts of one cement to three sand.

No. 10.—A block of concrete stone, 270 days old.

Pressure. Tons.	Effect.
63·75 ‡	A pressure commencing at 11 tons, applied gradually until it reached 63·75 tons, without any perceptible effect. On the last weight being applied the block fell to pieces with a report, shewing equal fractures all through of cement and stone.

Description same in every respect as to No. 8, but this block was 9 months old.

Weight of concrete stone 135lbs. per foot cube.

No. 11.—A block composed of Portland cement 1 part, and sand 2 parts. 52 days old.

Pressure. Tons.	Effect.
30·375	Slightly cracked at one corner.
37·5	No further effect.
45 §	Cracked throughout suddenly, not practically injured till the last weight was applied.

This block was steeped in water for 7 days very soon after it was made. Weight before steeping 106½lbs., weight after steeping 107½lbs., gain in that time 1 per cent.

No. 12.—Block composed of Portland cement, 1 part, sand 3 parts. 52 days old.

Pressure. Tons.	Effect.
15	Slightly cracked at one corner.
25‖	Broke up suddenly.

Steeped in water as No. 11. Weight before steeping, 104 lbs.; ditto after ditto, 105½ lbs.; gain in that time, 1½ per cent.

Weight per foot cube of Nos. 11 and 12, 127 lbs.

No. 13.—Block composed of Roman cement, 1 part, sand 2 parts. 52 days old.

Pressure. Tons.	Effect.
	Went to pieces before 3 tons' weight was fairly upon it.¶

Steeped in water as Nos. 11 and 12. Weight before steeping, 100 lbs.; ditto after ditto, 105 lbs.; gain in that time, 5 per cent.

Weight 120 lbs. per foot cube.

No. 14.—Block composed of Portland cement, 1 part; shingle 10 parts.

Pressure. Tons.	Effect.
7.5	Cracked at one corner.
10**	Crushed.

Weight 139 lbs. per foot cube.

No. 15.—Block of White and Sons' stock bricks, set as a 9 inch pier, with Portland cement, 1 part; sand 2 parts. 52 days old.

Pressure. Tons.	Effect.
16.875	Slightly going.
22.5	Crushed.

At 22½ tons is 608 lbs. per square inch, 39.5 tons per square foot.

* At 24 tons crushing weight is 664lbs. per square inch, 42·6 tons per square foot.

† At 16 tons is 442lbs. per square inch, 28·4 tons per square foot.

‡ At 60 tons is 1,660lbs. per square inch, 106·6 tons per square foot.

§ At 45 tons pressure is 1,244lbs. per square inch, 80 tons per square foot.

‖ At 25 tons pressure is 691 lbs. per square inch, 44.4 tons per square foot.

¶ At 3 tons is 83 lbs. per square inch, 5.4 tons per square foot.

** At 10 tons is 276 lbs. per square inch, 17.7 tons per square foot.

No. 16.—Block of bricks as above, set with Roman cement, 1 part; sand, 2 parts. 52 days old.

Pressure. Tons.	Effect.
5.625	Cracked, owing to bad brick.
14.062*	Crushed.

The 5 experiments on brick give 22 tons as the average resistance to crushing of a 9-inch pier.

Weight, 104 lbs. per foot cube.

Comparison of the relative strength of Portland and Roman Cement, as shewn by the annexed statement:—

1. *Blocks of Concrete Stone, Nos.* 8, 9, 10, *Table* 1.—Attained at the age of six weeks, the average strength of bricks, viz., 24 tons, upon a 9-inch area, or 42 tons per square foot; while at nine months old a power of 63 tons per 9-inch area, or 106 tons per square foot, is required to crush the concrete stone, shewing it to be but little inferior to the best Portland stone.

2. *Bricks, No.* 3, 4, 5, 15, 16, *Table* 1.—The greatest resistance in these five experiments found to be 30 tons, and the *average* resistance 22 tons—giving about 600 lbs. per square inch, or 38 tons per square foot, as the strength of brickwork in cement. Owing to the bricks giving way in each case before the cement, the peculiar properties of Portland cement were not elicited in these experiments.

3. *Blocks composed of Cement with Sand, Nos.* 1, 2, 11, 12, 13.—

		Tons.
No. 1.	Portland cement neat, *not* crushed at the whole power of the press—(this block in possession of Mr. Rendel)	75
11.	Portland cement one part, sand two parts, *crushed*	45
12.	Ditto one part, sand three parts, crushed	25
2.	Roman cement neat, crushed ..	27
13.	Roman cement one part, sand two parts, crushed	3

Shewing a superiority in strength of neat Portland cement over neat Roman cement of 3 to 1; of Portland cement and two sands, over Roman and two sands, of 15 to 1; and of Portland cement and three sands, over Roman and three sands, of 8 to 1.

Assuming three parts sand as the proper quantity to mix with Portland cement for building purposes, a connecting power is gained three times *stronger* than that given by one Roman cement and one sand (the proportion usually adopted), at no increase in the cost.

		Per bushel. s.	d.
Thus, assume the price of Portland cement, at per bushel		2	6
Three bushels sand, at 3d. ditto ..		0	9
	4)	3	3 (9¼d.
Roman cement, at per bushel ..		1	3
One bushel sand		0	3
	2)	1	6 (9d.

TRUSSED IRON GIRDERS.

SIR,—Having noticed in your last week's paper an account of some experiments with a girder made at Mr. Cubitt's works, I beg to suggest an explanation of the causes which produced the difference in their results, and also to lay down a rule for the guidance of those who think proper to employ tension trusses to girders.

The principle of the tension rods being to counteract, by their elastic strength, the elongation of the lower part of the girder, which takes place by deflection, it follows that if the line ABBA is shortened, by the points AA being brought nearer together by the deflection of the girder, they will, instead of counteracting, add a portion of the power that has been applied in tightening them to the deflection and consequent weakening of the girder.

When girders are deflected by transverse strains, the upper portion is compressed, and the lower extends.

The line in which these strains meet is termed the neutral axis, which in the girder under experiment would be about 2½ inches from the upper edge, and it will be found in experiment No. 1 that a deflection of 2½ inches would, by bringing the points AA nearer together, make the line ABBA shorter than when the girder was in a state of rest.

In experiment No 2 the length of the line ABBA would remain unaltered, and in Nos. 3, 4, 5, 6, and 7 the deflection of the girder would produce an elongation of the tension rods, and consequently bring their elastic force into operation, the tension rods strengthening the girder in the proportion of their elongation, by its deflection.

To produce the greatest effect, the points AA should be below the neutral axis of the girder, and the points BB, as much below the bottom of the girder as is practicable, for A being a given point, the less the angle ABB, the greater will be the strength of the girder.

WM. JEAKES, Jun.

Great Russell-street.

* At 14½ tons is 386 lbs. per square inch, 25.7 tons per square foot.

RAILWAY JOTTINGS.

IN a few notes of progress, thrown together under the head of "The Atmospheric Systems," allusion was made to Messrs. Clarke and Varley's patent elastic slit tube or valve for the atmospheric exhaustive system. Mr. Clarke, in pointing our attention to the fact that in this invention there is really no *valve* properly speaking, informs us that the tube is not made of steel, but "of wrought-iron plates rolled into cylindrical form, with the edges truly planed." The longitudinal opening of these "air-tight metallic lips" is effected by the piston-rod in transit, the friction of which, according to Mr. Clarke's statement, does not exceed 5 per cent. of the power employed, while the closure of the valve or tube is accomplished by its own elasticity and the outer atmospheric pressure. Once made air-tight, the longer the edges wear by the friction, the more true, he says, they will become. The piston-leather is the only non-metallic substance about this invention; and probably not the least of its advantages is, that the sealing composition, whose repeated failures from the outset tended so much to excite our misgivings of success with the longitudinal valve, is in this case thrown aside altogether. "In reference to the various plans of atmospheric propulsion before the public," adds Mr. Clarke, "there is one point of great importance not provided for in many of them, and which was not noticed in the article alluded to [the main object of which was merely to record progress]. In admitting air to the piston, the opening in the tube immediately behind it should be equal to its area, that the air may not have to follow through the tube but flow therein with its full and regular power: this, in our plan, is amply provided for. In drawing a comparison between compressed and exhausted air, I would just observe, that in the former case a long column of dense air has to be kept in rapid motion, both before and behind the piston, involving enormous friction; while, in the latter, the air in motion is only in front of the piston and in a rarified state, the atmosphere behind dropping in without friction as the piston advances."——At the Paris Academy of Sciences, M. Ferdinand, engineer, lately proposed to construct a floating tunnel from Calais to Dover, for the wires of the electric telegraph, and large enough to be traversed by small locomotives, for the conveyance of passengers. The plan was referred to one of the members for examination.——The Oxford, Worcester, and Wolverhampton line is to be opened between Abbot's Wood and Worcester, before the Worcester music meeting takes place. The works on the main line are now making steady progress. The cuttings and levellings on the whole line between Worcester and Stourbridge are completed, except near Oldswinford; and the Dudley tunnel is approaching completion. The bridge over the line at the Dudley station, which partially fell down some time ago, has been repaired.——At the Guide-bridge station, on the Manchester, Sheffield, and Lincolnshire line, a short tunnel had been in an imperfect state, and the engineer having advised its removal, the workmen lately took down the arch, and completed a bridge in its stead; but in shifting the fallen materials, a portion of the wall or abutment

which supported the arch gave way, and unfortunately buried three of the men, who were killed on the spot.——The works on the Dumfries section of the Carlisle and Dumfries line will be opened for public traffic in a few weeks. It joins the Caledonian at Gretna, and will bring Dumfries into the general circle of railway communication. Northwards from Gretna several bridges and cattle-creeps are still in a rather backward state; but the permanent iron pathway has been generally laid down. The mason-work on Mr. Ross's contract, which extends a little below Annan to Cummertrees, is all but finished; and the station at Annan will soon be ready for the roof. Mr. Ritson's contract, the next we come to, is not quite so far advanced. The rest of the line up to Dumfries is being formed by the Messrs. Jeff, and is, in all respects, nearly completed. A temporary station, near Dumfries, to be commenced immediately, will be superseded by 'a large and magnificent fabric.'

VENTILATION OF SHIPS.

Sir,—The suggestions of your correspondent in The Builder of the 24th ult. seem to me somewhat superfluous. A great many theories, very excellent on shore, go for nothing at sea. The idea of admitting fresh air to the lower deck by pipes attached to the various masts is open to several objections. If there were but one pipe to each mast, there would be periods when its action would be interrupted. On certain points of the vessel's sailing the pipe would be brought *under the lee* of the mast, and the current of air reversed. This state of things in warm latitudes, where ventilation is chiefly required, might continue for weeks together, from the prevalence of the trade winds from the same quarter. If the number of the pipes were increased they would be so much in the way as to interfere with the working of the ship. To make channels in the mast itself would be still more objectionable, as tending to weaken a part where great strength in small bulk is absolutely required.

The windsails at present in use answer the purpose of introducing fresh air much better than any contrivance that could be substituted for them. They consist of trunks of stout canvass from 14 to 20 inches in diameter, distended by means of hoops at intervals of every 5 or 6 feet, and have an opening at the upper part flanked by two canvass wings. These windsails pass down to the lower deck, through the hatches, and are triced up to the stays aloft, and their mouths kept to windward by means of bowlines, and trimmed to every shift of wind.

In large ships, especially men of war, the "galley," or cooking stove, is *generally* upon the lower deck, and a large funnel ascends from it abaft the foremast. This funnel is provided with a proper cowl; and if the stove be large enough for the use of the ship, the funnel will always be of ample dimensions to carry off the foul air. The upper deck is certainly the best place for the "galley," as far as regards ventilation; but there are many other reasons besides the want of space that contribute to this position being applied it in small vessels. On board emigrant ships all the danger and inconveniences incident to such a situation would be indefinitely increased. A number of passengers, like a well-disciplined ship's company, can never be made to take proper precautions against the danger of fire to which they would be so imminently exposed; no regularity or order could be maintained about the galley, and in the control for precedence which ensues there passengers prepare their own food, the ship's cook would not be able to find room to cook the provisions for the cabins and crew. As for the great comfort that the females used to take in cooking, or the benefit derivable from the warmth that the fire is to diffuse, I am afraid that the advantages would be more than counterbalanced by the disadvantages. People now suffer on board emigrant ships more from their own laziness and dirty habits than any other course. Most of the females who take passage in the steerage of an emigrant ship would never see daylight from land to land, if they were not obliged to go on deck with their hot water, kettles, &c. If the steerage passengers were generally to cook below, there would be no such thing as "breaking them out" at all; and the heat diffused by the galley would add still more to the foul heap of corruption engendered about them.

In fine, it is not any new system of ventilation that is required in ships, but only a proper attention to the precautions in general use; and, above all, such a code of regulations as shall compel the passengers to keep their clothes and bedding dry, clean, and well-aired. As for themselves, they ought to pass eight hours at least out of the twenty-four on deck, when the weather permits. S. E. R.

ART-UNION OF LONDON AND THE BOARD OF TRADE.

On Wednesday a deputation of gentlemen, representing various bodies of metropolitan artists, had an interview with the Right Hon. Henry Labouchere, at the office of the Board of Trade, to present a memorial agreed upon at a general meeting of artists in May last,* deploring the intention of depriving the prize-holders of the right of selecting the prizes, and praying the Board of Trade to withdraw any interference in this respect with the Art-Union of London, and to permit it to carry out its objects according to its original and vital principle. The deputation consisted of the following gentlemen:—Mr. C. Lushington, M.P.; Mr. J. Jackson, M.P.; Sir W. C. Ross (the Royal Academy); Mr. J. H. Illidge, Mr. G. R. Ward, and Mr. Fredk. Gush (the Institute of Fine Arts); Mr. J. Fahey (the New Water Colour Society); Mr. Geo. Fripp (the Old Water Colour Society); and Mr. E. T. Niemann (the Free Exhibition). The Society of British Artists had previously sent a deputation for the same purpose.

The memorial was signed by more than 300 artists, including half the members and associates of the Royal Academy. Mr. Labouchere said it was a very weighty document, deserving the most serious consideration of the Board, and should certainly receive it.

THE ANCIENT HALL AT SAFFRON WALDEN.

MERCHANT RESIDENCES.

In our last number we gave a view and some account of the ancient hall recently opened to light and then destroyed at Saffron Walden. The *Literary Gazette* of the same date gives some particulars of the building containing it, from which we take the following:—

Its parchmentary writings of about 200 years ago, the earlier having been at some anterior period destroyed, call it the "Iron Crown," but it is conjectural whether it ever was an inn—a common fate with this kind of building,—and the whole edifice would rather indicate that it had been the house of a wealthy merchant of the time of Edward the Fourth, with its jutting upper stories, gabled roofs, mullioned projecting windows and carved sills, open balcony, and stairs leading into it, after the manner of that period. At the west end of this building, and rising from the ground the whole height of it, about 27 feet, is a banqueting-hall, for so we designate it in the absence of anything to indicate an ecclesiastical character. The lower part of this hall is much mutilated by alterations for mercantile purposes in later times, but the upper part is protected by a ceiling and partitions, and covered with paper and whitewash, and in good condition. Apropos of which, mediæval antiquaries are much more indebted to the latter than they would like to acknowledge—or where would have been the mural paintings, and much of the sculptured relief of the middle ages, if it had not been for their *preservative* the much-abused *whitewash?* The material used in the general building is oak, but the carved and moulded portions are of *chestnut*. The only way of accounting for the profusion of the latter in old edifices is, that it must have been imported for superior work, as mahogany and other woods are now; and this hall, with its high narrow windows, carved braces, projecting corbel heads, pendants, and screen, must have been, though not a large (about 19 by 18 feet), still an imposing adjunct to the mansion of a merchant.

Whether halls of this description, forming a portion of merchants' houses, were of frequent occurrence in those days, there are not now materials enough left to ascertain, and only one or two instances are upon record. Crosby-hall, Bishopsgate, London, affords a splendid specimen of this kind of attachment, although little more is known of its builder, Sir John Crosby, than that he was an affluent merchant and dealer in wool; and the author of "Prolusiones Historicæ" presents us with a second instance, discovered some years back in Salisbury, which was then restored and fitted up as a china shop. This was clearly ascertained to have been built some time after 1467, by John Halle, who was four times mayor of that city, a wealthy merchant of the staple, and a dealer in wool also; and these two halls, though varying in size and detail, were erected within a period of ten years, and it is probable that the owners and builders, living at the same time, and both being merchants of the staple and dealers in wool, were known to each other; and, as Saffron Walden was then a place where wool-combing was carried on to a great extent, it is not impossible that our host of the "Iron Crown" might have been personally known to his London and Salisbury contemporaries, and followed their example in erecting a private merchant's banqueting-hall, but of the exact date of his existence or his name, there is nothing left to tell.

* See p. 256 *ante*, for report of the meeting.

ON THE MISUSE OF THE TERMS STATUARY, SCULPTURE, CARVER.

If we look at the derivation of these terms, and the manner in which they are now applied, we cannot but be astonished at the departure from their original meaning, shewing how necessary it is that the sense of words should be attended to. A statuary (from *statuarius*) was anciently understood to be a designer and maker of statues, and a statue to be a figure or bust, &c., either standing free of any background, or in bold relief. But we scarcely ever find it used in this sense now; statuaries disclaim it, and masons use it to signify a worker in statuary marble. The next term, sculptor, has taken the place statuary should occupy. Our statuaries think it presumptuous for an ornamental sculptor to use the term at all; they call him a carver; whereas sculpture (from *sculptura*) is a general term, including all kinds of figure and ornamental work, cut in hard substances in relief. This appears to be the true sense, although it formerly had a wider meaning, and included engraving, &c. The term carver (from *carptor*) ought to be entirely rejected, as unsuitable for any kind of sculptor, and, in accordance with its original meaning, let it be applied to a cutter of meat. How, then, it may be asked, shall we distinguish the various kinds of sculptors?—by some suitable adjunct, if any particular branch be followed, or without any, when all branches are included, as portrait sculptor, architectural sculptor, ornamental sculptor, and sculptor, let the statuary call himself a statuary, and shame the usurper. We should then have terms somewhat more definite and suitable than we have at present. Z. Y.

Restoration of "Newcastle."—The ancient castle of Newcastle is in rapid process of restoration by the local Society of Antiquaries. The Norman Chapel has already been renovated, we hear,—every moulding replaced. In the chancel were traces of fire. No remains of stained glass, coloured tiles, or painting on ceiling or walls were found. The ancient floor consists of rough hewn flag-stones about a foot below the later one. A drain channel of lead was discovered in the thickness of the wall over the chancel arch. The next restoration is that of the doorway leading into the great hall, the mouldings of which are being recut. An interesting chamber, of small dimensions, at the head of the stairs leading to the great hall, with an arcade of Norman arches running round three sides of it, is to be next restored. There is to be a banquet in the great hall on 3rd proximo, when the sleeping echo of ancient revelry will be reawakened for the first time for many a day. The whole of the keep has now been leased to the Antiquarian Society.

New Books.

Remarks on Christian Grave-Stones, with Working Drawings. By the Rev. ECCLES J. CARTER, M.A. Masters, Aldersgate-street.

THE Rev. Eccles Carter, who, as Honorary Secretary of "The Bristol and West of England Architectural Society," has laboured zealously to promote the extension of architectural knowledge, and induce the preservation of our ancient structures, has published this volume, as he says, for the use of those who "are no longer contented with the heathenish tombs and monuments which have, alas, for so long a period, profaned and disgraced our churches and churchyards." It is intended more especially for the less wealthy classes, for which reason designs of the least costly kind are given, and such as are suitable for the circumstances of the poor. It contains twelve headstones, and eight flat stones, with instructions for working, and will be found very useful.

In a note to sculptors and masons, the writer remarks:—"There is an important question as to the proper material to be used for sculptured grave-stones. The one most to be avoided is Bath stone, or freestone of any kind, as no oiling or painting will secure it from the effects of frost. Each neighbourhood furnishes its own peculiar quality of stone, and the masons of the country are the best judges of its durability. The Bangor slates, which are now much used, are said to stand the weather; and as they are easily worked, and have a very agreeable appearance in a churchyard, they may furnish a good material for the head-stones here recommended."

He urges, with some truth, that if stone-cutters would be contented with the same profit in this department of their trade as they get on other work, they would be more extensively employed in it than is now the case.*

Christian Memorials, Designed and Drawn on Stone, by WILLIAM OSMOND, Jun., of Salisbury: Masters, Aldersgate-street. Parts I. to IV. inclusive.

THIS work, which is publishing in parts at intervals, is intended to carry out still further the intention of the previous work. Mr. Carter says if wealthy persons wish for such memorials their course is to apply to an architect, who will at once furnish them with designs and working drawings. Mr. Osmond, however, says, Here they are for you, to a certain extent, ready to your hand. Each part contains four plates, and includes, amongst those already published, two coped stones and an alphabet. The remainder are different versions of one form, the cross,—and serve to shew to what an extent it may be varied.

Correspondence.

FRICTION OF ROLLING BODIES.

SIR,—I shall feel obliged if any of your correspondents can give me the difference of friction between rolling and sliding bodies on a horizontal plane; also the difference of friction between rolling cylindrical and spherical bodies. A formula for the above would further oblige.—I am, Sir, &c.,

B. P. S.

Haddiscoe, Norfolk, July 10th.

RETURNED SHOP-FRONTS.—We have several times had occasion to point out the insecurity often attending corner houses, where the whole of the lower part of the front and the returned side is left out for shop fronts: the doorway is formed at the angle, and the whole dependance is placed on a few story posts, often injudiciously placed and insecurely based. Where such an arrangement as this is attempted in connection with old existing party-walls, the danger is necessarily increased, and greater care is demanded. A construction of this kind at the corner of Pond-street, in the Fulham-road, failed on Sunday last, but being fortunately observed in time was shored up, and by means of rebuilding the basement front-wall in cement, and a rearrangement of the story-posts, will probably be saved.

* For an article on the subject of gravestones, with some illustrations, see our 5th volume (1847), p. 291.

Miscellanea.

PROJECTED WORKS.—Advertisements have been issued for tenders by 28th July for the completion of the Town Hall, Birmingham; by 26th, for slaters' work at the Metropolitan Barracks and Ordnance; by 27th, for additions and alterations at the Sudbury Union Workhouse; by 31st, for repairs at Lambourn Church, Berks; by 31st, for the erection of Golbourn Church, Lancashire; by 1st August, for the erection of fences to inclose two paddocks adjoining St. John's Church, Bethnal-green; by a date not specified, for rebuilding a dwelling-house, shop, and warehouse, at Hull; by 17th July, for the erection of a goods-shed at the Maryport station of the Carlisle Railway; by 26th, for the supply of stores for the locomotive carriage, and carrying department of the Eastern Counties Line; by 18th, for the supply of paving, granite, flint, rag, and gravel, for St. Mary Newington, Surrey; by 18th, for making three miles of a turnpike-road and building bridges at Gartmore (Glasgow); and by 1st August, for removing mud from the basin of the Kensington Canal, Kensington.

A QUESTION OF CREDIT, — IN MORE RESPECTS THAN ONE.—*Townsend* v. *Neale.*—Last week an action was tried in the Court of Common Pleas, brought by the plaintiffs, Messrs. Townsend, paper manufacturers in Goswell-street, to enforce payment of a claim for papering the Black Bull Inn, Holborn, kept by defendant.—The plaintiffs stated that Mr. Owen, a surveyor, called at the plaintiffs' in December last, for the purpose of giving an order for papering the Bull Inn, but plaintiffs were not satisfied to execute the order without seeing defendant. A person was, therefore, sent to defendant, to whom he gave express instructions for the work to be undertaken upon his own responsibility, but under the direction and superintendence of Owen. Accordingly, the patterns having been selected by Owen, the rooms of the Bull Inn were decorated in the manner pointed out by him. Witnesses proved the facts as above stated; and it was further shewn that defendant had offered to pay the debt by instalments after a little time, and on such occasion nothing was said by him as to any credit agreed upon. Defendant contended that the work, which was finished in February last, had been done upon a six months' credit; that there was a distinct agreement in a conversation between Owen and one of the plaintiffs, about the time of the former selecting the patterns, that the work was not to be paid for until six months after it was completed; and that, moreover, the plaintiffs' bill contained the grossest overcharges. Owen swore to the conversation alluded to, and that *lower prices were agreed upon.*—The defendant had refused to measure the work with plaintiffs' surveyor, Owen, or to acknowledge that his certificate was necessary before he was paid for his work.—Surveyors, on part of defendant, proved in evidence, that the quantity of paper used was less by 50 per cent. than that charged for, and that the paper and labour were greatly overcharged.—The son of one of the plaintiffs was called as a witness in reply, who stated that he took the order from Owen, and the prices charged were *those mentioned at the time,* and the invariable prices charged for such work by plaintiffs in their business.—The Judge, in summing up, left it to the jury to say whether a six months' credit was agreed upon; if that were so, there was an end of plaintiffs' case; but if they thought otherwise, the question as to the amount remained. Upon this subject the testimony was conflicting. It was entirely for them to determine upon the evidence whether any or how great a deduction ought to be made from the sum sued for.—The jury found for plaintiffs for the full amount—namely, damages 86*l.* 17*s.*

GOVERNMENT SCHOOL OF DESIGN.—On the 21st instant, Mr. C. J. Richardson will give a lecture on perspective in the evening, at the school. Any person desiring to attend may obtain a ticket by applying to the secretary of the school. According to the *Athenæum,* the Committee of Management has appointed Mr. R. N. Wornum, author of "The Epochs of Art," to the office of Lecturer on the History of Art in relation to Ornament. His position will be independent of the masters:—an arrangement that need not be disadvantageous to co-operation and unity of purpose. His course will consist of ten lectures, one to be delivered every month—commencing on the re-opening of the school in October.—The Class of Form, under the superintendence of Mr. Townsend, has been rendered complete by restoring to it the section of Figure Drawing from the Antique which, as a temporary arrangement, had hitherto been included in the Class of Colour. —Prizes are announced for the best specimens of the productions of the students: the exhibition of these and the distribution of the prizes will take place at the close of the School before Christmas.—It is said that the long complained-of deficiency of space for the business of the School is under the consideration of Government—with the view of remedying this serious disadvantage.

THE PANTHEON, PARIS.—The Church of St. Geneviève, otherwise called the Pantheon, concerning the bad construction of which much has been said by different writers, has been submitted to a violent ordeal during the last dreadful insurrection in Paris. The church was turned into a citadel by the insurgents; and, as we are told, received against its sides more than sixty cannon-balls, discharged closely against it. The walls are pierced through and through, the bronze gates were broken like glass, and the columns of its fine portico have suffered wofully; nevertheless, Soufflot's work stands well as a whole, and its safety seems in no degree compromised, notwithstanding the violence it has suffered.

FAILURE OF A CHURCH ROOF AT LIVERPOOL.—The new church at St. Peter's, Rock Ferry, Liverpool, has been closed in consequence of the instability of the roof. Mr. Hay, architect, being called in, condemns the original construction, as well as the means adopted to render it secure. The incumbent has declined to officiate until something is done, and has offered a large sum for making it safe.

THE TUMULI OF WESTERN AMERICA.—The tumuli or mounds of the Ohio valley are clearly distinguished from each other by position, structure, and contents. Some are deemed sepulchral; others are connected with the superstitions of the builders; others still, the sites of ancient structures, or in some way connected with the military system of the ancient people. The sepulchral mounds stand isolated or in groups, apart from other works; those which are deemed sacred are found also within the enclosures. A peculiar feature of the mounds is that they almost invariably cover altars of burned clay or stone. The altars are generally round, always symmetrical, and occasionally of great size. One has been discovered 60 feet long by 12 broad, covered with remains of ancient art. Trees growing upon the works shew that their origin must date back a long period; the forests that cover them being in no way distinguishable from the other forests. Within the mounds are found implements, ornaments, sculptures, &c. & composed of materials generally foreign to the region in which they are discovered, and often exceedingly rare and beautiful. The implements and ornaments are more generally made of stone, and they wrought the rarest minerals with great skill. The lance-heads and cutting implements were generally made of quartz, some of them from the pure limpid crystals of this mineral, and some from obsidian. From one altar were taken several bushels of fine wrought spear-heads of milky quartz, nearly all of which had been broken up by the fire. In another altar a slight excavation disclosed upwards of 600 spear-heads. The carvings in stone display no inconsiderable skill. They exhibit a close observation of nature, and an attention to details which is not looked for among a people not considerably advanced in the arts. They are remarkable for their faithfulness; they display not only the general form and features of the animal sought to be represented, but to a surprising degree the characteristic attributes and expression. Among the sculptures are also some of the human head, which it may safely be concluded display not only the characteristic features of the ancient people, but also their modes of adjusting their hair, their style of ornament, &c.*

* Condensed from a paper read at a geological meeting in Boston, U. S., reported in the *Boston Mercantile Journal.*

DISPENSARY AT BRIGHTON.—A competition, limited to six architects, has just taken place for a public dispensary at Brighton. The design of Mr. Herbert Williams, of London, has been selected for the building, and that of Mr. G. Somers Clarke, of London, for the premium, as the second best. This building will form a prominent feature of the Queen's-road, being the new road now forming to the railway terminus, and is intended to be commenced immediately.

BATHS AND WASH-HOUSES.—On Saturday the vestry of the parish of St. Marylebone voted 10,400*l.* to be raised by loan for the erection of baths and wash-houses, on the site recently purchased for the purpose near the Yorkshire Stingo.

TENDERS

For finishing four houses in the Wandsworth-road. Mr. John Young, Architect.

Berry and Brown	£2,215
Harrison	2,043
Dove	1,992
Jay	1,934
Colebatch and Marsh	1,896
Park and Co.	1,820
Goulding	1,722
Norris	1,541

For Wesleyan Chapel, St. John's-square, Clerkenwell. Mr. James Wilson, Architect.

Jay	£3,941
Lawrence	3,855
Smith	3,792
Norris	3,677
Wood	3,650
Curtis	3,584

TO CORRESPONDENTS.

"*J. T. T.*"—On inquiring into the circumstances, we are informed that the lowest tender was accepted. The amounts appear to have been mis-stated.

"*Y. Z.*"—Laxton's or Skyring's.

"*Subscriber.*"—We are compelled to postpone a continuation of our notes till next week.

"*Coulson v. Branson.*"—Next week.

"*Masonic Symbols.*"—Ditto.

"*Fides.*"—Ditto.

"*Books.*"—Notices of several books have been accidentally delayed. We hope, before long, to repair the omission.

Received.—"R. M. P." (shall appear), "G. W." (we shall be glad to know the purpose of the building), "C. E. D.," "F. C.," "A Brickmaker" (we hope to give such reports occasionally), "W. D.," "An Inhabitant of Brompton," "J. B.," "M. P.," "Esquire," "F. D.," "J. A.," "R. S. M.," "J. C.," "J. H. A.," "An Architect," "W. D.;" "Synoptic Tables for the Calculation of Railway Earthwork, in all cases of Sidelong and Level-lying Ground," by Homersham Cox, B. A. (Weale); "Homes or the Working Classes," by Francis Cross; "Railways in India," by J. Browne, C.E., and edit. (Williams and Co.); "Familiar Explanation of the Higher Parts of Arithmetic," by the Rev. F. Calder, B.A. (Whittaker and Co.); "The Ecclesiastical and Architectural Topography of England: Bedfordshire" (J. H. Parker); "The Private Letters of Queen Victoria and Louis Philippe," by J. A. P. Judge (Strange, Paternoster-row).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

STEAM-ENGINES FOR SALE.—One of 16-horse power, one of 12-horse power, one of 8-horse power, one of 4-horse power, and one of 3-horse power, with tubular boilers. JAS. GURRIE, Burnell, Stane gardens, Tower-hill.

RIDER'S RAILWAY BRIDGE. — To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr. MOULTON, Bradford, Wilts.

THE PATENT OFFICE and DESIGNS REGISTRY, 25, Strand. The OFFICIAL CIRCULAR of INFORMATION, detailing the eligible course for the protection of inventions and designs with Reduced Scale of Fees, may be obtained at the Office. Letters Patent and Registration of Designs secured at the smallest possible cost, by application, personally or by letter, to Messrs. F. W. CAMPIN, and Co., the agents, 219, Strand, the corner of Essex-street.

VALUABLE INVESTMENT.—Partnership or Licences for District or entire Counties, under British and Foreign Letters Patent.—HUTCHINSON and Co.'s Indurated and Impervious Stone Slate, Sand Plaster of Paris Waterproof Roof Sheeting, Weather Tiles, and Roofing Felt are all of unrivalled and decorative materials for fireproofness of effect, cheapness, and perfect durability. Specimens to be seen at the Chief Offices, East Temple Chambers, 2, Whitefriars-street, Fleet-street, London; also at the Indurated Stone Sand Works, Tunbridge Wells, Kent; or at 5, in Maindelra, near Caen, France. All particulars afforded at H. and Co.'s Offices; or of Mr. W. HUTCHINSON, Castle Hotel, Tunbridge Wells, Kent.

BENHAM'S ICE CLOSETS for Keeping Provisions perfectly Cool during the hottest weather.—For economy, as well as comfort, they are invaluable; also, for cooling wine, or ensuring a delicious draught of cold water to admirers of that beverage; price three guineas and upwards. Benham's Cream Freezers will freeze a quart of cream, fit for the table, in six minutes; price five guineas. Patent Knife Cleaners, Benham and Sons, Ageria-place, 285. These machines not only clean, but actually polish the knives, and the most unskilful person can accomplish the work in less than one fourth the usual time They are now adopted at all the principal hotels.—19, Wigmore-street, Cavendish-square.

YELLOW FLOOR BATTENS.—Wanted, about 40 squares of best dry 11-inch PREPARED YELLOW PETERSBURGH BATTENS. Address to Mr. HITCHIN, 1, Montpelier-street, Brompton.

TO ARCHITECTS—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Background, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to Drawings and Designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street

TO the Nobility, Gentry, Architects, Upholsterers, and others who require WOOD CARVINGS executed.—With a view of affording greater facility to parties carrying on such work, the London Society of Decorative Wood-Carvers will upon application being made to them, furnish the names and addresses of persons competent to the execution of work in the various branches of this business, and who are at the time open to an Engagement in Town or Country. All communications to be addressed to the Secretary, W. G. LOCK, 13, Metropolitan-buildings, St. Pancras, London.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 50,000 Pieces, of the newest designs, French and English, Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 22, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price consistent with the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above. 451, Oxford-street.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington-causeway.

N.B. Cowley and Kent Bricks of every description, and Kentish Rag stone direct from the Quarries.

BRICKS.—TO BUILDERS AND OTHERS.

J. SMITH, of the Commercial-road Fields, Peckham, begs to call the attention of Builders and others, to his STOCK of very superior MALM BRICKS, comprising Seconds, Cutters, Paviours, and Pickers.

N.B. Several acres of very eligible BUILDING LAND to let, for a term of Ninety-nine years. Land-tax redeemed.

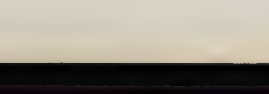
FIRE BRICKS.—WARD and HART, Homburn Wharf, Blackfriars-road, respectfully solicit the attention of the Companies, Builders, Plumbers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, with which they are offering with every advantage to purchasers. Goods may be had from any of the wharfs on the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, Horse Sand (red and white), Mortar Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles now in stock, ready for loading, &c. &c. Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavement of the best description, at 1s. 9d. per square foot. "Seconds," at 9d. R. B. Thomas, Sole Manufacturer, the exact imitation (the best ancient specimens are more easily left) the real action of ancient Churches and Building Tiles. Manufacturers of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of tiling. Arrangements have been made for any future "Masterpiece" that may be required. Specimens may be seen in London at Messrs. GRIEVE and GRELLIER'S Marble Wharf, Belvidere-road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 123A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrimgeour, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr WILLIAM GORDON, Secretary, at the Office of the Company, London, 123, Piccadilly.—March 1, 1856. These machines may also be seen at Mr. Bladin's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Fisch's Pembroke, Staffordshire; Messrs. Drummond and Sons, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

No. A 6.



No. 7.

Wings, 6*l* to 7 inches.
Rolled in London, 6d. an lat Tunstall, 5½ per foot.
Rebated in ditto, 6d., and at ditto, 8d. ditto.
Plain in ditto, 5d., and at ditto, 4d. ditto.

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE, at the Roof of "Peake's Tyro Metallic". No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Architects would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number Letters to be prepaid, and to say if the London or Staffordshire prices are wanted,

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 89, WEST SMITHFIELD.

Register Stoves, 6d. per inch.
Elliptic Stoves, 3d. per inch.
Cottage Ranges, with Oven and Boiler, 3 ft., 35s.
Self-acting Ranges, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3*l* 10s.
Drawing-Room Fenders 14s. each, usually sold at 1*l*. 1s.
All Goods Warranted.

J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dudley. Established 1835.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6d per in. upwards
Bright ditto with Black and Bright Bars, 7*l*. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright.—

3 ft.	3 ft. 6 in.	4 ft.
3*l*. 15s.	3*l*. 14s.	4*l*. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.
Cottage Ranges, with Oven and Back Boiler, 3 ft., 33s.; 3 ft. 2 42s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £3 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.
Best Patent Cut Chisp.

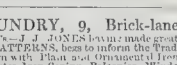
5d.	6d.	8d.	10d.	1s. 4d.	1s. 10d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 1s. per cwt.
Best Town Glue 38s. Do Scotch, 52s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 45, Chiswell-street, Finsbury-square.
Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.
N.B Warehouse closes at Seven o'clock.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ inch, to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of every purpose, either structural or ornamental.
Wheel Pinion and Steam Engine Patterns; Range Stove and Hot Plate Metal
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and despatch.
GLOVER'S FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET.

LIGHTNING CONDUCTORS for BUILDINGS. SMITH'S PATENT COPPER WIRE ROPE is now daily employed for the protection of CHURCHES and other buildings, from the effects of thunderstorms. It possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its merits adopted in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.
SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency Office marks of their
Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,
little need be said, as they are pretty generally known and appreciated
Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.
Estimates given for every description of Metal-work.
SMITH and ENGLISH, 69, Princes-street, Leicester-square, London.

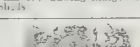
PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 1 inch to 14 inch thick. TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton road, Pimlico, Lt of Great Smith street, Westminster. Mouldings prepared by Machinery.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and elegance, and quality of workmanship unsurpassed. Brick Wharf, Blackfriar, and Oil Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Spa Road Station, SAND BEDS, and ENG. SAW MILL BOARDING YARD FOR IMMEDIATE USE. MOULDINGS planed to any pattern, and Sashes and Doors made to any dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



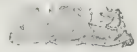
MUIRS PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, Sawn on the most approved principle Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation, and wharfage, being situated with the Thames and Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT WOOD PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the pores, prevents warping, increases in strength, and effects a great saving of price, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

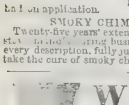
The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, BLACKBURN STREET, CITY.

PATENT HANDRAILS WITHOUT HEADING JOINTS, now so well known and justly appreciated, are supplied at the most moderate prices by WILLIAM GRAY, Patentee, Bow and Stratford, price-list and drawings of which, showing a saving of fuel, and otherwise giving greater facility to the execution of the work, he is enabled to make a reduction in the former prices. Patterns and prices forwarded to any part of the country on a reference being given, and orders executed with punctuality at 1, Bow Bridge, St. John street, Fitzroy-square, London.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S PATENT Transparent Side Value VENTILATORS, supplied at a reduction of 10 per cent from the original Tariff. Their extensive and universal application has effectually put to flight the numerous worthless imitations which have appeared since the introduction of the Patent, and which, from their glaring and offensive appearance, have proved their great utility. Coloured Glass of every description at wholesale prices. Decorative Painting in Colour in all its branches, and Window Blinds executed by EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 19a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



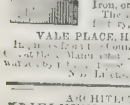
DR. ARNOTT'S CHIMNEY VENTILATOR.

PEE WARING, sole Maker to her Majesty's Board of Ordnance, begs respectfully to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly important Invention of Dr. Arnott, for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY

Twenty-five years' extensive experience in all the branches of a Stove Building business, and the cure of smoky chimneys of every description, enables P. E. Pee Waring to undertake the cure of smoky chimneys on the above equitable terms.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested in most of the towns of the Kingdom for every description of chimney, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

They have been fixed on the following chimneys of fifty of the Patent Ventilating Chimney Pots, in the Houses of Lords and Commons, and Buckingham Palace; since which a number of others have been fixed.

They can be had from the most eminent Metal and Stove Dealers, at Iron, or Zinc.

They are also supplied with Hats at the Manufactory.

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Instructions for fixing in the country will be sent by Messrs. Wilson and Co.'s Agents, on application, and prospectuses forwarded by Post.

No Licensees and no Manufacturers

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE which has been almost universally adopted for architectural purposes, having been used by Her Majesty in the Royal Palaces at Windsor, by the Lords Commissioners of Her Majesty's Treasury in the Houses of Parliament, by the Right Hon. the First Commissioner of Her Majesty's Woods and Forests in the present House of Commons, Westminster Hall, Palace of the Duke of Wellington, and Pall Mall, and by the Directors of the Bank of England, where it has been tested for the last seven years, and has proved itself to be a most valuable composition, and we consider will authentically establish its superiority over every other kind of composition, both for beauty and durability, as it can be prepared for the decoration of ceilings, panelling of walls, &c. A volume of Ornaments, containing more than 1000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

WEST of LONDON and WESTMINSTER CEMETERY, Old Brompton and Fulham-road, 2 miles only from Piccadilly. Consecrated by the Bishop of London in 1840. The public are invited to inspect the Cemetery, which is open daily, for interments, from Eight o'clock in the morning until sunset. Tables of charges, and other particulars, may be obtained at the office, 153, Piccadilly.

A portion of the ground is now consecrated

JOHN H. RUDDICK, Secretary.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet Glass on hand, which he will supply in 50 feet cases, delivered free in London for 12s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.

THOS. MILLINGTON, 87, Bishopsgate-street-Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

CROWN SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s. and Colours and Brushes: Water Closets complete, 35s; Lifting Pumps and Cocks of every description.

Hats Pans, Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s per piece upwards, of very superior description.

GREAT REDUCTION IN THE PRICE OF PLATE-GLASS.

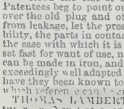
THE UNION PLATE-GLASS COMPANY,—Pocket-book, St. Helen's; 99, Hatton-garden, London; No 15, York street, Mosley street, Manchester, and 26, North John-street, Liverpool; inform Builders and the public generally, that they are now selling, ordinary glazing sizes of plate glass from 2s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 1s. 6d. to 2s per foot. RICHARD YATES, Secretary.

STAINED GLASS.—To the Clergy and Architects.—Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other Saints; some having canopies and pedestals, with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tablets.

Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 13, Foley-place, Langham-place

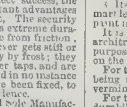
TO THE NOBILITY, CLERGY, GENTRY, ARCHITECTS, &c.

ORNAMENTAL, EMBLAZONED, and FIGURED STAINED GLASS, and ENCAUSTIC TILES, by new processes. The Advertiser is prepared to execute orders of any extent, and patterns, whether in heraldry, flowers, figures, landscapes, or monograms, in colours of the most beautiful and desirable brilliancy, indestructible by the atmosphere, as to meet the wishes of whoever supplies him with the design for execution, and peculiarly adapted for ecclesiastical edifices and baronial halls, &c. In not being restricted to the size of sheet, nor to diversity of arrangement, and prepared to meet any competition, the Encaustic Tiles are specially adapted for portions of apartments, from the surface to the floor, also for baths, dairies, fire-places, shop-windows, &c.—presenting to the eye the most pleasing proof of ordinariness and decorum, and not affected by either air or moisture. The ornamental figured encaustic pattern of Glass, at 1s. per square foot; and any private design will be executed at this price, when the order is not for less than 100 feet. The Tiles are at as equitable price per foot, regulated by the number received, most punctual attention, and be speedily completed, for cash only.—GEORGE WALKER, Paradise-street, Tunstall, Staffordshire Potteries.



CHAS. WM. WATERLOW,

MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worth the notice of all engaged in building.



LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—The application of the Vulcan felt is the principal cause for these valves, with layers of canvas amalgamated therein, having now stood the test of years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First, The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction, the case with which it is opened and closed; it never gets stiff or set fast for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence.

THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 9, New Cut, near the Blackfriars road, London.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELFACTING EFFLUVIA TRAP

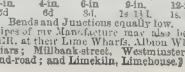
For Sewers and Drains of all kinds.

Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self cleansing, cannot get out of order, and is perfectly applied in all situations with facility; the price is trifling.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and price lists obtained, at the office of Messrs. BUNNETT and COLLIS, Engineers, 24, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
3-in.	4-in.	6-in	9-in	12-in. bore.	
4d.	5d	6d	8d.	1s 1d.	1s. 10d per foot

Bends and Junctions equally low.

N.B. Drain-pipes of the Manufacture may also be obtained of Messrs. ROBLER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.]

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terra Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—36, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS of ROMAN and other CEMENTS, and PLASTER of PARIS at reasonable prices, consisting of Vases, Balusters, Capitals, Pilasters, Panelling, Cantilevers, Brackets, Trusses, Wreaths, Nine Masques, Heads, Figures, Friezes, Gothic and other Chimney Shafts, Sofits, Bed mouldings, Patterns, &c., &c., 36-inch, Cent Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.

PROTOXIDE PAINT, for Stucco Fronts for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean-street, Soho, London.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT—Messrs. RUTTY and VERYARD, South Wharf, Paddington Basin. Works at Strafford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, and Stone Lime Works, Aldermanbury Cement Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may be prepared to paint, or finished in imitation of stone by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architraves, &c., and from its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster, and Seel-street, Liverpool

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of not only attaining the severest proof, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Internal Coatings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has long been celebrated for its great strength and power to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of cement. And it is used with perfect safety in the driest season; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set from ten minutes to many hours, and from that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory Southfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

PATENT PORTLAND CEMENT.—THE ENGINEERS, ARCHITECTS, SURVEYORS, and BUILDERS, are informed that ROBINS, ASPDIN, and Co. are prepared at their Wharf, Great Scotland yard, Whitehall, a course of experiments to test the adhesive power and strength of their Portland Cements, as compared with those of every description, manufactured by any other parties, and for the satisfaction of the building trade, they hereby invite all Cement Manufacturers to compete with them, either at their Wharf, or any other place to be agreed upon, pledging themselves to establish the great superiority of the cement over all others. R. A. and Co., will announce in "The Builder" and other papers, the time of trial to afford the opportunity of Engineers, Architects, Surveyors, and Builders being present thereat.

MARTIN'S FIRE PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. This fact is duly to direct attention to the following properties, which it exclusively possesses:—

1 It rapidly acquires the hardness of stone

2 Both externally and internally, its hardness is uniform throughout its entire thickness.

3 Its surface, which may be made equal to that of the finest marble NEVER THROWS OUT ANY SALT, and will receive a polish of the most brilliant description. S. and S. pledge themselves that MARTIN'S CEMENT is totally insoluble in water.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

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For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface above it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 108, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

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A stock of those Cements, as well as Blue Lias Lime ground for colouring, always on hand, which may be had at BOARD'S Depôt, Stone-yard, Paddington Station, and of the following Agents, viz., Mr R. Creft, Surrey-street, Kent-square, Liverpool; Mr Baker, 78, Digbeth, Birmingham; Mr Furze, Hodwells-road, Bristol; Messrs T. Child and Co., Temple Backs, Bristol; Mr W. Davey, Quay, Bath; Mr. Grimsdy, Oxford; Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Hurniman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. Southam and Evans, Gloucester.]

The Builder.

No. CCLXXXV.

SATURDAY, JULY 22, 1848.

IN a previous paper, with reference to a recent visit paid by us to Edinburgh, we spoke of the striking beauty of its situation, and alluded to some of the few objects of antiquity which remain there. The hand of to-day has fallen heavily on the works of the old time. First went the ancient city gate, called the Netherbow port, then the city Cross: the front of the Parliament House was modernized, and the Tolbooth, —"The Heart of Mid Lothian,"—pulled down: the tower of the Tron Church was partly burnt down, and the venerable cathedral of St. Giles was recased: gable ends gave place to horizontal parapets; new streets were opened here and there (of course with great advantage in other respects), and the old town thus lost most of its ancient characteristics, and history some of her landmarks. Of the restorations and remodelling of medieval works attempted in Scotland a few years ago, the less that is said the better. Some lines by Byron, however, float through our head, and seem written for the purpose. He says,—

"There was a modern Goth, I mean a gothic
Bricklayer of Babel, call'd an architect,
Brought to survey those gray walls, which though so thick,
Might have from time acquired some slight defect;
Who after rummaging the abbey through thick
And thin, produced a plan, whereby to erect
New buildings of correctest conformation,
And throw down old, which he call'd *restoration*."
* * "Through all ages shining sunny,
For Gothic daring shown in *Scottish* money."

But the want of knowledge and right feeling in this respect was not confined to one side of the Tweed at that time, so we will not throw stones; nor must we speak of modern works in Edinburgh in a tone of lamentation only. If modern wants, outgrowing the Cowgate, defaced the old city, they reared up a new one of no mean excellence and substantiality. The houses of the new town are regular almost to a fault: an elevation for every street previously prepared has been and is religiously adhered to; the mouldings are well profiled, and the whole are of stone. The public buildings are disposed with considerable attention to site; and the streets, moreover, being mostly parallel to or forming right angles one with another, increase the effect of those structures, and throw them into view from constantly varying points. The very uniform colour of the stone used for the houses, the Cragleith, and the extreme, nay, almost fatiguing regularity of the fronts, tend, however, to monotony, and, coupled with the absence of bustle, give an air of solemnity to parts of the new town in some cases more impressive than pleasing.*

The Cragleith quarry, we may mention by the way, from which the new parts were built, is about a mile from the town. Its depth and extent are very considerable, and its appearance exceedingly picturesque: the sides are rugged and precipitous, and two or three ruined cots, at various heights, with the beams of steam-engines projecting, give character and variety to the scene. At the bottom of this enormous excavation a fossil tree of large size was discovered, and has long been an object of curiosity.

The Cragleith stone is now seldom used in Edinburgh but for parts requiring extra hardness, the Binny stone having superseded it. This latter is a very nice material, probably not quite so endurable as the Cragleith, but less costly to work, and of a better colour; for ornamental carving it is particularly good.

At Donaldson's Hospital, now nearly completed, the Binny stone, of which it is wholly built, has acquired a reddish tint since its erection that is very agreeable to the eye. This important structure, designed by Mr. Playfair, has been in progress about six years. It is Elizabethan in character, and forms a square, enclosing an inner *quad*, as they call it at Oxford. It stands upon about one acre of ground, has nearly 700 windows, and presents, when viewed at any distance, a perfect forest of towers and turrets, with their ogive-domed tops. Each of its four angles has a pavilion with four of these turrets; in the centre of the principal front, where there is a more lofty pavilion, there are more turrets, and in intermediate spaces are others. The main front between the pavilions is two stories in height, with buttresses at intervals, and has a parapet formed into a series of gables, with a chimney-shaft rising from the top of each. The general effect of this building is very striking; but the sculptured decorations of the cornice, buttresses, &c., of the mixed character which belongs to the style adopted, want elegance. Within it is fitted up to the extreme of plainness, and is without one apartment corresponding with its external promise. This seems to us a mistake, although it may perhaps be said that its purpose does not require such a room. The dining-hall, which is about 75 ft. by 25 ft., would have afforded an opportunity for what seems to us a *desideratum*. The building is divided throughout into good airy rooms; the woodwork is grained wainscot, and the walls, above a high dado, are painted salmon colour. The total cost of the hospital, it is said, will be from 120,000*l.* to 130,000*l.*†

Edinburgh has numerous charitable foundations, occupying large buildings. There are two or three very close to the last-named, Watson's Hospital, the Orphan Hospital, &c.; and on the south side of the city are Heriot's Hospital, the Merchant Maidens' Hospital, &c. The hospital founded by Heriot, the "Jingling Geordie" of Scott, is the most important in Edinburgh; its revenues are immense, and if common report be true, need careful looking after. Education is provided by this foundation for a very large number of children, not alone in the hospital, but in schools erected by the governors in various parts of the city. There are also exhibitions or bursaries, attainable as well by boys unconnected with the institution, as by those brought up in it who desire to go to the university and have shewn ability: yet spite of these advantages, unless the establishment be greatly belied, to have been brought up in Heriot's Hospital is no recommendation for a youth in the ears of those who know its condition. If this be true, it behoves all who rightly value the importance of good education to aid in obtaining a more useful application of the great means there available.

The hospital, speaking architecturally, is an exceedingly interesting structure of the mixed style (as most of our readers know), which we call Elizabethan,—half Gothic, half Italian; and displays an extraordinary variety in the details, some notion of which is given by the remark of its historian, Steven, that there are more than 200 windows, and no one of them precisely the same as another.

It was commenced in 1628, and appears to have been many years in building, the last important works being done there in 1692. The design is usually ascribed to Inigo Jones, but the grounds for this assumption are very slight. As is observed in the "Baronial Antiquities of Scotland" (where this building is illustrated),—"Although Allan Cunningham says, that those who look on this edifice with an artist's eye will observe, that in the domes, turrets, windows, clustered chimnies, and general proportions, there are many marks of his masterly hand," yet the inference derived from the utter silence of the records, as to Inigo Jones, is strengthened by the respectful manner in which certain "master-masons," a term very frequently applied in that day to architects, are commemorated in connection with the progress of the edifice. Thus the hospital contains a portrait of Wm. Aytoun, master-mason, which has been engraved in Constable's "Memoirs of George Heriot." It is worthy of remark, too, as in some measure bearing on the social position of this individual, that he was a member of the highly respectable family of Aytoun, of Inchdairney in Fifeshire. At the commencement of the building, Wm. Wallace was the master-mason, and he had under him an overseer, Andrew Donaldson, who is spoken of in the accounts as attending at the work, and who seems to have been in reality the master-mason, while Wallace was for the time the architect.

On the death of Wallace, the Governors recorded the sense of "his extraordinary pains and great cair he had in that wark, baith by his advyce and in the building of the same." With Aytoun, who succeeded him, the contract made in 1632 has been preserved, and it seems to have been just the sort of agreement that would have been made with an architect whose duty it was to follow up the plans wholly or partly laid down by a predecessor: thus he becomes bound "to devyze, plott, and sett down what he sall think meittest for the decorment of the said wark and pattern thairof alreddie begun, where any defect beis fund: and to mak with his awin handis the haill mowlds alsweil of tymber as of stane, belonging generally to the said wark; and generallie the said Wm. Aytoun binds and obliges him to do and perform all and quhatsomevir umquhile Wm. Wallace, last maister maissone at the said wark, aither did or intendit to be done at the same."*

Mr. Playfair, of whom we spoke just now, has made for himself an honourable name: he has adorned Edinburgh with numerous fine specimens of his taste and skill, and appears to have, what he is well entitled to, the respect of every inhabitant of the city. The University† (part by Robert Adam), the Royal Institution,‡ and other buildings, although, of course, not in all parts exempt from question, are most honourable to him. He is now erecting a building

* The last part of the new town was built about 1820.

* Mr. James Donaldson, a printer of Edinburgh, left 210,000*l.* for the erection and endowment of this hospital, for the maintenance and education of 200 boys and girls. The building will hold more, and some part of the funds will be appropriated, according to a recent determination, to the education of the deaf and dumb.

* Steven's History.

† The eastern front, designed by Adam, has, in the portico, columns 26 feet high, each formed of a single block of stone.

‡ All who go to Edinburgh should see Mr. Etty's noble pictures, which form part of the very nice collection of works of art in the Royal Institution. They are very large, the figures the size of life, and are an honour to the English school.

for the Free-Church College in the third pointed style. The Royal Institution is in a hollow, as some of our readers will remember, and, viewed from the end of Hanover-street, the new college is seen above it, and then again rising above that, and almost forming part of it, in appearance, rises the spire of the Assembly Hall.

The latter structure, sometimes called the Victoria Hall, was built under Mr. Gillespie Graham: the spire is 240 feet high, and is seen from all parts of the city. It is in the decorated style of pointed architecture, and the tower is superior to most of the modern gothic works in Edinburgh; not excepting the Scott monument, which, notwithstanding the skill and imagination it displays, and that it is a lasting monument of the genius and perseverance of its unfortunate architect, George Mickle Kemp, will scarcely satisfy the fastidious eye of the present day.*

A sad story is that of poor Kemp, and not uninstructive. Our readers will remember the surprise which his design excited when, in competition with many others, it was submitted under the signature of "John Morvo," and the greater surprise which followed when the rough, self-taught man was found that had produced it, and his story had been heard; how that, brought up an obscure carpenter, he had, impelled by his enthusiastic love for gothic architecture, travelled on foot over a considerable portion of Europe, drawing and examining the works of the middle ages, and when the Scott competition was advertised, had sat down to apply the knowledge he had acquired, and entered the lists without a friend. With a thoughtlessness that characterised him, he had not sent his real name and address to accompany the design, so that for some time he remained ignorant of its selection. Of the controversy which followed, his distress, his triumph, and his untimely death, which, but for a too common, but none the less fearful failing, had probably not occurred,—all have heard.

Amongst the living architects of Scotland, Mr. William Burn holds a distinguished place, and Edinburgh contains many specimens of his skill: the Assembly Rooms, the Melville Column, the Orphan Hospital, and other buildings. Although Mr. Burn has left Scotland, and now resides in London, he is executing, in conjunction with his partner (Mr. Bryce), some important works in various parts of the country.

The Western Bank of Scotland, at this time building under their direction in Edinburgh, is nearly finished externally, and is entitled to praise. It is in the Italian palace style, but differs from the ordinary examples of it in England by a greater amount of boldness in the projections and decorations,—slightly, perhaps, to an excess. The cornice is very large, and has a sculptured frieze. The building is three stories in height, has a range of seven windows in front, and will present in the doorway a sculptured group by Ritchie, to which we have already alluded.

In another paper we shall be able to close these notes about Edinburgh, and to speak of the case which took us there.

ARCHÆOLOGICAL INSTITUTE OF GREAT BRITAIN.—The meeting to be held at Lincoln will commence on Tuesday, 25th inst., and terminate on the 31st. Wednesday is set apart for the cathedral.

* The foundation-stone was laid August 15th, 1810, and the building was finished in 1844. Its height is 200 feet 6 inches, and its cost was 15,650*l.* For the statue of Scott, by Steele, which it contains, the sculptor received 2,000*l.*—BLACK'S *Guide*.

THE GAS MOVEMENT.

MISCELLANEOUS NOTES.

NOTWITHSTANDING the distraction of the national attention by the concentration of an age of interest and a world of events within the brief span of two or three months, and the consequent lagging of almost every subject of social home interest, and its absorption into the whirlpool of political events abroad—and even of these too at home—the Gas Movement, though so far suspended, like all but the more stirring social and political questions of the day, has too good a cause, and too much vital stamina, to be either swamped in the vortex or anything like defunct. On the contrary, even of late, the subject, in various aspects, has been passing out of the fostering hand of the journalist, into the fructifying care of the lecturer, and his more exclusive colleague, the scientific member of society. In the Transactions of the Royal Scottish Society of Arts, we find an F.R.S. of the Scottish school, who ranks amongst its highest members, namely, Dr. Fyfe, Professor of Chemistry, &c., in King's College, Aberdeen, reading a paper to the Scottish Royal Society of Arts on the Price of Gas-light in different places throughout the Country; and on the Consumption of Gas and its Illuminative Power, as also on the Relative Value of Gas from different species of Coal. We may have future occasion to refer to this elaborate paper; but in the meantime we have only space to remark that Professor Fyfe has found that "to *light* an apartment to the same extent, and for the same time, by similar methods of consumption, the quantity of gas from Scottish parrot coal required being as 1, the quantity of gas from English parrot coal would be more than double, and that from English caking coal would be five times as great." In taking into account, however, the quantity of gas given off from the coals along with the value of the gases themselves for affording light, he has "fixed the value of the coals as follows:—English caking coal being 1; that of the English parrot coal is on an average 2·3; and that of the mixture of Scottish parrot coal, as used in different towns, as 6."——At the end of last month a short series of lectures on gas, and other artificial light, was delivered at the Collegiate Institution, Liverpool, by Mr. Wright, of London, to which also we can scarcely do more at present than refer. The Liverpool gas, he calculated, costs about 2½d. a pound weight, while the cheapest tallow is 6d. to 7d. The London gas he held to be very inferior in quality to that at Liverpool, though so much dearer. The Liverpool gas, he believed, was about the best in England. The weight of different gases was tested by an invention of his own, in form of a balloon. On the subject of meters and burners, the lecturer enlightened his hearers by an initiation into some of the mysteries of the economics of gas light.——Other lecturers, such as Dr. A. W. Hoffmann, at the Royal College of Chemistry, Hanover-square, have within the last two or three months been variously engaged in diffusing that practical and scientific knowledge of this important subject, to the popular demand for, and interest in, which, lecturers and other men of science and practice, have thus begun more systematically to administer. ——A valuable discovery, it is said, has been made by Mr. W. Kemp, in economising fuel at Galashiels' Gas Works, in Scotland, by which almost all expense of fuel is saved. In his account of this discovery at a late meeting of the Royal Scottish Society of Arts, Mr. Kemp pointed out that where coal tar is burned, it has an injurious effect on the furnace bars and retorts, the greatest annoyance arising from the rapid clinkering up of the furnace bars, to remove which the fireman has frequently to throw water into the furnace, which causes the rapid destruction of the bars. To prevent this, the idea occurred to him of using the exhausted tan-bark of tan-works, which had the desired effect. The force pump for injecting the tar into the furnace was next thrown aside, as it was found that the dry bark absorbed tar equal to its production at the works. The mixture burns clearly. Where tan-bark cannot be had, *peat-moss* makes a good and inexhaustible substitute. Mr. Kemp stated that, in one year, 126*l.* were saved on furnace coal in the gas-work of this small town: and he pledged himself that, in future, not a penny would be required for that article at all.—— We will venture to say that the economising, compensatory, and remunerative processes which reduce the actual prime cost of gas, or the outlay or loss in its manufacture, are unique and unequalled in the processes of any other manufacture on the face of the earth, and that without the necessity, or quite independent, of any new discovery, they are capable, in many instances, of reducing that prime cost or outlay to little or nothing.—— At a recent meeting of the Rugby Gas and Coke Company, the directors, opening their eyes very wide, no doubt, on thus awakening to a sense of their own true interests, "expressed themselves exceedingly gratified in being able to inform the proprietors that *no loss had arisen from the reduction made in the price of gas at the last annual meeting, but, on the contrary, that the receipts had increased.*" Their works had also been extended, to meet the increased consumption it appears; and it was added, that "in consequence of the complete manner in which the works are finished, the ammonia is evaporated, and converted into salt, and the tar is consumed as fuel, so that all causes of complaint on account of injury to the river, and unpleasant smells, are, as far as possible, removed. A contract with the London and North-Western Railway Company, for the supply of gas at 5s. per 1,000 cubic feet, was approved of; and it was also further decided that the price of gas to private consumers should be reduced to 7s. 6d. per 1,000 feet,—a shameful difference (over and above ample discount, no doubt) in favour of the 'large consumer,' to which, and its general prevalence, and to the useful inferences deducible from it, we shall take another opportunity to refer.—This company announced a dividend of 7 per cent. "upon the whole stock of the company"—or on their utmost nominal or fixed capital, we rather calculate; and if they desire to raise that per-centage to double the amount, they will halve even their present reduced price to private consumers.——The Doncaster Gas Company have announced a further reduction of price, which they may depend on it the public will duly acknowledge in the way they wish.——The Appleby Gas Company threaten to shut up shop altogether as 'a losing concern.' We do not find this company on the list of returns to Parliament, but we will venture to say that they have their own prices to blame, and would they only study these returns by the light of our own exposition, they could not fail to be convinced of that, and to begin anew on a right principle.——A somewhat odd proceeding was lately put in practice at Wakefield, by, or on the part of, the town council, who might make their own gas, as the House of Correction does there, at 5d. to 6d. per 1,000 cubic feet, cost price, exclusive of wages and some other smaller items. The watchmen have been employed to put out the public lamps between 11 and 12 o'clock at night,—just about as rational a proceeding as if said watchmen were employed to bung up their own eye-sight with that dirt which is not much cheaper at Wakefield than its gas-light ought to be, and might be. A greater error, as a correspondent of the *Bradford Observer* remarks, could not have been committed, even on moonlight nights, than to allow the watchmen to leave their duty to extinguish the lamps, while the property of the inhabitants is, to say the least of it, more exposed to danger.—— A bright, flaming idea occurred to the Nottingham authorities during the recent pitiful British imitations of the renewed attempts of our French neighbours in turn to imitate Brother Jonathan's more original spirit in establishing his western republic in the last century. At each gate of the gas-house "a moveable pipe, attached to one of the mains, was fixed up, so that the persons inside might pour upon the mob, in case they attempted to break into the premises, a volume of flame, that would force the most daring to desist; and thus the works were guarded, like the necromantic castles of old, by dragons vomiting fire." The idea is one worthy of 'the Celestial empire' itself and its 'fire-devils,' and might be provided, on a pinch, as a formidable means of defence at other gates than those of a mere gas-house.

EXPERIMENTS ON PORTLAND AND ROMAN CEMENTS.

In continuation of the report in our last number, we now give an account furnished us of other experiments on Portland and Roman cements, of Messrs. White's manufacture, with a view to ascertain their comparative adhesiveness to various sorts of stone. The stones operated on were all 6-inch cubes, and were cemented together by a joint ⅜ inches thick, of neat cement. After being allowed a certain time to harden, the joint was torn asunder by a dead weight applied gradually to the lower stone.

Description of Stone.	Age of cement joint in days.	Weight in lbs. that tore joint asunder.	Average adhesiveness in lbs.	Adhesion per square foot in tons.	REMARKS.
1. Portland stone united with Portland cement	10	3,684*	apparatus	broke	It was not till the third trial that this pair of stones could be separated.
	15	3,764*	ditto	do.	
	50†	4,526			
2. Portland stone and Portland cement	56‡	6,000	5,263	tns. cwt. 9 8	Broke at the joint, bringing away from upper stone a thickness of 1-8th of an inch, adhering as a coating on the cement face.
3. Aberdeen granite and Portland cement	50	3,593	..	..	Broke at joint, many particles of granite adhering to cement face.
4. Cornish granite and Portland cement	40	3,277	..	..	Same remark applies.
5. Bramley fall-stone and Portland cement	50	2,738	..	..	The stone gave way before the cement, the fracture only partially revealing the joint.
6. Whitby (Egton) stone and Portland cement	50	2,188	2,048	..	Stone gave way, leaving a coating of stone on cement joint, 3-8ths of an inch thick over half the area.
	30	1,908			
7. Kentish rag-stone and Portland cement	10	..	..	..	These stones, exceedingly hard and refractory, and appearing to have very little absorbing property, broke at joint without fairly bearing the weight of apparatus.
	40				
8. Kentish rag-stone and Roman cement	24	1,455	1,027	..	The result of these two experiments seems to show, that after a certain date, say 20 to 30 days, age does not increase the adhesive power of Roman cement in connection with stone.
	56	600			
9. Portland stone and Roman cement	24	965	896	..	
	56	818			
10. Aberdeen granite and Roman cement	24	804	811	..	
	56	818			
11. Cube of Portland cement, 6 in. each way	66	2,183	..	..	Separated across the middle at this weight.
12. Cube of Portland cement with 1 part sand	66	1,319	..	..	Ditto.
13. Cube of Roman cement neat	66	1,227	..	..	Ditto.

From these experiments it is to be observed, that the adhesiveness of *Portland* cement is greater to *Portland* stone than to any other description of stone; the average of two trials giving a force of 9½ tons as necessary to tear asunder two blocks of 1 foot square on the cemented surfaces.

On comparison, it appears that the adhesiveness of Portland cement to Portland stone is, as contrasted with that of Roman cement to Portland stone, 6 to 1; and of Portland cement to granite, as contrasted with Roman cement to granite, 4½ to 1.

In addition to experiments on crushing and adhesion, various trials have been made on Portland cement exposed in connection with bricks to transverse strain. The result is said to shew a superiority, at the end of three to four days, of two to one in favour of Portland; but at a fortnight old the gain in strength of Portland over Roman is very considerable; Portland cement with four sands, being then more than double the strength of Roman with one sand.

The following trials upon the absorptive properties of Portland cement shew its adaptation for hydraulic purposes:—

A piece of Portland concrete stone, 3 inches thick, six weeks old, weighing 81½ lbs., was steeped in water for twenty successive days, and weighed every fourth day. It ceased to absorb water after the twentieth day, and the total gain in weight was 3¼ lbs., being at the rate of 4 per cent.

Six hard pavior bricks, unitedly weighing 33 lbs., or 5 lbs. 8 oz. each, were treated in a similar way, and weighed every other day. The absorption ceased after the eighth day, and the total gain in weight was 2 lbs. 1½ oz., or 5¼ oz. per brick, being a gain of 6½ per cent.

Six good hard grey stocks, weighing unitedly 32 lbs. 7 oz., or 5 lbs. 6½ oz. each, were subjected to the same process, and on the eighth day gained their maximum of increase, which amounted to 3 lbs. 3½ oz., or 10¼ oz. per brick, being at the rate of 11½ per cent.

* Bore without breaking.
† Half of block, No. 1, in possession of Mr. Rendell.
‡ Half of block, No. 2, in possession of Mr. Walker, who saw it broken.

MEDIÆVAL FREEMASONS' SYMBOLS.

Sir,—Having been frequently pleased with your remarks relative to the scientific attainments of the mediæval architects, I am induced to send you the accompanying observations on an assertion made by a learned professor.

In the "Kölner Domblatt" for February, 1848, there is an article on German mediæval architecture, being part of a lecture delivered for the high city school at Görlitz, by the royal professor and director, Herr Fred. Wilhelm Kauman. The parts of the lecture given in the "Domblatt" are on the "Lodges of the Middle Ages," and "Symbolism of Mediæval Architecture," both of which portions are treated in a most interesting as well as learned manner. But there is *one* assertion made by the professor with which I was at first much delighted, but subsequent examination of the subject has proved, at least I think so, that I was too credulous, and also that there are professors, even in this scientific age, whose geometrical attainments, to say nothing of any other, are certainly not superior, probably much inferior, to those of the mediæval architects. The assertion to which I allude is in the following sentences:—

"The theory of architecture was maintained by signs and sayings in the memories of the brethren as long as those secret lodges existed. Whilst, for example, the Pentagon, composed of three interlacing triangles, the Pentalpha, or five-fold A, the Pentagramma, Alpkreuz or cross A, or Druidenfuss, made use of by the Pythagoreans as a countersign, who placed it in the beginning of their letters, instead of the usual salutation (salus Pythagoræ) which the Druids also carried on their shoes as a symbol of the Deity, was superstitiously considered, only as a sign of safety, or welfare, and hence sometimes the words *salus*, or ὑγιεία, were written in the corner of the Pentagramma,—this symbol was, in particular, drawn on cradles, thresholds, doors, more especially stable-doors, in order to keep away the wizards and witches,—whilst, I say, this very ancient figure has been retained even to this century as a sign of protection against demoniacal powers, the Freemasons, whilst contemplating the geometric figures, considered it as a symbol of deep wisdom. The lines of the triangle forming the pentagon intersect each other in constant proportion. If we make a circle to pass through these points of intersection, the diameter of this circle will be equal to the side of the octagon inscribed within the circle which circumscribes the pentagon," *i. e.*, the diameter *o n* is equal to the side of the octagon A *a*.—See the accompanying diagram.

The last sentence of the extract is the one in question. There is no diagram given in the "Domblatt," but although the German is obscurely expressed, yet I think there can be no doubt of the professor's meaning. If the true meaning be what I have given, then it follows, if I am right in the accompanying examination of the relative properties of the pentagon and octagon, that the assertion of the professor does not embody a fact.

In case you may not have at hand the "Domblatt," I subjoin the exact words of the professor.

"Setzt man in den Durchschnitts-Punct den cirkel, so gibt der Durchmesser des kreises das Achteck des groszen kreises, worin das pentagon construirt ist."

It seems to me that "den Durchschnitts-Punct," should have been "die Durchschnitts-Puncte," *i. e.*, plural instead of singular, otherwise, if we take "Durchschnitts-Punct," for the centre of the circle, and the word "cirkel" for the compasses, which I believe is warrantable, we want to know what is to limit the small circle (kreis): however, the diagram will, I think, make the professor's meaning quite clear. If one judged according to appearances alone, it would be very difficult to dispute the assertion in question, for the line *a b* would, in all moderately sized diagrams, seem to coincide exactly with the tangent *b c'* to the small circle; but supposing we are not content with appearances, and would call that powerful spirit *demon-stration* to our aid, we shall find that there is real separation between the points *c* and *c'*, the distance of which is nearly the $\frac{1}{3\cdot\frac{1}{7}}$th part of S *c*, very little certainly, but enough to prove that the professor's assertion does not embody a *fact*.

If we divide the results obtained geometrically for the side of the octagon and radius of the semicircle by 4 in each case, and extract the square roots, the result will be seen to be precisely like those obtained by trigonometry.

I dare say that I have by this time made you heartily sick of so dry a subject; but it has been thought fitting that we should sometimes, if not always, penetrate a little beyond the mere superficies of objects. I imagine those mediæval architects did so, notwithstanding what may be said by some of our great men (whose opinions, by the bye, it were treason to suspect) of the unscientific, bungling, yet lucky way in which they managed to produce so many gigantic specimens of artistical and mechanical skill.

I shall be glad, of course, to be set right if I have failed in proving my position.

John Burlison.

20, Spring Gardens.

I would further remark, that the "Druidenfuss" is mentioned in Göthe's "Faust."

Given the circle ABECD; let the regular octagon, whose side is *a*A, and regular pentagon, whose side is AB, be constructed within the said circle; draw the straight lines AC, AE, BD, BC, and ED, then draw the circle which passes through the points of intersection, *denfgo:* to find whether the diameter, *on*, of the small circle, be equal to the side of the octagon, *a*A.

Put As, the radius of the great circle, = R; draw Ar perpendicular to aS, and because the angle $AS\alpha = 45°$, rA is equal to rS.

$2rA^2 = R^2$

$$\alpha A^2 = \frac{R^2}{2} + R - \frac{\overline{R}}{\sqrt{2}}\Big|^2 = R^2 \times \left(2 - \sqrt{2}\right) =$$

$R^2 \times .5857864.$

Divide Sb at m, in the extreme and mean ratio, and join mE; then, according to the known properties of the pentagon, $Sm = Em$ and the angle SEm is bisected by the line eg. $\therefore Sg : Sm :: R : R + Sm$, and $Sm =$

$$R\left(\frac{\sqrt{5}-1}{2}\right) - (Euclid's\ E.)$$

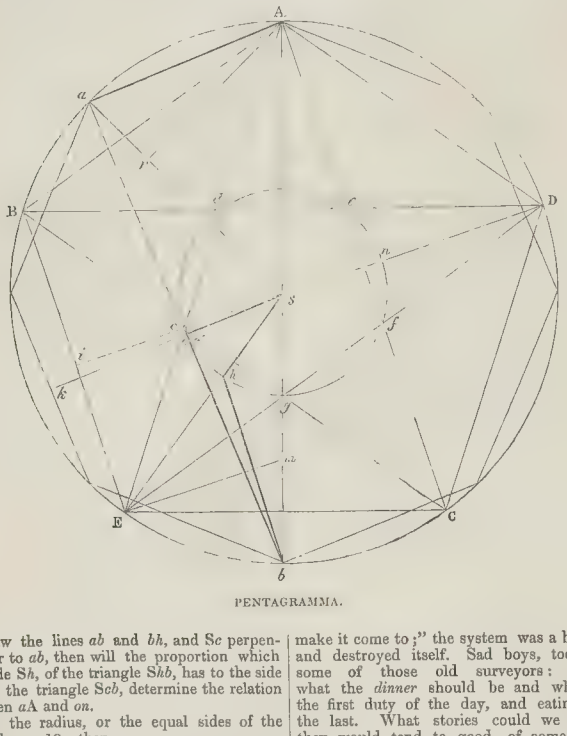
$$Sg = \frac{R^2(\sqrt{5}-1)}{R(\sqrt{5}+1)} = R \times \frac{(3-\sqrt{5})}{2}$$

$$\therefore Sg^2 = R^2 \times \frac{(7-3\sqrt{5})}{2}$$

and $\therefore on^2 = 2R^2 \times (7-3\sqrt{5}) = R^2 \times .583592$

Hence, since the expression $R^2 \times .585786$ is greater than $R^2 \times .583592$, it follows that αA is *greater* than the diameter *on* of the small circle.

A similar result is obtained trigonometrically.



PENTAGRAMMA.

Draw the lines ab and bh, and Sc perpendicular to ab, then will the proportion which the side Sh, of the triangle Shb, has to the side Sc, of the triangle Scb, determine the relation between αA and on.

Put the radius, or the equal sides of the triangles = 10; then

as the sin. $\angle$ Scb,	or 90° log.	10·000000
to the side Sb,	or 10 log.	1·000000
so is the sin. $\angle$ Sbc,	or $22\frac{1}{2}$° log.	9·582840
to the side Sc 3·827,	nearly,	582840

And

as the sin. $\angle$ Shb,	or 54° log.	9·907958
to the side Sb,	or 10 log.	1·000000
so is the sin. $\angle$ Sbh,	or 18° log.	9·489982
to the side Sh 3·820	nearly,	·582024

Hence the side of the octagon $A\alpha$ is to the diameter of the small circle on—

As 3·827 is to 3·820 nearly, the diameter of the large circle being 10.

THE MEASUREMENT OF ARTIFICERS' WORK.*

In younger days we spent a good year in measuring all sorts of artificers' work, making out the accounts and examining into prices: from early morn till late in the evening we scrubbed away at this, and so far from ever having had occasion to regret the time thus spent, consider that it was most advantageously passed, and have found reason to congratulate ourselves upon it. Builders' work was more generally measured then than it is now (although not *many* years ago either), the custom of contracting having mainly superseded it, and, if the truth is to be told, not before it was desirable. "Measure and value" had been turned into "measure and what you can make it come to;" the system was a bad one and destroyed itself. Sad boys, too, were some of those old surveyors: settling what the *dinner* should be and where, as the first duty of the day, and eating it as the last. What stories could we tell, if they would tend to good, of some of the Government measurements under a schedule of prices,—of a kitchen, for example, which was measured and paid for only four times, or of a Government officer who would say to the builder's surveyor on a hot day,—"Now, my good fellow, you can do this as well without me as with me, so I'll go and sit down at —— till dinner-time,"—but, no; peace be to the memory of those times: they have passed away never to return. Let them sleep.

A knowledge of architectural mensuration is still, however, desirable, as this must always be practised to a considerable extent, and Mr. Reid's work, just now published, will be found very useful in acquiring it: it includes, too, instructions for making out bills of quantities for estimates, illustrated and simplified by plans, sections, and details. He has taken a first-rate building, in conformity with the "act," and given the specification, plans, &c., "and the entire admeasurement of the parts thereof, in accordance with the *most minute* and customary methods at present adopted by all the eminent measurers of the day; explaining, also, the mode of taking the dimensions and working them out, abstracting and completing the bills of quantities; to each item of which is affixed the prime-cost value, calculated according to the current prices of materials and labour:" it is a veritable dimension-book and bill-book in print, with annotations and additions.

Our author says he has adopted "the most *minute* methods" adopted by measurers. It is just this extreme minuteness and separation of the work on one article, which has made "measure and value" and "a fair price" convey two different meanings. Sound as the mode may be in theory, when we take a morsel of stone, for example, and first measure the stone itself, as stone, and then take the sawing upon it, and then a plain bed, and then the plain work that is rubbed, and then the sunk work, and then a throat under the lower edge, and then a chamfer to the top edge, and then a mitre, and wind up with two or three mortice-holes for iron bars, and then price all these separate processes at the fairest possible approximation to the cost of each when alone,—we find, although perhaps we are only dealing with pence, that the sum total comes out, as might be expected, something more than the thing itself, as a whole, can be produced for; and when this same process goes on all through a building, the difference becomes considerable. This, however, belongs to the system, and not to our author, who appears to have executed his task in a very satisfactory manner. This work will scarcely make a surveyor by itself; actual practice and information obtained on the spot, are necessary for that; but it will do much in shewing the student how he may become one, and will otherwise shorten the road very considerably.

* The Young Surveyor's Preceptor: a comprehensive analysis of the art of architectural mensuration; being a familiar practical system by which the student may teach himself to ascertain the dimensions, quantities, and value of builders' work. By John Reid, Surveyor. Basevi: Drake-street, Red Lion-street.

CIVIL ENGINEERS' COLLEGE AT PUTNEY.

On Tuesday last the annual meeting was held for the presentation of prizes awarded to students in "Putney College for civil engineering and general practical and scientific education." The president, the Duke of Buccleuch, who was in the chair, called upon the Principal and the professors *seriatim* to make their reports, from which it appeared that they had reason to be satisfied with the improvement in the state of the college, both educationally and morally. The Rev. Morgan Cowie, the very active Principal, in the course of his statement, regretted that their standard in *mathematics* was not so high as it should be. This is greatly to be regretted, and if the remedy in any degree rest with the council, should forthwith be attended to:—this failing is of the most serious import.

Dr. Lyon Playfair, in his report, said the course there on chemistry and physics was the most extensive of that in any college he knew, consisting of 200 lectures. It had usually occupied two years, which was a disadvantage, but they had now obtained the assistance of Mr. J. A. Philips, and should be able to get through it in shorter time.—Professor Ranger spoke very encouragingly of the proceedings of his classes, and said the replies to the examination papers by many of the students were beyond his expectations.* They had not visited so many buildings as on previous occasions, but the failures on the Richmond line, which had been numerous, had afforded them sufficient matter for inquiry!

The president, in addressing the meeting, and congratulating the committee on the progress that had been made, dwelt upon the importance of gentlemanly conduct on the part of the students.—His royal highness, the Duke of Cambridge, who took much interest in the proceedings, as well as in some interesting experiments with the electro-magnet which followed, urged, that without good principles learning was of no use.—The Bishop of London made an admirable address, pointing out in the course of it, that the union of religious instruction with scientific training was only to be found in England, and that we were now reaping the benefit of it. The reward for good conduct, conduct based on religious feeling, was temporal as well as eternal; it was a matter of course that, other things being equal, men would rather trust large and important works to one for whose consistent and good behaviour there was a sound assurance, than to one of contrary reputation and habits. He could not avoid contrasting, most favourably for England, the conduct of the pupils of the *Ecole Polytechnique* and other foreign public seminaries in times of political excitement and tumult, with that of the students at Putney and elsewhere who, when the peace of the metropolis was threatened, at once volunteered in defence of order.

Sir Charles Pasley afterwards addressed the meeting, and said, that being asked some time

* These papers, so far as relate to architecture, we will find an opportunity to print, as they are suggestive objects for study, and useful for self-examination.

ago to suggest a course of instruction for some orientals who were to be brought up as engineers, he had recommended Putney College, thus shewing his good opinion of it. The pupils had many and great advantages, and ought not to misuse them. When it was remembered what Telford, his friend, had done (a man who had raised himself from the obscurest position by his own efforts), it would be seen that the highest honours were open to them with greater opportunities for succeeding. Smeaton was brought up a watchmaker, and worked his own way; and one of our leading engineers at this time had told him that he had, in his youth, worked as a millwright at 3s. a day: what would these men have done if they could have had the advantage of the college?

In architecture the prizes were awarded to Broadrick (class 1), Shearwood (2), and Hayton (3).

In civil engineering, to Codrington (class 1), Kershaw (2), and Riley (3).

With no other feeling than good will towards this Institution, we venture to urge, in concluding our notice of a very agreeable morning, that the professors should give a little more consideration to the preparation of their reports: they are not speaking of children or to children, and should assume a higher tone than that which was observable generally on this occasion.

THE LABOUR QUESTION IN FRANCE.

At the very outset we ventured to record a prediction, that, if the communist or socialist principles then in the ascendant "continued to prevail, or even to struggle and be recognised in the movement at Paris, the republic would be torn to shreds between the commercial and the operative classes, between the capital and the labour, between the Boulevards, as it were, and the Faubourgs of the city,"—a prediction which is now being fearfully fulfilled. The powerful monster, nurtured in the arms of a republic horrified with the sinister and unseemly visage of its own progeny, even while, in its paralysis, unresistingly allowing it to drain to the dregs the limited circulation of its very life's blood, has at length been strangled in the midst of horrors which it needed not the dreaded guillotine to aggravate or even to equal. The labour of the new birth of France has indeed produced an industrial caricature, both gross and terrible, of the "rights of labour." Brimfull of horrors though it has been, however, Paris has to be thankful that the defenders of the cause of order have prevailed, since, in the sacred name of Labour, work of a still more fearful order would inevitably have been now in progress. Even as it is, we shudder to think of the untold misery which the abrupt dissolution of an organization of much more than 100,000 poor *misguided*, far more than guilty, people, must henceforth *add* to the intense wretchedness with which the Faubourgs already teemed, and which not the best of good-will nor the most strenuous of endeavours on the part of those peremptory authorities now in power, can do much to diminish, in a city devoid of anything like union workhouses. The republic having deliberately fostered such a rankling, eating cancer in the body-corporate, is in duty bound to the utmost to assuage its pain, to soothe its irritation, and to restore it to a healthy and quiescent state.* And it is highly satisfactory to have an apparently earnest assurance from General Cavaignac that every thing within the bounds of possibility is being done, and will be done, to that most devoutly to-be-wished-for end. "I leave to the Minister of Finance to point out the principal measures which will be proposed to you," said the General, in announcing the dissolution of the national ateliers, "but I must mention that the object of one is to allot a credit to a society called the Builders' Society. The demands made by that company are remarkable for their justice and moderation. When the assembly shall have examined these measures, if it thinks fit to approve of them, I doubt not that other associations will hasten to follow the example of the society alluded to. This, gentlemen, is what I have to communicate to you, and I hope, with your support, that we may be able to surmount the difficulties of the present state of affairs." The assembly received this announcement with marked approbation, though the Finance Committee have expressed their fear that a loan to the builders will be dangerous in principle, and their belief that it would be more advisable to strengthen the discount banks than to make a loan. Mr. Leon Faucher proposed to offer premiums to builders, in order to obtain healthy habitations for the working classes, as in England.

The architects and master builders themselves, at all events, have expressed a willingness to repay loans from the State with interest, engaging to expend the money in building, by means of which, and from the highly ornamented style of Parisian construction, not only all kinds of workmen, but even of artists, would require to be employed.

It is seriously under consideration to have the Rue de Rivoli carried on to the Bastile, or to cut a wide street from the Louvre to the Bastile, thus fulfilling the design of Napoleon, to place the Tuilleries and the Louvre midway between two gorgeous avenues, the one crowned by the Arc de Triomphe de l'Etoile, at the top of the Champs Elysees; the other by a colossal elephant, emblematic of the eastern world. Besides cutting a broad way through those narrow defiles, which, when barricaded, were hitherto deemed impregnable, such a line, if effected, would necessitate the opening of wide lateral streets, so that the filthy quarters of Paris would be rendered both physically and politically healthy. The plan for completing the Louvre had been settled in 1840, but could not, on account of the expenses of the fortifications, be proceeded with, and for the same reason could not be resumed. The difficulty now will be to find money—but this difficulty, as the *Times*, from whom we quote, hopefully suggests, is not so great as might be imagined. "The Parisian *bourgeois* has a passion for building. The tradesman or shopkeeper who makes money never thinks of investing in land, or even of enlarging his business. He buys or builds some immense castle of a house, and of that he makes his estate. In fine, it is right that Europe should know, and it is consolatory to think, that instead of meditating aggression as a means of getting rid of dissatisfied workmen and fiery spirits, the statesmen of the day are thinking of using these *forçats* for the beautifying, and enriching, and restoring of their great city. Should they be well seconded, it is hardly possible to doubt that the means will be raised, at least, sufficiently to set the works going, and lay the foundation of confidence and credit, the great sources of prosperity. A country naturally so rich need never despair, and does not despair. There are even in manufactures many things of which the French must for a long time have a monopoly. In all branches in which correct design enters as the main attraction, the French enjoy undoubted superiority."

Let us hope for the best then for '*pauvre*' France. The harvest itself promises an additional resource immediately available in the clearance of the cities and towns from the miscellaneous riff-raff of all descriptions, and advantage is to be taken of their temporary agricultural pursuit permanently to purge these centres of mischief and idleness, by restoring to the country thousands who should have never quitted it.

* It is scarcely necessary for us to note, that the mere assistance given to the working classes during the first days of the revolution was not what we reprobated. On the contrary, such assistance could not but have met with our warmest sympathy at such a crisis, had it not been based on principles, and supported by promises, beyond all practicability, and carrying in their own enunciation the inevitable seeds not only of those bloody fruits which have since been reaped, but of their own final annihilation, even though they had been to this hour successful.

Reinterment of Gundreda's Remains.—Our readers will remember the excitement caused in the antiquarian world by the discovery of the coffins of the Norman Gundreda and William de Warenne in the priory ruins at Lewes last year. On Tuesday, 10th inst., these remains were interred in Southover Church, where the very interesting carved Norman slab which formerly covered Gundreda's grave in the priory, has been placed for some years. A mausoleum of Caen stone has been erected on the south side of the church.

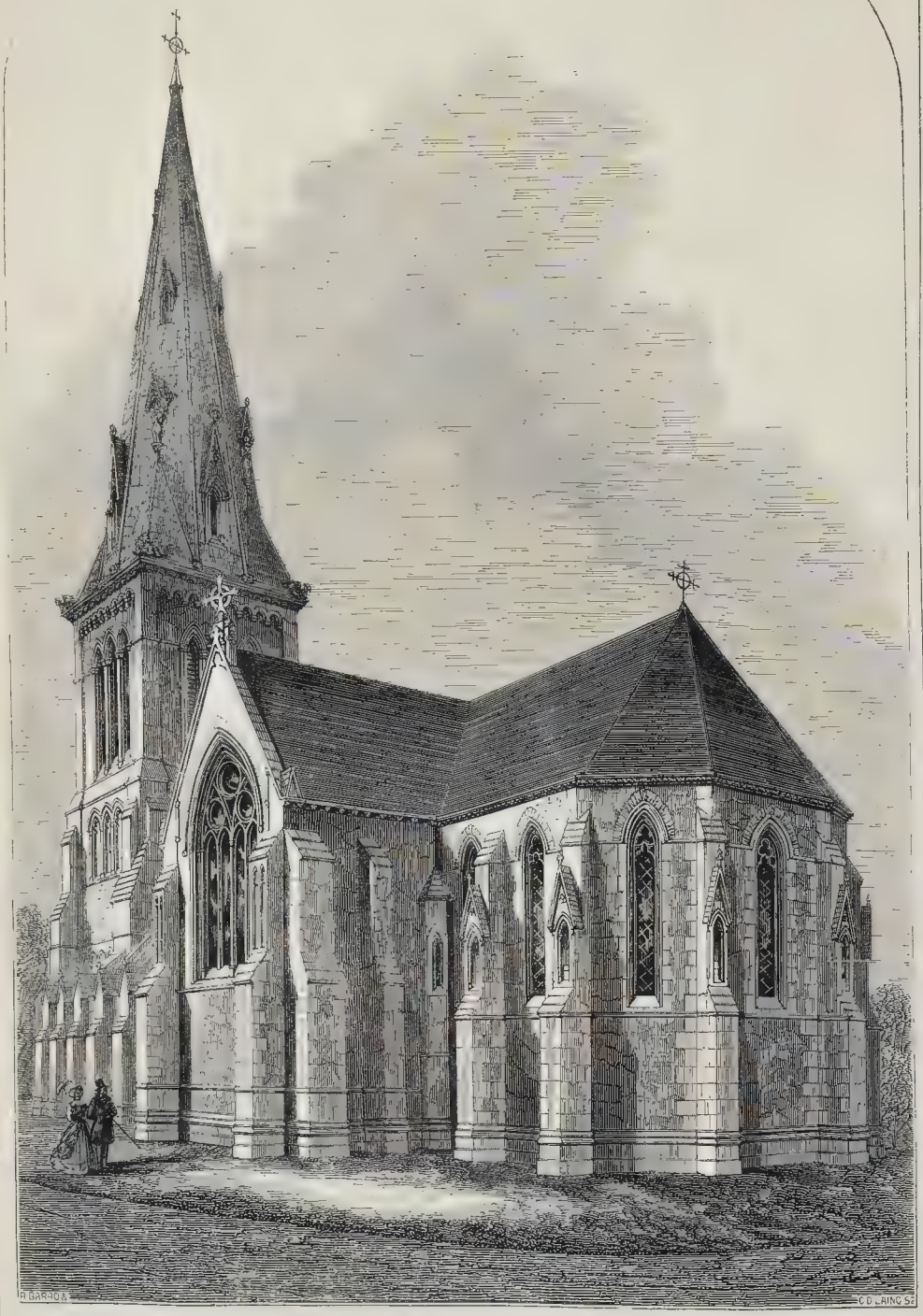
"THE CHANCELLOR'S CHEESE-PARINGS."

In an article under this head, and while quizzically pretending to have yielded himself up to visions of substantial retrenchment by the Chancellor of the Exchequer, aided by the voluntary advent of aristocratic sacrifices of superfluous pensionary contributions, whispered confidentially and believed implicitly by a mistaken contemporary who had been at length obliged to confess he had been hoaxed, the *Gateshead Observer* goes on to observe that the Chancellor, turning his back on the aristocracy, who would no doubt pocket the affront, has addressed himself to the democracy—to the "common people;" "and the curiosity which we had felt," says he, "to learn the details of his experience as a 'snapper-up of unconsidered trifles,' was gratified with a vengeance when we learned that Sir Charles, coming nearer home than was agreeable, had saved one hundred and fifty pounds a-year by abolishing the Newcastle School of Design! Yes! this popular institution, the value of which is stated, certainly without exaggeration, in a memorial which has been addressed to the Board of Trade, is to fall a sacrifice to the imbecility of the Government. Granted to Newcastle in 1843, by Sir Robert Peel, mainly at the intercession of the member for Gateshead, it is taken away in 1848 by Lord John Russell. Pampered indolence retains its hold of the public purse: the modest pittance of a laborious artist, who humbly and unobstrusively devotes his nights and days to the refinement and elevation of individuals and of society, is rudely withheld. The Chancellor wants the money, and the pretext—any pretext—is laid hold of, to excuse the deed.

"Our Liverpool friend aforesaid, the more indignant because his confidence had been misplaced, exclaims [with reference to the pitiful oppressions of the poor landing-waiters and others in the Customs]:—'Thus it is that those in power deal with the working bees! Why do they not direct their attention to that part of the hive in which the drones are so lavishly supplied with honey which they take no part in producing, and for which they make no return in any way?' Ah! why, indeed? We pretend not to know how it came about that the Government fell so ghoulishly upon Goole,—cut down the salaries of the Customs-officers, extinguished the landing-waiter, and laid about them, right and left, until they had squeezed 300*l.* a-year out of the degraded port. Possibly, however, the Commissioners were asked, like the heads of other departments, if any reductions could be made in their direction, and cheerfully consented to devote any or every officer of the Customs to the sacrificial knife, save and except themselves!

"Have these gentlemen ever read the old Dutch chronicle which the witty canon of St. Paul's discovered (or invented) for the edification of the bench of bishops? The reform, begun at Goole and threatening Hull, may reach the Thames. The Pentagonal Board is not invulnerable. There is a growing suspicion that four of the five commissioners might share the fate of the abolished landing-waiter, and the business of the Board be all the better transacted for the massacre. Let their Excellencies see to it that their own doom is not at hand." There are other Excellencies than these, we fear, who should see to it too.

London Antiquities.—One of the most valuable existing collections of London antiquities was yesterday brought to the hammer by Messrs. Sotheby. It had been accumulated at considerable trouble and expense by a gentleman, who, we believe, was formerly in the employ of the corporation, and who, previous to the sale by auction, offered it to that body for a sum much below its real value. The offer was, of course, declined. But what becomes of the assertions made now and then so emphatically of the anxiety of the city authorities for a museum? The value of the collection just sold lay in the authenticated proof of the objects having been dug up in the city, and it should therefore have been kept intact, and if the city refused to purchase, it was then the duty of the British Museum directors to have treated for it. But nothing of the kind was done, and the labours of fifteen years were overthrown in three hours by the auctioneer's hammer.



SOUTH HACKNEY CHURCH.

MR. E. C. HAKEWILL, ARCHITECT.

SOUTH HACKNEY CHURCH.

IT is upwards of three years since this church was commenced; and having watched with some interest its gradual progress towards completion, we may say that, long as this time appears, we do not think that either the artificers, or those who have had the direction of them, have been idle in their work.

On the 30th December, 1844, the men commenced digging for foundations; in February, 1845, the concrete was commenced; the first stone was laid May 15; on the 1st September, 1847, the spire was commenced; on the 21st February, 1848, the cross was fixed on it; and on Thursday, the 20th inst., the building was consecrated.

It is a cross church, in the Early English style (or first pointed), of very large dimensions, and possesses considerable grandeur from the breadth and simplicity of its parts, while the delicacy of the carving and other detail admits of close inspection. Throughout the whole, "truthfulness" has been systematically adhered to: there is no deal stained to look like oak; no "cast" ornament; no plaster groin, scored and coloured to look like (how unlike!) stone: but we see a stone-groined ceiling over the whole of the chancel, spanning upwards of 30 feet; the ceiling of the intersection boarded over its natural construction, and painted with appropriate texts and emblems; while the rest of the ceiling is merely the under side of a roof, boldly and substantially constructed of fir, for the most part, we believe, unwrought, but designed after the manner of the early woodwork of the fourteenth century. The same feeling pervades the walls, where, though stone is freely used in the piers, arches, spandrels, corbels, and windows, yet where plastering appears as a covering to the rough stone (no bricks have been used), there is no attempt to make it seem other than it is.

All the seats are of oak, and mostly formed of stall-ends, with finials in great variety. The two first seats are well carved, on the elbows of which appear, on one the crest of the rector and the badge of the patron saint, and on the other side the dove with the olive branch, and the lynx, as an emblem of watchfulness.

The pulpit and reading desk, of oak, stand one on each side of the chancel arch, and are well designed and executed: they are each raised a few steps only from the chancel floor, which is covered with encaustic tiles.

A stone seat runs all round the chancel, under a continued trefoiled arcade, in seven triple compartments, which form the sedilia and the table of prothesis, on the north and south, while the altar-table and two chairs occupy the eastern sides: the two compartments outside the altar-rails are occupied by the rector's seats and the entrance to the vestry.

Mr. Edward C. Hakewill was the architect.

These are the principal dimensions of the church:—Total length, *internally*, from east to west, 172 feet; viz., chancel, 44 feet; nave, 103 feet 6 inches; tower, 24 feet 6 inches: total length, *externally*, 192 feet: total width, internally, 61 feet; viz., nave, 37 feet; north and south aisles, 12 feet each: total length in transepts from north to south, 92 feet: height, internally, from pavement to highest part of roof, 60 feet; externally, from ground to top of cross of spire, 187 feet.

The following details of the cost may be useful for reference hereafter.

The amount of contracts with the Church Commissioners was		£11,819
Thus separated:—		
Cobb (mason)	£7,429	
Norris (carpenter)	1,100	
Cooper (slater and plumber)	432	
Hawken (joiner and pavior)	736	
White* (contractor for the spire)	1,150	
Architect's commission, clerk of works, and incidentals	972	
Amount of decoration-fund, aided by subscriptions, for the following purposes:—		1,563
The oak pewing, screen, reading-desk, and altar-table	£412	
The arcades of chancel, and stone groin of ditto, and the stone carving	995	
The painting of chancel, and sundries	156	

* Most of the carving was executed by White.

CARVED CHIMNEY-PIECE: SAFFRON WALDEN, ESSEX.



Amount of works afterwards agreed to, in addition to the above, viz.:—		
Painting ceiling of intersection (25*l.*), additional oak seats (88*l.* 8s.), pew doors (80*l.*), slate louvres in belfry windows (40*l.*), lining inside of doors with oak, fittings of vestry, and contract for warming, by W. Jeakes (175*l.*)		630
To these amounts must be added the value of individual gifts to the church, including,		
The seven painted windows of chancel (by Wailes)	£350	
The west windows of aisles (by the same)	80	
The two single-light, north clerestory window (by Castell)	10	
The single-light, south clerestory (by Ward and Nixon)	16	
The memorial window (by the same)	26	
The two transept windows (by Powell)	125	
The pulpit, gift of the rector's wife, Mrs. Norris (by Bennett)	75	
The altar rails	50	
The font	30	
With other items		878
The eight bells (given by several individuals)		700
Architect and clerk of works, extra		150
Making a total of		£15,740

The church will accommodate 572 persons in pews, 462 in the free sittings, and 466 children;—total, 1,500.

SANITARY STATE OF ST. MARTIN'S-IN-THE-FIELDS.—Complaints have been made by a number of householders and ratepayers, that the churchwardens have refused to convene a vestry-meeting on the vile state of various courts, streets, and yards, though requested by 100 householders to do so, while ready enough to give the use of the vestry-room for party or political purposes.

CARVED FIRE-PLACE, FROM SIR THOMAS MORE'S HOUSE, CHELSEA, NOW AT SAFFRON WALDEN, ESSEX.

THIS fragment of the period of the *Renaissance*—for it is only the upper portion of an enriched chimney-piece—is now fitted up in the private residence of Mr. Francis Gibson, at Saffron Walden, Essex. It did not, however, originally belong to the town or county, but is traditionally reported to have been brought from Beaufort House, Chelsea, the residence of the great Sir Thomas More, and where Erasmus has commemorated his visit to him. That house became afterwards the residence of a series of noblemen most remarkable in history. Lord Burghleigh and Sir Robert Cecil held it. It was afterwards purchased by Charles I., and by him presented to George Villiers, Duke of Buckingham. During the Protectorate, Bulstrode Whitelocke lived in it. At the restoration it was given to George, second Duke of Buckingham. It then passed to the Duke of Bedford, and ultimately to Sir Hans Sloane, by whom it was pulled down in 1740. Sir Robert Cecil is said to have rebuilt the house in the reign of Elizabeth, but he may have re-used many of the internal fittings and decorations, among the rest this chimney-piece, which was too fine a work to be slighted, and is certainly of More's period: the style of its enrichment is precisely similar to that adopted by More in the chapel he attached to Chelsea Church, as displayed in the columns, &c., of that building. This chimney-piece is richly carved in chesnut, the figures in very high relief, that in the centre standing within a deeply cut circular frame. It is not very easy to say what this figure is intended to represent; it is most probably one of those allegorical representations of one of the virtues or senses, whose triumph is displayed beneath, such moralizations being very common at the period when this carving was executed. The ornamental details of each pilaster are executed with much delicacy.

THE BUILDERS' BENEVOLENT INSTITUTION.

FIRST ANNIVERSARY.

THE dinner in Freemasons' Hall on the 19th instant passed off as well as favourable prospects, full attendance, and good cheer could make it. These latter causes, however, and the good humoured buzz of fellowship in which they were naturally manifested, tended not a little to prevent our reporter from doing justice to the details of his more grave and sober duties. Lord Robert Grosvenor was in the chair, and was supported by Professor Hosking, Mr. Gutch, Mr. Kendall, Mr. Kendall, jun., Mr. I'Anson, Mr. Bird, Mr. George Bird, Mr. Ponsford, with various other gentlemen hereafter named, and a goodly company of between 150 and 200 gentlemen, with a *fair* sprinkling of ladies in the gallery.

Mr. Biers in the course of the evening read several, and alluded to various other, letters of apology for non-attendance, among which was one from Lord Morpeth, expressive of his Lordship's consciousness that he "had got himself into a scrape" by keeping himself disengaged for the dinner on a day, namely, Saturday, when he now found that he was but too likely to get no dinner. Having, therefore, unwittingly made other use of Wednesday evening, he had determined to fine himself in the sum of ten guineas, and further to hold himself bound in duty to be at the disposal of the Builders' Benevolent authorities, as Chairman or otherwise, at the next anniversary.

The loyal feelings of the assembly (and right loyal they were), having had vent in the usual orthodox phalanx of toasts, the Chairman proceeded to "the toast of the evening," namely, "Prosperity to the Builders' Benevolent Institution," when his Lordship renewed the previous expression of his good wishes on the foundation of the institution. In predicting success, it was incumbent on him, as on all, to do everything in their power to realise their own prediction. And certainly, when they looked back upon their first meeting on 19th July last, in a small room (on a very warm day by-the-way), and contrasted that with their present assembly, there was good reason to hope that an institution, the planting of which had so soon begun to attract attention, would prosper and grow up into a goodly tree. To his own assurance of support already given, he hoped his occupation of the chair on the present occasion would prove that he was not unfaithful. He only regretted that the work had not been done twenty or thirty years since. Of all trades that of the builders was the least excusable, seeing that they themselves so often lent an indispensable hand in the establishment of all sorts of Asylums for the unfortunate in other trades and professions. He trusted, however, that receiving his remarks in the spirit in which they were given, they would now, at least, make up for lost time. And he was glad to think that in spite of an almost unparalleled season of depression, contributions so extensive had already been made. These were hopeful signs of life; but they must not forget, that the institution could not proceed to business till the full amount of the sum decided on (4,000*l.*) should be realized. In course of his speech, the noble Lord drew particular attention to the statement of the president in the printed report of the first general meeting, in which the whole subject was engrossed, and which his Lordship said should be stereotyped for the refreshment of their memory at every future anniversary meeting of the friends of the institution.

On rising to read the secretary's report, Mr. Biers said that the predictions of his lordship (Lord Grosvenor) were indeed being realised to an extent no one could have supposed. Up to the present time, large subscriptions and donations were being received (amounting in all, as we understood, to upwards of 1,000*l.*). He admitted the singularity of the fact that while almost all other classes of trade in the metropolis had benevolent institutions, a body of men such as the builders should have wanted one till now. With such support as they were now receiving, however, he did not see how they could fail in the complete, even though dilatory, accomplishment of the end in view. Not only had Lord Robert Grosvenor and other noble Lords and Members of Parliament, and gentlemen of various classes in society, well supported them in the attainment of an extensive design of charity, comprehending not only trade subscribers, not only unfortunate metropolitan builders, but others throughout the country, and not only these, but workmen also,—a design therefore, which builders alone, with their locked-up funds, were unable, by mere individual subscription, to accomplish,—but they had also received the most friendly support of other parties more or less in connection with them: such were the official referees—such were the district surveyors almost to a man. Under auspices such as these, then, was it at all surprising that they should meet here under the most hopeful circumstances, and with the most favourable prospects? Will it not rather be surprising if we do not henceforth progress still faster than heretofore, with the support of parties of all descriptions, a list of whom, now in his hands, he was happy to say, and in the face of a depression so great and so general, redounded to the credit of all. Zealous as he was, he had almost despaired at first in bringing out this cherished institution under anything like the favourable auspices which alone would have satisfied his desires: but when he already saw around him nearly two hundred gentlemen assembled together for the sole purpose of promoting the interests of this charity—of relieving in old age and misfortune those who had failed in their endeavours to accumulate the power to do so for themselves—he had no longer any doubts of meeting with the most complete success. It may be said, and he knew it had been said, by parties who belong to somewhat similar institutions, that funds have already been collected for such exigencies. True, there were some local societies, such as those of the city corporations and others, he was happy to say, but the benefits of these are limited to parties subscribing for their own behoof; whereas misfortune alone, without even the passport of a single shilling in the shape of subscription, constituted the sole claim to aid from the new institution, and the greater the necessity the higher the claim. To relieve such an immense mass of misfortune as that with which they meant to cope, it was absolutely necessary that something like adequate funds should be in the first place accumulated. And if 4,000*l.* should prove a stumbling-block in the way of so much contemplated good, he should certainly be ashamed of his own trade and of those who should support them in so extensive and general a design of charity. Their subscription lists, however, were beginning to tell another tale. The speaker then went over several long and weighty lists of names and subscriptions, old and new.

The health of the chairman was then cordially drunk, and responded to by his Lordship, who said, that as he had acted in capacity of chairman for no less than twelve hours in all, there and elsewhere, that day,—an item, as it was merely, in the still more tedious term of 145 hours, during which he had of late sustained the same honourable post in the Dublin Election Committee,—he hoped they would excuse his now retiring, with best wishes for their continued prosperity.

Mr. Grissell was then requested to take the chair, but declined, on the ground that Mr. Biers, as the president of the institution, was the proper person to do so. Mr. Grissell dwelt at some length on the advantages of the society, expressed his warm feelings in favour of it, and ended by proposing the health of the president, for whom he had much esteem: a more zealous, useful, and diligent member of society, he was assured, did not exist.

The health of the three official referees being proposed with due encomiums by the president, who said he had good opportunity, in a Committee which lately sat on the Buildings Bill, to observe the integrity with which they discharged the duties of their office;—

Professor Hosking returned thanks in an able but brief speech. Feeling warmly as he did the importance of the institution, the anniversary of which they had met to celebrate, and cordially concurring in its excellent objects, he had felt himself bound to accept the invitation to attend there that day, and to give it all the advantage which his presence, from his official position with reference to the building interests, might be thought to afford.

The "District Surveyors" were next proposed as a toast, with thanks for the ready assistance they had at once afforded. The toast was warmly responded to, and Mr. Gutch (Paddington) returned thanks neatly.

The President then said, without publicity and advocacy they could have done nothing; the press had aided them warmly, and deserved their best thanks, and no portion of it more so than THE BUILDER. He would venture therefore in proposing "The Press," to couple with the toast the health of the editor of that publication, Mr. Godwin.

Mr. Godwin said his name had never before been connected publicly with THE BUILDER; but inasmuch as whatever deficiencies there might be in that publication, no bad motive or ill-feeling had ever dictated a line in it, he saw no reason why he should refuse to acknowledge the toast which had been so kindly proposed by the President. His great aim in that publication was to spread information, to aid merit, to advocate the right, and induce good-feeling. As to the periodical press generally, whose sphere was so much larger, and province so much more extended, than that of the particular journal named, no thanks which that meeting could give, no praise which it could award, would be too great. The periodical press was the ruler of society, and as to the press of England in particular at that moment, he would unhesitatingly assert that it merited the applause of the world. If any proof of this were needed he would remind them of the manner in which the press, during the late excitement, had almost unanimously come forward and advocated powerfully the preservation of order, and the maintenance of the constitution, while they nevertheless urged the redress of grievances. He would take this opportunity of remarking how admirably the building operatives had behaved at this same time. There were some few who avowed themselves discontented, and it could scarcely be wondered at, considering the amount of distress prevailing; but the great majority shewed they saw clearly, that any steps which would tend to the injury of their masters would go to the ruin of themselves. This was the time for the masters to shew a full consideration for their men. They themselves had suffered great depression, but he believed, with their musical friends, that there was "a good time coming," if they would "wait a little longer." The importance of the building interest could scarcely be overrated. Abroad they said, "when building goes well all goes well," and this was quite true. Builders had improved greatly in position of late years: intelligence had spread and almost as a matter of course, this institution, so long in coming, had arisen. The advantages it promises are great, and not merely to those who may need its assistance. It gives the feeling of shoulder to shoulder and help one another; it will induce habits of forethought and provision; and, better still, shews that a spirit of charity is abroad,—a charity, too, which extends beyond the mere giving of money,—a charity which extends to sympathy. He assured them he felt the deepest interest in the progress of the institution, and trusted it would gain strength with time, and become not merely a refuge for those who might be overtaken by adversity, but a bond of union between what were too often ignorantly considered antagonistic classes.

THE BRICK DUTY.—At Wordsley petty sessions, lately, Messrs. William and John Warr, brickmakers, were charged with a fraud on the revenue by placing 2,096 bricks in their kiln before they were charged with duty. The defendants called witnesses, and cross-examined the exciseman, so as at least to shew the possibility that the charge might have arisen from the exciseman's own negligence; but they were "fined in the mitigated penalty of 12*l.* 10*s.* and duty on 2,096 bricks;" so that the brick duty seems to throw the responsibility of an exciseman's negligence on the parties over whose power or opportunity of committing such inaccuracies he ought himself to be the check.

ACTIONS ON BUILDERS' BILLS.

COULSON *v.* BRANSON AND GWYTHER.

The following case was heard in the Court of Exchequer at Westminster Hall, on the 27th ult., before the Lord Chief Baron and a special jury.

It was an action brought by the plaintiff, a working bricklayer (*in formâ pauperis*) against the defendants, who are contractors on the London and North Western Railway, to recover a demand of 77*l.* 18s. 11d., being the balance of an account due upon a total claim of 330*l.* 18s. 11d., giving credit for 253*l.* received at various times for work and labour.

The facts of the case shewed that in the summer of 1846 the defendants having contracted with the London and North Western Railway Company for the construction of a passenger locomotive engine-house at Chalk Farm, Camden-town, according to certain plans and specifications, had entered into an engagement with the plaintiff to find the necessary labour for building and erecting a half of the same, the defendants providing the whole of the materials with which the works were to be constructed. The plaintiff was shewn the drawings and specifications, which required the facing of the brickwork to be of Suffolk bricks; four courses of brickwork in cement were to be worked at every 8 feet in height throughout, and iron-hooping to be laid longitudinally, diagonally, and transversely upon each half-brick of the thickness of the wall.

The plaintiff agreed to do the whole of the labour to the brickwork at 34s. per rod—the rubbed and guaged arches, the pointing and the cutting to plinths to be paid for extra. No agreement was signed by the plaintiff, although a letter had been drawn out by the defendants' direction, containing the heads of the terms, and shewn to the plaintiff, and not objected to by him. After he had been employed about two months on the works, during which time he had received considerable sums of money on account, the defendants, on examining the work, found that the plaintiff had been overpaid, and the plaintiff having demanded 128*l.* to pay his men, in addition to what had previously been paid him, the defendants determined to have the work measured up, which was done. It was then discovered that if the further sum demanded were paid, the plaintiff would be largely indebted to the defendants, and the plaintiff refusing to deliver an account shewing how the previous money had been applied, and refusing to produce his pay-sheets and time-book to satisfy the defendants that the money paid to him had been actually expended in the works, a dispute arose in consequence, and the defendants thereupon dismissed him, and took the works into their own hands; and to prevent the inconvenience that would arise from the stoppage of the works and the dissatisfaction of the plaintiff's workmen, the defendants paid the men themselves.

The case made by Mr. L. C. Humfrey, the plaintiff's counsel, was, that the work done by the plaintiff had been measured, and found to consist of 108¾ rods, and that 40s. per rod was a fair price, including the extra in cement; the pointing, the Suffolk facing, gauged arches, iron hooping, &c., being paid for as extras; and this was supported by the evidence of two surveyors, Mr. George Spencer and Mr. John Thomas.

Mr. Martin, the defendants' counsel, contended that the plaintiff had made a contract with the defendants, which was contained in a letter drawn up for the plaintiff to sign, and which had been several times read over to him, and never objected to, engaging to do the work, including the Suffolk-brick facing, at 34s. per rod,—being paid extra for the rubbed and gauged arches, pointing and cutting to plinths; and that allowing the plaintiff liberally for these, he had been over-paid upwards of 63*l.*, not including the sum of 95*l.* 15s. 6d. paid by the defendants to the plaintiff's workmen when the plaintiff was dismissed, and that the whole was a scandalous attempt to impose upon and extort money from the defendants.

Several witnesses were examined on the part of the defendants as to the contract, and to prove the fairness of the prices. Among the witnesses examined were Mr. Robert Smith, and Mr. William Wood, builders, of Birmingham; Mr. William Gardiner, surveyor; and Mr. Wilkins, a sub-contractor, who proved that 34s. per rod was a fair price for reduced brickwork; and that as to the laying extra in cement, if no contract, the fair price would be 10s. per rod in addition; that as to the pointing or rake-out joints and flat-joint point, the fair price was 1d. per foot, or 9s. per 100 feet; that for Suffolk-brick facing, if no contract, 1d. per foot would be the fair price; that for gauged arches not set, 7d. per foot would be a fair price; that as to rubbed foot-lacing, set and not set, including mitres, 2d. per foot would be a fair price; and that for placing iron hooping, 12s. or 14s. per ton would be a fair price; and that it was not the practice to charge for putting up scaffolding, nor for its use by masons and other workmen, nor for sorting bricks, screening sand, or pargetting.

The Chief Baron, in summing up, told the jury, that he had no doubt the defendants would probably have better consulted their own pockets if they had submitted to the demand made upon them, but that when persons were concerned in large works and had these demands made upon them, they were obliged to resist them for their own protection. The question was, whether the defendants resisted with the law on their side, and dealt as sensible men of business? His Lordship left it to the jury to decide whether there was a contract to do the work at a certain price? and, after adverting to the evidence of the plaintiff's witnesses, who stated that 40s. was a fair price per rod to work out the whole building, and that they had not given any distinct evidence as to the extra work and the prices for the same, and explaining to the jury the difference between measure and value, and that by which persons undertake to contract for large works, and directing their attention to the evidence on the defendants' part as to the sub-contract with the plaintiff, and the improbability of the defendants employing the plaintiff without coming to an understanding as to what he was to be paid; the terms of the contract had been reduced into writing, though not actually signed, and to which no objection was at the time made. If the jury believed there was no contract, his Lordship left it to them to contrast the evidence of the plaintiff's two surveyors, with the evidence of Mr. Wilkins, the sub-contractor, and Mr. Gardiner, who stated that 34s. and the extras was a fair price. His Lordship then shewed the jury from the accounts, that, taking the contract price at 34s. per rod, a considerable sum, and much more than sufficient, was left to cover the extras of every sort, and much more than would cover all those which, according to the evidence of some of the witnesses, could be chargeable as extras, and this without reference to the payment subsequently made by the defendants to the plaintiff's workmen, which, though not strictly legal, the defendants had made from good motives, it being to their interest to see that the men who really did the work were paid.

The jury returned a verdict for the defendants.

NOTES IN THE PROVINCES.

The extensive repairs and alterations of the parish church of St. Nicholas, Great Yarmouth, are rapidly advancing towards completion. Unsightly galleries and other deformities have been removed, the roofs re-decorated, the arches under the tower thrown open and restored, and the ceiling of the intersection elevated about twenty feet. High-backed, square-seated, and other pews have given place to sittings of uniform size, with much more accommodation. The amount expended exceeds 1,600*l.*——The ignorant advertisement "To Architects, &c.," for tenders for repairing Hinckley Church spire, according to specifications, &c., having been responded to by the proper parties, a contract, according to the *Leicester Journal*, has been entered into with Messrs. Broadbent and Co. for the work, at somewhere about 120*l.*——The first stone of a Presbyterian church, in Broad-street, Birmingham, is to be laid on the 24th instant.——A right resolution has been come to at Birmingham, to dispense with even the shadow of that 'charitable' principle and superintendence in the erection and inspection of model lodging-houses, which we know has, at least in some cases, worked to the prejudice, both of model lodging-houses and of model dwellings for the industrious classes, stamping them, however unjustly and erroneously, with the repulsive stigma of being only a sort of genteel poor-houses. At Birmingham, a mere matter-of-fact commercial joint-stock company is being got up, without the slightest pretension to 'charitable' motive, but, on the contrary, with its more active eye exclusively open to joint-stock profit, while its more passive fellow,—wide awake, though not so *openly*,—is steadily bent upon the physical advantage of its tenants, which, after all, whether among poor or rich, is the surest source of benefit to the self-interest of landlords themselves. A capital of 6,000*l.* in 5*l.* shares, for the erection of one model lodging-house is, in the first place, to be realized; and that the speculation will be not only a successful but a fructifying one, we think there can be no doubt. In the words of Prince Albert, at the recent meeting of the Society for Improving the Condition of the Labouring Classes, it "will shew to those who possess capital, that they may invest it with great advantage and profit to themselves, in consulting the conveniences dispensing comforts to their poorer brethren."——The new approach to the ruins of Fountains Abbey, laid out according to instructions from Earl de Grey, was opened to visiters the week before last. From numberless points on this new approach, it is said that admirable views are obtained of the south façade of the abbey,—the Lady Chapel and choir, with the lancet lights and buttresses, the Norman chapter-house, the kitchen, with its curious and capacious chimney, the refectory, and beyond, the tower, and the gables and clerestory of the south transept and nave—these and other objects are all seen from different points hitherto unnoticed.——The clock tower at Evesham is to be restored; and, it is hoped, further improvements effected in the entrance to the churchyard, with its ancient gateway and its aggregation of towers and spires.——An important epoch in the history of "the workhouse," namely, the institution of farm buildings, and the still more requisite adjunct of farm fields, for the reproductive employment of the more or less able-bodied pauper, has just been ushered in at Sheffield, near which the foundation stone of "the Union Farm Building," to be erected on a piece of waste land situate at Hollow Meadows, a "wild uncultivated tract of country," was laid by the Board of Guardians on Monday week. The buildings will be capable of furnishing accommodation for about 100 men. The estimated cost of construction is 500*l.*: Mr. Clarborough is the contractor for the masonry work, and Mr. Fewsdale for the carpentering department.——The repairs and restoration of Thornbury Church (now unroofed) are going on rapidly. The clerestory, chancel-arch, and other works, are completed.——The church at Milverton is in progress of restoration, through the exertion of the vicar, the Rev. Mr. Sotheby.——A new church for Malpas will be proceeded with shortly, a considerable fund being in course of collection. Besides a grant from the Church Building Society, Mr. Thomas Prothero, of Malpas-court, has presented 500*l.* and a site.——The new Unitarian Church at Gee Cross, near Stockport, opened on Wednesday week, has been erected at a cost of 8,000*l.* It is in the Gothic style, with a tower and spire, and stained glass windows.——A new church, called St. Matthew's, has lately been erected, and consecrated by the Bishop of Manchester, on the banks of a tributary of the river Irk, near the Chadderton corn and logwood mills. It is wholly of wood, and is fourteen yards long, by seven yards in breadth.——Some workmen in forming the main sewer in Westgate, Bradford, lately came to a flight of steps, about a yard wide, and a foot in breadth, running about nine feet below the surface, and supposed to have led down to the ancient dungeon of Bradford. The ancient market cross, according to the local *Observer*, stood at or near the spot.——The Scarborough Parish Church Restoration Committee have accepted the estimates of Mr. Vasey, of Whitby, joiner; Messrs. Dove and Wilson, Scarborough, stonemasons; and Mr. Hornsey, Scarborough, plumber, &c. These are for the 1st and 2nd sections of the works, which will be commenced almost immediately.——The movement in reference to the line of buildings on the New Quay at Newcastle, according to the *Gateshead Observer*, is progressing. The architects, Mr. Dobson and Messrs. Green, and the engineer to the corporation, Mr. Brooks, have delivered to the New Quay Committee of the Corporation, their respective designs and elevations for the intended buildings.——The trustees of the Earl of Durham have commenced building freestone pillars for a suspension bridge across the Rector's Gill, at Bishopwearmouth, as a substitute for the ancient public road, which has been applied to railway purposes.

Kempsey Schools, near Worcester—The old school at Kempsey, a building of the fifteenth century, we believe, being much out of repair, Mr. Capel, of London, has made a gift to the parish of a new school for one hundred children, and a dwelling. Mr. Temple, of Kempsey, gave the ground. The architect appointed is Mr. John J. Cole, and the tender of Mr. Sidwell, 391*l.* 10s., with a separate tender for plasterers' work, 113*l.* 10s., making the total cost 505*l.*, exclusive of fences and fittings, has been accepted.

RAILWAY JOTTINGS.

THE traffic returns on the railways in the United Kingdom, during the first half of the present year, amounted to 4,477,000*l.*, and the number of miles open at the end of that period was 3,830, giving an average return of 1,169*l.* per mile. For the corresponding period of last year, the traffic returns amounted to 4,002,740*l.* and at the end of that time 3,150 miles were open, giving an average of 1,270*l.* per mile. Thus, while the mileage increased nearly 22 per cent., the traffic only increased 11·9 per cent.——The number of goods waggons belonging to the North-Western Railway Company, it is said, exceeds 11,500, and if these carriages be supposed to be worth only 50*l.* each, they represent a capital of nearly 600,000*l.*——James Weybury, the porter who ran a truck on the main line of the Great Western, at Shrivenham, in May last, at the moment the express train was on the eve of entering the station, has been indicted for the manslaughter of Edwin Wiltshire and others, but found 'not guilty.'——Mr. John Stephenson, the well-known contractor, died at Rotherham, on 8th instant.——The Chester and Holyhead line is to be opened throughout to Holyhead and Dublin on 1st August, with the exception of about 3½ miles, adjoining the Menai Straits, where omnibuses will be run. ——The works connected with the high level bridge over the Tyne, and the junction of the terminus at Newcastle, are proceeding with great rapidity, under the hands of Messrs. Rush and Lawton, the contractors. The principal streets are already spanned with masonry, and the river work of the bridge is assuming its position.

A WORD TO THE AUTHORITIES OF SAINT PANCRAS.

THERE is a prevalent report that the parochial authorities of the parish of Saint Pancras are about to build a residence for their clergyman, upon the space on the north side of their church in Euston-square.

It is not often that we find a church which can be seen to advantage, and it really seems to be an instance of bad taste in these gentlemen, if they seriously purpose encumbering, and concealing, and materially injuring the effect of a building which, with all its faults, is at least creditable to the parish, and to the architect who designed it. It is reported that the ground was intentionally left unconsecrated. I have an indistinct recollection of the circumstance, and that the then object of such an uncustomary course was the prevention of burying in it. It seems singular that such a site for a residence should even be in contemplation, while building-ground can be obtained within a short distance of the church.

X. Z.

Correspondence.

VENTILATION.

SIR,—Will one of your correspondents be good enough to inform me the best method of ventilating a billiard-room, the dimensions of which are 24 feet by 20 feet, and 11 feet high? The room will be placed on the first floor, and will have bed-rooms over. The door will be placed in the centre; and the room will be heated by a fire-place. A SUBSCRIBER.

VOTES FOR PUBLIC WORKS.—The following sums have been voted by Parliament for public works and educational establishments. 400,000*l.* for wages to artificers and labourers in the naval establishments at home; 300,000*l.* for repairs and new works in the naval establishments; 30,000*l.* for repairs of public buildings; 10,000*l.* towards the works at Buckingham Palace [Lord Morpeth made some observations in connection with this vote which shewed that our observations on the effect of the suspension of works had not passed unheeded]; 15,000*l.* towards the new Houses of Parliament; 3,000*l.* in aid of School of Design and provincial schools; 20,000*l.* for British Museum; 3,000*l.* for the Royal Society of Dublin.

Miscellanea.

THE THIRD REPORT OF THE METROPOLITAN SANITARY COMMISSION enters minutely into the circumstances attendant on the fever at Westminster, of which such *good* use was made by the supporters of the anti-clean-out party. After devoting to it as much time and labour as "might have sufficed to investigate the sanitary condition of a large mass of the population" of the metropolis, the commissioners report—That eight weeks elapsed between the emptying of the last cesspool and the first case of fever; a period which, according to the predominant medical testimony, puts out of the question that operation as an exciting cause of fever, even if it had not been performed by a method which produces incomparably less effluvia than any process heretofore known. That the type is one well known and recognised as prevalent for years past in that very locality and neighbourhood. That there has been a decided reduction, in place of an increase, in the sickness experienced, and throughout the district a less amount of sickness than previously. [So that matters would have actually been worse but for the very cleansing which was coolly blamed for doing all the mischief.] That the smell complained of probably arose from the emanations given off from a large cesspool which had never been cleaned at all, and which communicated with the whole line of a foul sewer passing directly under the school. That the course of the disease followed very exactly the line of this sewer, which communicates by direct openings with several of the houses where fever broke out, passes directly under the school and the dormitory, is in close proximity with nearly all the houses in which fever occurred, and is in so foul a state that the officers of the Metropolitan Sewers Commissioners, accustomed as they are to such examinations, were absolutely unable to proceed along it beyond a certain point, so that beyond that point it still remains unexplored. The commissioners, in considering the number of the metropolitan cesspools, and the extent of noxious matter requiring removal, on an estimate previously given in THE BUILDER, state that, so far from being excessive, that estimate is below the mark. The evaporating surface of the house-drainage and sewerage they estimate at three-fourths, and that of the cesspools at one-fourth, of the whole. From estimates of the cost of abolishing cesspools, and putting down impermeable house-drains, they say that the average expense of complete house-drainage would be about 4*s.* 6*d.* per house per annum, for a period of thirty years, and for the highest class of houses about 7*s.* 6*d.* per annum, which would be an average saving, on each of twenty-one houses mentioned, of more than 9*l.* a year. It has been a great mistake, they observe, to suppose that the duties of Courts of Sewers comprehend all that is essential to the public health while they exclude private drains and cesspools; and they impress upon the Legislature the urgent necessity of immediate measures for the improvement of the one and the abolition of the other.

RESTORATION OF ST. PAUL'S, BEDFORD.—The following is a statement of the tenders sent in to the churchwardens of St. Paul's Church, Bedford, for the restorations of the roofs of the nave:—

PLUMBERS' WORK.

	Cast.	Milled.
Parker, Thrapston	£103 0 0	....
W. Hinde, Bedford....	125 0 0	£145 0 0
Shepperd, Bedford	....	132 7 0
M. Hinde, Bedford ..	95 0 0	134 0 0
Carling, Bedford	108 12 6	128 5 0
Hall, London	190 0 0	215 0 0
Taylor, London	....	245 0 0

CARPENTERS' AND JOINERS.

	Restoration of Old Roofs.	New Roofs.
Parker, Thrapston	517 0 0	1,203 0 0
Cobb and Reynolds, Bedford	450 0 0	933 0 0
Usher and Son, Blunham	710 0 0	750 0 0
Bryant and Son, Bedford	430 0 0	899 0 0

The contractors selected were, Michael Hinde for the plumbers' work, and Bryant and Son for the carpenters and joiners'. Messrs. Wing and Jackson are the architects.

PROJECTED WORKS.—Advertisements have been issued for tenders by 15th August, for the execution of the several artificers' works in the erection of the Marylebone baths and wash-houses; by 27th July for various works at the St. Olave's Union Workhouse; by 31st for the repair and alteration of four houses, and a range of stabling in the city; by 1st August for the erection of new store rooms at the Lambeth Workhouse; by 26th for the several works to be done in building a public-house at Great Grimsby; by 27th for the erection of a house and stabling at Girtford, near Biggleswade; by 1st August for the whole works in building a new church at Bilston, Stafford; by 28th July for completing the Town-hall, Birmingham; by 5th August for the various works to be done in the completion of the new Assize Courts, Liverpool; by 26th July for alterations and additions at Sudbury Union Workhouse; by 31st for the erection of warehouses of brick or timber, at the Bricklayers' Arms station; and by a date not specified for grates and ironmongery for the Training College, Caermarthen.

THE IRON AND COPPER TRADES.—The reduction of 20*s.* to 30*s.* a ton on iron, which followed so hard and so recusantly upon the prices fixed by 'the highest authorities' at the quarterly meetings held immediately before, has been fully recognized at the late quarterly reunion of the great masters, and the recusants were therefore justified in their refusal to abide by the quarterly dictum of their own colleagues, which is thus virtually acknowledged by the masters themselves to be, what we have so often upheld it to be,—a humbug and a snare. There now appears to be an awakening desire on the part of the metropolitan and other purchasers, however, to watch the state of the market, though not yet to purchase to any greater extent, from the fewer manufacturers at present in the market, than the closure of various large works under past pressure is alone sufficient to explain. That a revival in postponed railway works will ultimately raise present or future prices there appears to be no doubt, but even the most interested parties can at present only "hope that prices have touched their lowest point, at least for some time to come;" while "notices have been given to the men employed in several of the largest works in the district of South Staffordshire for a reduction of 20 per cent in their wages;" a fact which *ought* to indicate the predominance of fear rather than of hope. A wholesale reduction in the price of copper has been the subject of general conversation at Birmingham.

A PUBLIC MUSEUM AND LIBRARY AT WARRINGTON is in course of establishment, under the 8th and 9th Vict. c. 43; to which end it has been arranged to comprise two or three separate and more or less languishing or poorer societies in the one more vigorous institution, and to beat up for a public subscription to the amount of 600*l.* for a suitable building, *before* the authorized rate of ½*d.* per pound shall be exigible in November next. We are glad to find that, besides other objects befitting such a museum and the general literature appropriate to its library, the arts and sciences, and especially the fine arts, are to claim a share of attention, so that pictures, bronzes, statuary, and carvings, will be acceptable, and even approved plaster casts of forms in high art. An eye is also to be had to antiquities and objects in the useful arts and manufactures, models, &c. Annual subscriptions of not less than half a guinea entitle to certain privileges noted in the printed proposals issued from the town clerk's office by the honorary secretary.

THE CATHEDRAL CHAPTER-HOUSE, MANCHESTER.—The excavations at the foundation of the cathedral chapter-house, rendered necessary by the reconstruction of that portion of the edifice, have shewn that the moulding of the base course is some inches higher than that of the south aisle, to which it joins, and it is therefore thought to be of later date (as indeed is not unfrequently the case with collegiate and cathedral structures) but nothing further has been found at all bearing upon this interesting question: a more extended research into the foundations would undoubtedly throw some light upon the matter. The material of which both walls are built is the same,—the sand-stone from the Collyhurst quarries,—and but little difference can be perceived in the condition of the foundations. The church

must originally have stood some feet higher out of the ground than at present; most probably the interments in the yard around have rendered it necessary to level and raise it more than once. The stone with which the fabric is reconstructed is rough white free-stone, a harder material, and capable of with-standing atmospheric influences for a much longer period than the original stone. It is procured from the Horwich quarries, near Bolton, and is, perhaps, the most valuable stone brought into this market. It is nearly all silicious matter, and lies in the rock in vast masses, many feet in thickness, unlaminated, and therefore not likely to fall away in flakes. —*Manchester Advertiser*.

SLAB HUTS.—In reply to a correspondent, J. H. A., we may here state that Australian squatters are recommended, on first locating themselves, to erect huts or cottages of the cheapest possible kind consistent with anything like comfort, by merely knocking together a lot of the outside boards sawn off in squaring trees, and readily procurable in the colony. These they call "slab huts;" and for additional protection from the weather, they are usually lined inside with a kind of mat peculiar to the colony.

CIRCULAR SAWING.—An experiment was, by permission of the Lords Commissioners of the Admiralty, made at the saw-mills, Woolwich Dockyard, on Saturday last, by Mr. James White, C.E., with the view of testing the efficiency of circular saws in cutting through the centre of rough timber of a diameter nearly equal to that of the saw itself. An elm tree, one end of which was of the full diameter of the saw, was placed upon one of the circular sawing machines, having a saw 4 feet diameter, and a self-feeding motion, in the usual way. By this motion the tree was brought towards the saw, and passed over it; and, by a reverse motion, it was run back. The cut made in the tree, passing over the saw, was in dead wood all the way, and fully 20 inches deep. After the tree was run back it was turned over, and adjusted for a second cut to line with the first; and in this position it was brought forward as before, and completely divided in two. The object of this experiment was to ascertain whether rough timber of a large size can be cut up in this way, and the result was quite conclusive in that respect.—*Mechanics' Magazine*.

RICHBOROUGH, RECULVERS, AND LYMPNE.—Mr. C. R. Smith and Mr. Fairholt have announced their intention to publish by subscription, as early as possible, a profusely illustrated work on the antiquities of Richborough, Reculvers, and Lympne. It will include general views and architectural details of the present and late existing remains of those important military stations of Roman Kent, together with engravings on copper and wood of the chief objects of ancient art discovered upon their sites.

DOVER REFUGE HARBOUR.—This work is now progressing, and begins to shew symptoms of what it will be. The first portion, 800 feet of a massive sea wall, has been contracted for by Messrs. Lee, of London. The works now extend 130 feet into the sea, and the curve to the eastward has been commenced. The blocks of stone are uniformly of large dimensions, some exceeding ten tons in weight.

TO CORRESPONDENTS.

"*P. B.*"—We hope to be in Lincoln next week, and will call upon our correspondent.

"*Would-be-Whittington.*"—Apply to the secretary. Quite safe.

"*C. G.*"—We have never used arches of plain tiles in cement of *larger* span than 20 feet; but with four courses of them and *good cement* (much depends on this), breaking the joints carefully, should not fear to do so.

"*Received.*"—"W. C." "Dr. P." "M. M." "W. E. H." "J. S." "A. J. S." "J. A." (we regret we were unable to call—send the particulars), "W. H. (we will endeavour to see some of the specimens), "G. W. Y." "An Inhabitant," "F. T. D." (we shall be glad to have some of them drawn; and will write), "W. P. G." "W. B." (hand-rails have been treated of at some length in earlier numbers: we have not time at this moment to answer the question), "W. W." "J. L." "M. P." (we cannot tell: apply at Patent office).—"The Book of South Wales," &c., by Charles Frederick Cliffe—second edition (Hamilton and Adams, Paternoster-row); "Report to the Borough of Liverpool on the Sewerage and other Works under Sanitary Act," by the Borough Engineer, 1848 (Liverpool); "A Description of the Roman Theatre of Verulam," by Mr. R. Grove Lowe (for St. Albans' Architectural Society, Bell, Fleet-street).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

TENDERS

For the erection of the Lambeth Savings' Bank:—

Trego	£1,344
Hicks	1,326
Hemmings and Foster	1,275
Norley	1,229
Gamman	1,225

ADVERTISEMENTS.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Impressing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

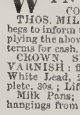
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

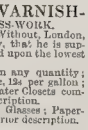
GREAT REDUCTION IN THE PRICE OF PLATE-GLASS. THE UNION PLATE-GLASS COMPANY, Pocket-nook, St. Helen's, 99, Hatton garden, London; No. 13, York-street, Mosley-street, Manchester; and 26, North John-street, Liverpool: inform Builders and the public generally, that they are now selling ordinary glazing sizes of plate glass from 9s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot.—RICHARD YATES, Secretary.

PLATE-GLASS DOMES.—R. W. SWINBURNE and CO. beg to inform the Public that they manufacture Domes of rough and obscured Plate Glass, in one piece, forming a very durable, handsome, and inexpensive roof-light, particularly suited for lobbies, passages, &c., and requiring no framing or other fitting. They manufacture also in plate glass pastry and butter slabs, in wooden frames; apothecaries' and colourmen's slabs, of all sizes; milk bowls and pantiles, very strong and durable.—Samples may be seen and prices known at their warehouse, Red Bull Wharf, Upper Thames-street.

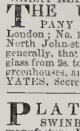
CHAS. WM. WATERLOW,



MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

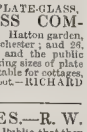


SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK, 1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other Kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.



TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and CO.'S PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale and specimens seen, at the office of the Patentees, No. 163, Fenchurch-street, W. T. ALLEN, Agent; or retail of G. and J. DRANE, 45, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 62, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms. Its possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS.—Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

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INDUSTRY *versus* BARRICADES.—FRENCH PAPER HANGINGS. Messrs Marks and Co have great pleasure in informing their various connections in Town and Country that the (Ouvriers) Workmen having seen their folly, have seceded from the demagogues and thieves, who first seduced them from the paths of honest labour, have all resumed their work with redoubled energy, and which will enable Messrs. M. & Co. to complete all their orders, and promply execute all fresh orders which they may receive. July 8, 1848.—69, Princes-street, Leicester-square.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 8d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.

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E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

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RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Wrought Bars, Sink and Stable Trays and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ inch, to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Horse-ter Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No 6, Bankside, Southwark.

RIDER'S RAILWAY BRIDGE.—To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr MOULTON, Bradford, Wilts.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price. 25, Providence-row, Finsbury square, from Albion Wharf, Blackfriars-bridge.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

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Containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

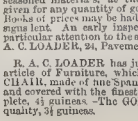
BENHAM'S ICE CLOSETS for Keeping Provisions perfectly Cool during the hottest weather.—For economy, as well as comfort, they are invaluable; also, for cooling wine, or manufacturing a delicious draught of cold water to admirers of that beverage; price three guineas and upwards. Benham's Cream Freezers will freeze a quart of cream, fit for the table, in six minutes; price five guineas. Patent Knife Cleaners, Benham and Sons, Agents, price 7os. These machines not only clean, but actually polish the knives, and the most unskilful person can accomplish the work in less than one-fourth the usual time. They are now adopted at all the principal hotels.—10, Wigmore-street, Cavendish-square.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot—cannot be deranged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized zinc, each; ditto, for kitchens, 40s. To slip on chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 51, Great Russell-street, Bloomsbury, where it may be seen and tested.

By Her Majesty's Royal Letters Patent.

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BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application in public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR. F. EDWARDS, Sole Maker to her Majesty, 20, Poland street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

RICHARD A. C. LOADER, 24, Pavement, Finsbury, respectfully solicits all parties about to furnish, and requiring FURNITURE, to inspect his stock, which will be found to consist of the newest designs of Furniture of the best seasoned materials, at the lowest possible prices. An estimate given for any quantity of goods, from one room to an entire house. Books of prices may be had on application, and also books of designs lent. An early inspection is respectfully solicited, and your particular attention to the address is requested in full. RICHARD A. C. LOADER, 24, Pavement, Finsbury.

R. A. C. LOADER has just introduced a unique and beautiful article of Furniture, which he designates the SULTAN EASY CHAIR, made of fine Spanish mahogany, sprung and hair stuffed, and covered with the finest quality of Morocco. The price, complete, 4½ guineas.—The GONDOLA EASY CHAIR, of the same quality, 3½ guineas.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed. Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

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P. FOUCARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

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CAEN STONE.—LUARD, BEEDHAM, and Co beg to inform Architects, Surveyors, Merchants, Builders, and others, they are importing, by large and frequent shipments, CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L., B., and Co. invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf, he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms. Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

ANSTONE STONE, used in the erection of the NEW HOUSES OF PARLIAMENT.

Mr GRISSELL has the honour to inform Architects and gentlemen engaged in Building, that in consequence of having nearly completed the above works, he is at liberty to supply the Anstone Stone for building purposes in general.

The price at which it can be delivered in London does not exceed the price of Portland stone. As to quality and colour, the experience of the past seven years will fully attest its superiority.

It is also preferable for staircases and rubbed landings, for which purposes it can be supplied in any sizes; and as regards cost (with the exception of common paving), it is not more expensive than "York."

In addition to the New Houses of Parliament, Mr. Grissell takes leave to refer to the Museum of Economic Geology, just erected in Piccadilly; to the Amicable Assurance Office in Fleet-street; and to the New Hall in Lincoln's-Inn-fields.

Mr Grissell desires also to state, that the stone, which he has now the honour for the first time to offer to the public and which has been used exclusively in the above works, is from the estate of his Grace the Duke of Leeds, and that Mr. Grissell alone possesses the right of quarrying this stone.

11, New Palace-yard, Westminster.

ANSTON, or ANSTONE STONE.—W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

_ "Anston" is the name of the village, and is correctly spelled without the E.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5*l.* upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from .... 12s.
Vein-Marble " " .... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS from the great improvements made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge, and the liberal commission always allowed to the trade.

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HARCOURT QUINCEY, Patentee.

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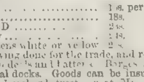
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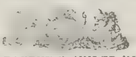
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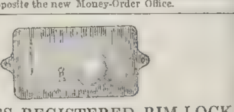
¾ white S	1 s.	per 100 feet superficial.	
1 inch ditto	18s.	"	"
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The Builder.

No. CCLXXXVI.

SATURDAY, JULY 29, 1848.

A GENTLEMAN who was about to build a first-class residence in Edinburgh, to cost, we will say, 6,000*l.*, employed an architect of reputation, and took more than ordinary pains to insure a successful result. Being a wise man, he attached much importance to good ventilation and perfect drainage; he desired to have a healthy, dry residence, and to avoid spending half his days (and shortening them at the same time) in a mere receiver full of vitiated air, as many of us do; so the subject was well considered, and the most careful arrangements were made in the plans to effect his object. There were ventilating flues from the different rooms, and a mechanical arrangement was provided to draw out the vitiated air, and so to enforce the entrance of fresh,—a deep shaft being sunk for the passage of the weight which was to move a fanner employed, and other provisions made, of course at some cost. The drains, too, were well considered. Through the difference of level at back and front there were three stories below the street line in front, and these stories he wished dry and good in appearance, so that here again extra care was taken; the foundations were to be laid in cement, and the walls faced internally with worked ashlar of Binny stone, and painted. A very full specification was prepared and *printed*, extending to twenty-three folio pages; tenders were obtained from three or four builders,—the lowest was accepted (it was a very close fit); a clerk of the works was appointed, and proceedings were commenced.

The lower three stories, out of seven, were carried up, twelve or fourteen hundred pounds said to be expended, when an accident revealed the fact that all the mortar used had been compounded of *sea-sand*, brought direct from the beach. The specification was clear and precise, setting forth as follows, under the head—"*Lime and Sand.*—All the mortar is to be of the *best* quality, mixed together in proper proportions with *pure* spring-water. The lime will be from Gilmerton, and clean sharp *pit-sand only* is to be used."

After all the precautions to ensure dryness and an unexceptionable habitation, the proprietor was naturally alarmed, and protested vehemently against this departure from the contract.

The specification contained an arbitration clause, referring any differences which might arise between the parties to a well-known advocate (barrister); the works were accordingly stopped, and the matter put into the hands of the arbitrator, who has now been for many weeks taking evidence on the subject, and as yet has heard but one side,—although to us the question seems really to lie in a nutshell. The owner's architect and the architect's clerk of the works both depose that they were not aware that sea-sand was being used, or they would have stopped it earlier. If the contractor could prove that the architect had directed or finally approved of the substitution, the question would perhaps be altered, and the proprietor might have to seek his remedy from the architect, but this is not the case. The utmost that can be said is, that the architect might have stopped the use of the material earlier, if he had disapproved of it, but this is surely no reply. The contract is precise; nothing is left to discretion, and the architect was not bound to discover for himself, that sea-sand was being used, so far as respects the remedy of the proprietor against the contractor,—what the architect's duty was, as between the proprietor and himself, is another thing. He might have confidence in the contractor and so be led not to doubt that the latter was proceeding in accordance with a contract so clearly defined.

If a contractor, without the knowledge of the architect, covered a building with 6 lb. lead when he was bound to put 9 lb. lead, and was called on when the fraud was discovered to rectify it, it would surely be no answer to say that an architect was employed, and that he ought to have discovered that the lead was not of proper weight earlier,—that by not stopping the work he had approved of the substitution.

And now let us look, not at another part of the question, because, as it seems to us, it has little to do with the case we have put, but at what leads to the objection to the use of sea-sand, and was the ground-work of the stipulation in the contract. Is sea-sand the *best* material for mortar?—is it a fit material at all, when the mortar is to be used in a dwelling-house, where great dryness is required, without the most careful washing in fresh water, and bleaching? As the writer has said elsewhere, when pointing out that in the neighbourhood of the sea, stones and sand from the beach might be employed for concrete,—"Salt-water, or sea-sand, may not be used advantageously for plastering, or work exposed, in consequence of the affinity of the saline particles for moisture, which causes them to absorb it from the air." For underground or water-works, Smeaton and others assert that mortar prepared with them becomes harder than with the ordinary materials; it will harden, but not readily dry.*

Let us see what the authorities say on the effect of salt in mortar, and the value of sea-sand. Dr. Higgins, who wrote on calcareous cements in 1780, first pointing out that certain salts, such as sea-salt, &c., were found to injure the best mortar, continues,—"The cautions which our last-mentioned experiments suggest with regard to the use of water, are especially necessary in this country, where most of the wells and springs abound with one or more of the above-mentioned salts; and it is not to be presumed that the quancity of these contained in water which is used for culinary purposes, cannot be injurious in mortar, for I know that selenite, Epsom salt, the very deliquescent salts compounded of magnesia and marine acid, and calcareous earth and the same acid, may, together with a little sea salt, be natively dissolved in water, to the quantity of half an ounce to a gallon, without affecting the taste of it sensibly. When we consider the quantity of water necessary in slaking the lime, making the mortar, and wetting the thirsty bricks, and the smallness of those portions of salts whose injurious effects were discoverable in the course of one year, or in a shorter time, we find sufficient grounds for concluding that such saline waters will be found hurtful in mortar, before many years elapse, particularly where it is exposed to moisture. Indeed this has been already experienced of sea-salt, even in the small quantity of it introduced in mortar, when the sand is taken from the sea-shore." "When a choice can be made, rain water is to be preferred; river water holds the next place, land water the next, spring water the last; and waters noted medicinally or otherwise for their saline contents, ought not to be used at all in mortar."

The *Encyclopædia Americana* says—"Fresh sand wholly silicious and sharp is the best. That taken from the sea-shore is unfit for making mortar, as the salt is apt to deliquesce and weaken the mortar." In "Burrow's Cyclopædia" we find,—"Sea sand is found to be an improper material for mortar, which Mr. Anderson ascribes to its being less angular than other kinds;" while in "Rees' Cyclopædia" we have—"Sea-sand requires to be well washed in fresh water to dissolve out the salt with which it is mixed, otherwise the cement into which it enters never becomes thoroughly dry and hard."

General Sir Charles Pasley, in his work on "Limes and Calcareous Cements" (p. 60), after mentioning some experiments on cement mixed with salt water says,—"Hence, as salt is certainly unfavourable, I would never mix cement with salt water, except in case of absolute necessity." Mr. Gwilt, in his "Encyclopædia of Architecture," remarks,—"If pit sand only can be procured, it should be repeatedly washed, to free it from the earthy and clayey particles it contains, until it becomes bright in colour, and feels gritty under the fingers. When the architect is obliged to use *sea-sand*, it must be well washed in fresh water until the salt is entirely removed: otherwise the cement for which it is used will never dry;" and Mr. Hosking, in his article on "Building," in the "*Encyclopædia Britannica*," says,—"Particular attention must be paid to cleansing the sand to be used for mortar, of every particle of clay or mud that may adhere to, or be mixed up with it. Sea-sand is objectionable for two reasons: it cannot be perfectly freed from a saline taint, and the particles are moreover generally rounded by attrition, caused by the action of the sea, which makes it less efficient for mortar than if they retained their natural angular forms." And again,—"Rain, or any other soft water, should be used for the purpose of making mortar, and not spring or hard water, though any other may be preferred to what is *brackish* even in the slighest degree."

Endeavours have been made, and with some success, to shew that as sea-sand consists of nothing else but particles of flint stones, washing and bleaching will remove all saline taint, and render it an admirable material for mortar: and respectable builders have given their opinion, that, when washed and laid out to dry in open yards exposed to the weather, it will, with *coal-ashes* and lime, make a mortar which, though it may not become dry so *fast* as mortar made with river-sand, will ultimately become perfectly so, and be free from any inconvenience.

We are not disposed to question this: only get rid of the salt, and sea-sand will make mortar fit for any purpose. The difficulty is to do this thoroughly; and so long as there remains any salt in it, so long will there be a tendency to dampness and most serious inconvenience. We know a house on the sea-coast where a wall was built to separate two rooms, with mortar made, as the architect afterwards ascertained, from *washed* sea-sand, and the

* "Prize Essay on Concrete," in "Transactions of Royal Institute of Architects," Vol. I.

result is, that on the approach of wet weather, this wall, like the old barometer, a piece of sea-weed, is always damp, and throws out particles of salt. The injury done to the Duke of Wellington's books at Walmer Castle through the use of sea-sand in the walls forming the library, has been often mentioned.

A distinguished engineering officer, writing to us on the subject, says :—"When I was a very young officer I had charge of building a Martello tower, and of improving the quarters of the governor of a small fishing town. The mason, contrary to my directions, used salt water for the mortar, as fresh water was scarce, and one of the principal rooms in the governor's house was stuccoed partly with salt water, or with mortar made of sea-sand, I forget which. The result was, the tower was always damp, and the appearance of the room was spoiled because the paint was in blotches."

An architect much engaged on the coast writes us as follows :—"There can be but one opinion about the effect of salt-water-sand in mortar or plastering. The atmosphere acts on it, as far as I know, for centuries, certainly to my own knowledge of walls of fifty years' standing. No paint, colour, or paper will stand without discolouration."

A practical man now holding a responsible position under a government commission says :—

"As regards the use of sea-sand for mortar, I have used sea-sand for mortar on the Kentish coast. For hydraulic building, coarse sea-sand makes a most excellent mortar; but for house-building sea-sand of any sort is ill-adapted, on account of the salt which it contains causing the mortar to be always in a *sweaty* state. The degree of moisture varies with the dampness of the atmosphere. Like salt itself, sea-sand readily imbibes and retains moisture. Its use, therefore, cannot be recommended. Thorough washing with clean *fresh* water will remove much of the salt from it, but cannot altogether do so."

One of the commissioners appointed to select stone for the Houses of Parliament, replied to us thus when we asked his opinion :—"I consider sea-sand for mortar would be objectionable to a certain extent, under *any* circumstances, if dampness is to be avoided. Supposing all other things to be equal, an addition of salt, however small, will prevent the mortar ever attaining the same degree of induration which it would have done had no salt been introduced."

The corporation surveyor of one of our sea-coast towns replied to our inquiry in these words :—"I am so convinced of the injurious properties of sea-sand as to induce me always to put a clause in my specifications precluding its use, *either washed or unwashed*, under a heavy forfeiture. If unwashed, there is no doubt but that the work in which it is used will always be more or less damp; and I could give you an instance of the same result, when, as I believe, the sand was washed."

The case which we stated at the beginning of these remarks, or something like it, took us, professionally, to Edinburgh, and is still *sub judice*. It may be regarded by our readers, however, as hypothetical, and is placed before them simply as involving questions which may be usefully considered. Even if it could be proved that sea-sand were as *good* as pit-sand, and that no evil *could* arise from its use, the substitution of it, in the face of such a stipulation as that we have cited, would be a breach of contract, and would prevent the builder from recovering payment, if nothing more. If a builder contract to erect a dwelling-house, he can have no right to recover for building a chapel in lieu. But, by the use of sea-sand, we are satisfied a risk is incurred, even under the most favourable circumstances, of a very serious nature,—such a risk as no builder should be allowed to subject his employer to with impunity.

ON THE STYLE OF THE RENAISSANCE AND ITS ADOPTION IN ENGLAND.*

THE subject of the following remarks is one which, until recently, has neither been revered nor esteemed. The style of the "Renaissance" it has been too fashionable to consider merely as the factious usurper of the dominion of pointed architecture, and the author of the debased atrocities which sprung up in England during the sixteenth and seventeenth centuries. But the uncharitable exclusiveness which would centre in one style, and in one only, all beauty, completeness, fitness, and propriety, but ill accords with the temper of the nineteenth century, and those must now be regarded as illiberal, if not insane, who can laugh at the accessory decorations which were practised by Angelo, superintended by Raffaelle, studied by Julio Romano, and adored by Cellini. Such names might be sufficient to impart to any style, or modification of style in art, an archæological and historical interest, but it will be my object to show, in as few words as possible, that the style of the Renaissance, with all its inconsistencies, is from its innate merits entitled to our sympathy, and worthy of our most careful attention. The feelings of man have been the same in every age and climate. The power of wealth, the machinery of commerce, the acknowledgment of hereditary distinction, the craving after novelty, tempered by reverence for antiquity, and, above all, the sacred influence of religion, guided his actions, and displayed themselves in his productions as palpably in the land of the Pharaohs as they have since done in the countries of Europe. But a variety of circumstances have ever been incessantly at work, actuating each performance of literature and art, and in the latter department exchanging in time the hovel for the parthenon, the clay memorial for the pyramid, and the catacomb for the cathedral. The same circumstances which produced alterations upon the face of society upon so grand a scale, affected in their minute ramifications the principles upon which every scheme was conducted. Architecture, the most important of the arts, since all others depend upon it, and tend to its perfection, has therefore always moved; progressing or retrograding with the spirit of the times; and its details, now ennobled by civilization, and now shaded by barbarism, have fluctuated according to the influences I have pointed out, as acting upon them in concert. One style succeeds another sometimes rapidly, at others by slow and imperceptible gradations; and an unvarying law of change governs the artistic as certainly as it does the physical world. The history of inorganic matter is indeed but an extension of the history of mind and its results.

"Not only," says Professor Ansted, "is part of the earth's surface carried from one place and deposited in another by every dash of the never-tiring wave, and every drop that falls in the form of rain, but there is a constant tendency in the parts below the surface to rearrange themselves in some other *order*—to obtain an equilibrium which is no sooner obtained than it is lost. All nature is thus animated: the sea is never so quiet, the air is never so calm, the earth is never so fixed, but that these silent and invisible, but appreciable changes still go on." And the world has seen gradually merge from the most primitive forms, the Egyptian temple, decorated with every portion of the papyrus, and diapered as it were with symbolism, succeeded by the majestic Grecian, again by the less chaste erections of the eternal city, the wonders of mediæval intricacy, and the revival of antique taste, the style of the Renaissance. Through the whole of this long series, each successive edifice has been marked by the characteristic of change, of departure from the past and anticipation of the future; and moreover, every change has taken its origin from habits, introduced ceremonies of religion, or circumstances over which man has no control. It is impossible for any other agency to effect such change, or that it should be effected by individual caprice or the probably well-intended efforts of a particular clique. From a conviction of the truth of this fact, confirmed as it is by every thing which can be brought to bear upon the subject, we smile at the dreams of those French enthusiasts who desired that the reign of each of their sovereigns should represent a fresh school of architecture and decorative art, and more recently at the still prouder pretensions of Felix Summerly.

But to continue the illustrations from nature: "Large tracts of land are being now upheaved, and others are depressed. But a few years, and what is now a flat coast line may present a steep cliff; and large tracts of land now above the water may then be submerged." Land, after having been submerged, may sleep for ages beneath the bosom of the ocean, and again appear above it; but it will be in a new form, composed of a different substance, peopled with a new order of inhabitants, and presenting shells and plants of different species from those which formerly occupied the same position. Precisely similar is the case with reference to the history of art. A style may be revived, but the revival is no longer the same style as that which it imitates; it exists under different circumstances (under a new form of Government and a new theory of political liberty), or it may be under a new creed of devotion—influences deep and powerful, wherever they may act, but eminently so upon architecture, which, seen by the popular mind, dares not sin against it.

Such a revival was that which sprung up in Italy in the fifteenth century, extending its sway step by step over the then civilised world. But fully to appreciate its importance and magnitude, it is necessary to glance back at the state of Europe at that remarkable period, whereby it will be found that the style in question was in perfect harmony with the spirit of the times; that every impulse of the newly free-breathing world tended to foster and cherish it; and that every fresh idea in philosophy or discovery in science was calculated to give it deeper root.

During the middle ages, the Gothic style reigned supreme in Europe. It had been established, as it were, for a perpetuity of existence. Its most trifling details were adapted for their purpose; and it seemed as though the religion of Christianity could by no possibility exist without it. But strange to say, in the fountain of the religious world,—in Italy,—it never became thoroughly naturalised. In being introduced into the south, it was "transferred to sun and soil not native to it," and the consequence was, that it was there silently withering at the same time that other countries were extending it with the most lavish care, and expending upon its culture all the magnificence of centralized wealth and the skill of a complete and elaborate system of true freemasonry. It never gained in Italy a firm hold, and any reason for exchanging it for a more congenial style was greeted with applause. The schools of painting were beginning, in consequence of the increase of classical learning and extension of the study of anatomy, to deviate from the beaten track which had been trodden for centuries, and to impart to subjects of the Madonna,—sometimes, perhaps, at the sacrifice of solemnity,—a purer outline, a bolder character of drawing, and a more natural colouring than had ever before been exhibited. Such a marked improvement partly owed its origin to the statues of Greek and Roman antiquity, which, buried for ages, were now carefully exhumed, having grown in public estimation since the days of Petrarch. The struggle, therefore, of the popular mind was between the relics of pagan beauty, which every day was bringing to light, and impressions based upon the artistic development of its own religion. The invention of printing now circulated information at a comparatively cheap rate, granting to every one an opportunity of joining in the battle of opinion, while a majority of the people, surrounded by the splendid monuments of ancient Rome, exhi-

* The following paper was read at a meeting of the Freemasons of the Church on the 11th inst., Mr. French in the chair.

bited less enthusiasm for the holy rites of the modern city than veneration for the *senatus populusque Romanus* of the old. They felt that they were the descendants and representatives of the great masters of the world who imparted to history its finest touches of heroism, and patriotism, and nobility; and they longed that Rome should for a second time assume the importance of the world's capital in appearance as well as in reality, and that ecclesiastical and pontifical edifices should now, in spite of the change produced by the cross upon society, be counterparts of the temples and palaces of the imperial epoch. Then, while the merits of pagan and Christian art were being weighed in the balances, a voice was heard from Germany for which the ears of society were nearly ripe. Doctrines were warmly preached and rapidly promulgated that eventually shook everywhere the stability of the ceremonies of ancient faith, encouraging freedom of thought and suggesting a more diffused species of government in the church. The hasty result of these doctrines, as felt by the northern countries of Europe, was only averted from the holy see by the most stringent measures on the part of the Pope, and the dissemination of the most daring decree ever passed by a religious council. Thought was now awake, society was destined for a deep and powerful change, progression was imperative, and a return to the old *régime* impossible; and while national institutions were losing the characteristics they had worn for a thousand years, art could no longer remain passive, but lingered in a form of transition till the discovery of certain classical grotesques in various parts of Italy fired the Italian mind with the novelty of their loveliness, which Raffaelle and Udine were waiting to apply to the foundation of another school.

All trammels were now boldly shaken off, and the artists of Italy with one accord set to work, earnestly and devotedly studying the remains of classical antiquity in which their locality abounded, and applying them in a modified form to the production of the many works which an almost unparalleled amount of patronage caused to be executed. The architect copied old arrangements and principles, combining at his own discretion order with order, adding, as he pleased, more or less of the new class of ornamentation and some relics of the departing gothic, of which, at a moment's notice, he was unable to divest his mind. The painter in the accessories of his picture introduced the same mixed forms, while the illuminist and the decorator, in the enrichments they were called upon to produce, imitated the arabesques found upon the walls of the baths of Adrian, treating those subjects according to their own fancies, and discarding those ornaments which they thought inappropriate or ill-timed. The end of the fifteenth century, and the whole of the sixteenth, continued the use of the same style, which modern nomenclature has been pleased to term the "Renaissance," not only in the seat of its birth but in the other countries of Europe. In the latter fields it was sown partly by the efforts of men of genius—for, whatever a great man achieves, inferior successors are sure to imitate. Every art now possessed some master mind at its head, and the ultimate acquaintance of all the arts with architecture I have already endeavoured to shew. Painting and sculpture now gloried in the names of Raffaelle, Leonarda da Vinci, Michaelangelo, John of Bologna, and a crowd of others, who have purchased immortality. The goldsmiths' art was represented by Benvenuto Cellini, of Florence. Francesco and Girolamo Veronese, with their pupil Julio Clovio, performed tasks impracticable to all others, in book illumination; Lorenzo Ghiberti made the "Gates of Paradise," worked in bronze; artists of the highest standing lent their names to the manufacture of Faenza-ware and Majolica; wood-carvings, engravings, and designs for decorative art, issued from the ateliers of Dürer, Cranach, and Holbein; Léonard Limousin and the Courtoys, under the auspices of Francis I., produced the most wonderful pictures in enamel; while ornamental painting was carried to a high degree of perfection by Mabeuges; and arabesque designs boasted of such men as Udine, Romano, Primaticcio, Aldegraver, and Beham.

Most of the German masters of this time exhibited in their works two separate and distinct manners, the first before, and the second after, a journey to Italy; and this travelling to and fro, which gradually became very frequent, was the means of establishing in Germany the style of the Renaissance in its best features, though it is occasionally found strangely combined with native wildness and traces of lingering Gothic taste. The immense resources of the French court gathered around it a concourse of men supremely competent to strengthen the dominion of a style already familiar from the connection between France and Italy. Rosso, Da Vinci, Limousin, and Cellini, all appeared in Paris at the summons of Francis I., and contributed to sweep away the dying embers of the previous style, which the chivalry of the soil had for a time prolonged. England was, perhaps, more prepared than any other country for an alteration in the character of her architecture. The profuse splendour of Henry VII., who devoted his accumulated riches to the erection of one of the most gorgeous monuments in the world, had called into this country Torregiano, and with him a number of Italian workmen, who could hardly be employed upon the chapel at Westminster without in some measure influencing the arts of the nation, though there must then have been many who were opposed to the intrusion of a foreign style, since pure perpendicular works are met with of a much lower date. But the case was considerably altered after the ascent to the throne of Henry VIII. That arrogant monarch, who had taken advantage of the tendency to Protestantism to aggrandise himself at the expense of churches stripped and monasteries destroyed, in finally establishing the Reformation, superseded the necessity for such works as had chiefly employed the Gothic style to execute. The abbey and the convent were destined to be lost to architecture; the silver thurible no longer swung on the steps of the altar; the rood itself became a superstition, and the towering monstrance, with its decorated buttresses and delicate spire, was now a thing of the past. With a very few exceptions, no new churches were built, but the funds, appropriated by royalty and lavished on favourites, were necessarily applied to secular uses. A secular style was therefore requisite—a style divested of all ecclesiastical meaning, and free from symbolism, but which afforded ample scope for the exercise of fancy, as an atonement for all that the Gothic had recently exhibited. Exactly such a style was found in the "Renaissance." The workmen, too, after the death of their patron, Henry VII., were retained in England to complete what they had commenced, and they were now employed by Cardinal Wolsey at Hampton Court, by many of the nobility in the enrichment of their country seats, and by Anne Boleyn, in the wonderful organ screen and stalls which her liberality presented to the chapel of King's College, Cambridge. Holbein, the painter, the sculptor, the architect, the carver, and the goldsmith to the British court, completed the transformation of art from a religious to a secular establishment.

How, then, may the style of the Renaissance be described?

Architecturally speaking, it is often a heterogeneous combination of the various orders of classical antiquity; but, in the purest examples which have descended to us, one feeling is seen to pervade an entire edifice,—a feeling based upon some form of the Grecian or Roman, and enriched with the substitution of various conventional heads and flowers for the honeysuckle and acanthus, to which the original architect so often confined himself. But the accessory decorations are by far the principal features of the style. Volutes, as if in extension of the Ionic capital, are applied in a thousand different ways; in some instances foliated, in others enriched upon the face by a series of indentations, assuming either the form of an ellipse or of the letter **I**. Sometimes they are curled and threaded, as if they were representations of leather straps, arranged in a most complicated manner; but the friezes and panels, ornamented with basreliefs, are the principal charm in architectural works of the sixteenth century. Here unbridled fancy roves through a succession of forms selected from both kingdoms, disposed with the most exquisite balance, a modification of the antique acanthus forming the basis, while from its husks and centres issue flowers of every conceivable form. In the interstices laughing cupidons luxuriate, dolphins disport themselves, or creatures of the mind's creation, "monsters, and hydras, and chimeras dire," leer through the foliage, and conceal themselves behind its branches. But the foliage itself is very peculiar, and has never been properly examined, though it figures so prominently in the stall-friezes of King's College Chapel, and assumes an unnumbered variety of positions in the works of Holbein and Aldegraver. The leaf, whether in painting, in sculpture, or in carving, is first shaped like a simple heart, afterwards regularly divided into three, and then serrated according to the tastes of the designer. It is a non-observance of this rule which has mainly rendered the imitative works of recent French artists in bronze, stone, and other materials, less successful than they should have been, and imparted to them a different character from that of genuine works of the sixteenth century. In decorative art the style has advantages over every other. It possesses none of the childish and unmeaning rococo of the time of Louis Quatorze, but is equally capable of being employed in every object of modern use, without destroying its character, or contorting it to a form for which it is not adapted. Many attempts have been made to render the Gothic style the vehicle for imparting beauty to our manufactures. But none have been attended with success, for that style is so limited to particular proportions and geometrical arrangements, that in many cases either its principles must be violated, or convenience sacrificed to its absolute demands. It is the freedom from specified limitations and restrictions, whether in form or in proportion, which makes the style of the Renaissance so suitable for modern employment in architecture and decorative art. It is a secular style, which the Gothic style is not, never has been, and never ought to be. In our constructions at the present day utility should be the first thing considered—elegance of outline and ornamentation of detail should not be overlooked, but they should always be subservient to this principle: it is important equally that the architect of a mansion and the fabricator of everything it contains should remember—

"'Tis use alone that sanctifies expense,
And splendour borrows all her rays from sense."

I may also say, in conclusion, that the style of the Renaissance, in its modern adoption, can never be employed as a servile copy of its Italian precursor of the sixteenth century, for it is a favourite requirement of modern taste that every *ornament* should bear some allusion to the purpose of the building or object upon which it is placed; the gryphons, and tritons, and dolphins, and nameless monsters, therefore, however they may be tolerated as the accessories of buildings which have become venerable from antiquity, or from the association of some immortal name, it would hardly be desirable to repeat in the nineteenth century, when the fields or gardens of nature offer so wide a range for the study of the designer; and the Italian foliage to be used is so diversified in its arrangement, that monotony may be easily avoided. Heraldic embellishments may always be retained, and appropriate devices occupy the position of the wild and insolent grotesque.

I have thus endeavoured as briefly as possible to convey some idea of the circumstances which ushered the style of Renaissance into existence, offered some reasons for the rapidity of its extension through Europe, and suggested that its applicability at the present day depends upon the fact that it is a secular rather than a religious style of art. The sanctity which is thrown around it is derived less from any characteristics of its own than from the giant names that have associated themselves with it. England may, perhaps, scarcely hope that a new Cellini should impart an unheard of value to *her* gold, a Clovio illustrate by magic the pages of *her* history, or a Udine enliven for *her* the walls of a northern vatican, but her artists may at least learn to venerate what they possess of a period so magnificent, and may strive, at least in one department, to re-animate beauties of art which have slept for 300 years.

W. H. Rogers.

IMPERFECT CHARACTER OF THE PROPOSED BLOCK PLAN OF LONDON.

THE CROW'S NEST ON ST. PAUL'S.

HAVING recently paid a short visit to the cross of St. Paul's, on the top of which the surveyors' "crow's nest" has been for some time established, we fell into a train of thought rather of a mixed nature, arising partly from the inseparable association of ideas which occupy the mind when contemplating that noble edifice, and partly from considering the strange uses to which its topmost point has been applied.

We confess we feel a mixture of pride and shame in reference to our metropolitan cathedral—pride in possessing in the heart of our capital a building second only to one of the same class in Europe, or in the world, in point of magnitude and symmetrical proportions, and shame from the consciousness that, if it is a building worthy our nation, it is the only ecclesiastical edifice having the slightest pretensions to a European reputation that *Protestant* England, the wealthiest nation on earth, has ever produced. The humiliating truth must be confessed, that while our ancestors, in the ages of "darkness and superstition"—ages at which we are apt to sneer with an air of supercilious superiority—produced our fine old cathedral churches, which will bear comparison with any of their class in Europe, reformed and enlightened England has, in the three centuries which are distinguished by the most striking advances in national wealth, political liberty, social improvement, and scientific discovery, produced only one.

As, however, the object of our visit was not to fall into architectural speculations, we shall at once emerge at "the golden gallery," and thence mount by the slim but well-knit scaffold, on the summit of which the "crow's nest" observatory stands securely perched. And what a view bursts on the eye from this elevated spot! There are, it is true, none of the distinguishing and peculiar beauties which we have recently described as belonging to the "Modern Athens," of which our northern fellow subjects are so justly proud. We miss the terraced and unique features of "Auld Reekie;" the commanding prominences of Arthur's seat and Salisbury Craig; the old and venerable castle which has frowned proudly over the beautiful city for centuries; the fine pastoral range of the distant Pentlands; and the ever-heaving ocean which washes the bold and picturesque coasts of the noble estuary of the Forth: but in lieu thereof, we have a nation at our feet. "Londres," says M. Say, "n'est plus une ville: c'est une province couverte de maisons." And if without any very extraordinary degree of exaggeration it may be considered a province in point of magnitude, it may with equal or greater reason be considered a kingdom on account of its myriad population, its boundless wealth, and its vast influence in the commercial and political affairs of the world. While gazing from our elevated station, we confess we felt some degree of exultation when we beheld our noble river abounding with life and activity, and bearing on its majestic bosom and along its margins innumerable evidences of that spirit of enterprise which forms so essential an element in the Anglo-Saxon character, and which has so largely contributed in making us the precursors of civilization to the remotest regions of the habitable globe. And when we passed before our mind's eye the various great events that stand out prominently and form important *time-marks* in the history of our capital and our country, which occurred almost beneath our feet, the thoughts involuntarily connected the scenes of them with the little temporary structure on which we stood. Within the range of our unaided vision, and within the area of the metropolitan survey, we have the theatre of many of the triumphs and defeats of the British nation. Here Roman discipline and valour exercised imperial, though not undisputed sway, from the time when Cæsar with his cohorts crossed the Thames at Coway Stakes, to the period when perhaps a greater than Cæsar, Constantine the Great, constructed the first walls round the city. The occupation of London by the Romans and its importance in their eyes are attested by the converging of several of their great military roads to its centre, where, not improbably, our "*London Stone*" formed the central miliary; and also from the numerous remains belonging to that people which have been discovered from time to time over almost every part of its area. Some of the vicissitudes which London underwent during the inroads and occupation of the country by the Saxons, and subsequently by the Danes, are recorded in the annals of the early chroniclers—and the repulses of the latter brave and sanguinary marauders, in its immediate neighbourhood, by Alfred and by Edmund Ironside, form interesting incidents in our mediæval history. Many of the most important events of the reign of the "great Norman robber," William the Conqueror, and his freebooting chieftains, who, with all his indifference to deluging the country with human blood, during an iron despotism never exceeded, laid the foundation, perhaps unconsciously, of much of our national liberty, occurred within the area under our observation. We cannot, within the limits of our sphere, notice, much less direct special attention to the historic events which occurred within our field of view during the ages of the stern and warlike Plantagenets and Tudors; the irresolute and vacillating Stewarts; our "immortal rebel;" and the *mediocre*—except where greatness or great events were thrust upon them—House of Hanover. Suffice it to say, that from no other point of view within the vast limits of the British empire can be contemplated the scenes of one hundredth part of the striking historical events, civil and ecclesiastical, and of the scenes, the names of which have been made almost as familiar as household words by the host of English writers, from old Geoffrey Chaucer to the present day, who have spread the glories of our land's language throughout the civilized world.

It may be asked by some of our readers why the matter-of-fact and unimaginative, because strictly professional pages of THE BUILDER, should be occupied by subjects like these. We shall come to this point presently. We have no desire to elevate the pursuits of the antiquary or the archæologist above their intrinsic merits and their legitimate claims to consideration. We have smiled at the peculiarities of some of the most learned and laborious among them, and have enjoyed the consternation of more than one worthy old Jonathan Oldbuck at the demolition of his favourite *Castellum* by the irreverent exclamation of an Edie Ochiltrie—"Pretorian here or Pretorian there, I mind the biggin o't." We cannot but know, however, that it is such men as the Camdens, the Lelands, the Stukeleys, and the Whittakers, that clear the way by their learned and laborious researches for the future historians. We would therefore willingly assist such disinterested labourers in what is considered by most men the least attractive, but assuredly not the least useful, field of historic investigation, by every means that can fairly be placed within their reach; and we would do so the more readily, as we would perpetuate the memory of great historic events, and give the scenes of their enactment a local habitation as well as a name, with the same degree of interest as we would preserve our national records and monuments of antiquity from desecration.

We were, therefore, seriously considering the great facilities which the general metropolitan survey would afford for the furtherance of the object here indicated, if competent parties were engaged to represent upon the map, *the correct position of every object or locality of antiquarian, historical, or even literary interest* within the extent of the district to be surveyed; and by means of a copious index make every such locality an object discoverable in a moment by those interested in the pursuit of such investigations. We had, however, some misgivings as to the entire practicability of carrying out these views to their full extent, when we recollected the materials of which the "*active members*" of the Metropolitan Commission of Sewers are composed. We, therefore, made it our business to ascertain what was in reality to constitute their "*block plan*," which has been so often brought before public attention during the last six months, and we give the result of our inquiries the benefit of our circulation.

We would not willingly do injustice to this commission; we are not ignorant of the great ability of one of them for collecting evidence and drawing up reports in reference to economical and sanitary subjects; while another of them is known to possess the faculty of talking volubly and speciously upon geological, sanitary, or any other subjects, and has the tact, by the exercise of consummate self-possession and a jovial laugh for everybody, of convincing many that what he can talk so confidently about he must be perfect master of. Some know very little of the matter, others seldom attend, and, moreover, they have to fight against difficulties. We confess, however, that we were quite unprepared for such an inefficiency as this "*block plan*" will be, unless the arrangement be altered. We scarcely expect our readers to credit us when we inform them that, in addition to the omission of the divisions and numbers of the houses from this map, the scale of which is sufficiently large to distinguish the minutest property, it is positively not intended to insert upon it the public buildings, the territorial, ecclesiastical, and electoral boundaries of the metropolis, and that even the river Thames itself may, and possibly will, be excluded, without the slightest violation of the "instructions" for the execution of the survey. A map of London and its environs, of the capacious dimensions of four or five thousand square feet, and all water-courses, woods, trees, gardens, pleasure-grounds carefully excluded from it, will have the merit of being at least a curiosity of its kind.

We have observed that since the publication of the article in THE BUILDER of the 1st inst., on the subject of the exclusion of the "City" from the general survey, negotiations have been going on between the Metropolitan and the City Commissioners of Sewers.* We care not which has taken the initiative in this matter. We are perfectly willing to give both parties credit for shewing a laudable anxiety to get out of a very absurd position. Our only motive for interference is a desire to obtain a perfect result for the public: we care no less for the City authorities than we do for the Commission; we care no more; and will as resolutely condemn what we think wrong in one as in the other. If it is necessary to make a new and expensive map on account of the defects of those already in existence, and we know that it is, it is equally necessary that the new one shall not only be free from the errors of its predecessors, but that it shall be as perfect a thing of the kind as can be made.

We would also direct the attention of the antiquarian and archæological societies to the necessity of their taking steps to see that the important information in which they are more immediately interested is not entirely disregarded. There will probably never again occur so favourable an opportunity of ascertaining and fixing the localities and objects, respecting which so much has been said and written, but the memory of which, if this opportunity be neglected, will inevitably, year by year, pass away.

For ourselves, so far from having offered opposition to the execution of the general survey, we have advocated it, understanding that it was to be at the same time a perfect survey; but we have the most insuperable objection to the cheese-paring economy of making a preposterously imperfect work. We repeat, if the thing is to be done, let it be well done, and then we may hope that it is done once for all.

LETTERS PATENT.—A Parliamentary paper shews that the total number of letters patent for inventions granted in the United Kingdom in 1847 amounted to 740, against 761 in 1846, and the total fees received thereon to 32,977*l.*, against 34,103*l.* in the preceding year. Of this sum, 20,518*l.* were paid over to the Consolidated Fund, and 9,830*l.* to the several offices entitled to receive the same.

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* Since the above was in type, the special committee of the City Commission, on the Ordnance Survey, have reported to their constituents, that as they had 'gathered,' at an interview with the new Metropolitan Commission, that the survey of the City 'would not be done' unless the City Commission consented to pay for the outline of the block plan, which, with the levels, would cost 450*l.*, they thought it desirable that the court should incur that expense, in order that the survey 'should be rendered perfect by including that of the City,' although, for all the purposes of sewerage, they deemed their own plans and levels quite sufficient. It has accordingly been agreed to apply for the cash to the Common Council, on the ground that it is 'desirable to have a perfect plan of the metropolis.'

HEREFORDSHIRE ANTIQUITIES.

A meeting of the Hereford Antiquarian Society was held some time ago, when various interesting papers were read, of which we have had notes in type for several weeks. One by Dr. Strong, of Ross, related to Hereford Castle and Gillow Manor-house. The writer said,—The exact period when Hereford Castle was built cannot be ascertained from any known records, but there are sound architectural reasons for believing that it was erected in the Anglo-Saxon time. One of these is the utter decay of the whole fabric. Besides this, however, the description given by the learned and judicious Dr. Borlase of the castles in this country prior to the Norman invasion, agrees in such a striking manner with it, that it might be taken for a minute account of this very spot. "The Anglo-Saxon castle generally consisted of two parts—a bass-court and a keep or dungeon. The bass-court was a piece of ground sometimes about an acre in extent, surrounded with a high and thick stone wall, with a garreted parapet on the top, from whence the garrison discharged their weapons on the assailants. At one end of the bass-court was a round mound, sometimes artificial and sometimes natural, on which the keep or dungeon stood, which was a circular stone building with thick and high walls. From the top of this building, which was flat, the garrison had an extensive prospect of the surrounding country, that they might discover the approaches of their enemies; and from thence also the chief defence was made. The body of the keep, which sometimes consisted of several stories, contained the lodgings of the commander of the castle; and in the bottom was the prison, under ground and without light, from whence the whole building was often called the dungeon." The Norman castles of a later date always had the keep *within* the walls.

In the age succeding the Conquest began to arise those ecclesiastical buildings—churches, chapels, abbeys, monasteries—which, in the course of three centuries, covered the land. An old writer tells us they were so numerous, you might see six or seven religious establishments in the course of a morning's ride. In this small shire, according to Speed, there were no less than thirteen religious houses; and so sacred was this property esteemed by all classes, that it was rarely violated, although as much exposed to spoliation as our modern houses.

We are all of us familiar with the graceful outline and rich ornament of this class of erections, whose solemn beauty indicates to what a height domestic architecture would have arisen in England, had it received the requisite protection during these early ages. With the gradual advance of civilisation and security, people began, about the beginning of the fifteenth century, during the reigns of Henry IV. and Henry V., to relax somewhat of the severity of military architecture; the battlement was constructed of a less elevation, large airy windows took the place of oyletts or loop-holes, while the court-yard, no longer required for a tilting ground, was curtailed considerably of its dimensions. A low situation, well supplied with water, was now mostly selected, instead of an inaccessible eminence. Still the edifice was protected from a sudden *coup de main* by a wide and deep moat, crossed by a drawbridge. A century later and even this disappeared entirely, except in counties bordering upon the coast, where exposure to the attacks of pirates and adventurers rendered some protection still necessary.

I believe it will be found that much of the glowing interest with which we examine the manor-house of Gillow (long since reduced to a tenant-farmer's abode), consists in its having been erected precisely at the period of transition from the military to the domestic style of construction; where the endeavours of the architect to blend together the incongruities of the fortalice and of the dwelling-house produce a highly picturesque effect. The spot in question is on the road from Hereford to Ross, about 4 miles from the latter town, and very near Pengethly. On comparing a drawing, taken in 1718, with the present state of the building, it is gratifying to observe how very little change has taken place in the stonework (red and grey ashlar) of which the whole is constructed, in that long course of years. Pent within its moat, and suggesting no other idea of comfort than arose from security, no other capacity for that hospitality which we ascribe to our forefathers than the close quarters which perhaps favoured its cordiality, it illustrates not only the mode of architecture but the domestic habits of former times. The north front, facing the Hereford road, is that which has suffered the most from the hand of innovation, and is now used as an entrance, though formerly the embattled gateway on the south side must have afforded the principal access to the interior. The bridge by which it is approached is perfect, but there are no remains of either drawbridge or portcullis. The apartment over the gateway is considered by the present occupants to have been the chapel; but, as it is furnished with a chimney and a large fire-place, the notion is hardly tenable. The court-yard is ridiculously small, barely large enough to back a horse into: from it, however, you enter a hall of ample dimensions, and lofty for its date. It is panelled, and contains a massive table of nearly black oak, having a kind of frieze of flowers under its slab, and measuring twelve feet by six. In the centre of the pile of buildings may be remarked a handsome pointed window of rather elaborate design. It is surmounted by a bold weather-moulding or drip-stone. The window itself consists of two lights, pierced above with a quatrefoil, the two straight lines on each side of it indicating traces of the approach of the perpendicular style of Gothic architecture, which arose in this country towards the end of the fourteenth century. Another peculiarity of this style is the use of *transoms* crossing the mullions at right angles, of which we have a striking instance in the lower part of this window; and underneath this division brick has been inserted instead of glass. With the exception of this ecclesiastical window, the other openings for windows are rectangular, divided by stone mullions and transoms, and with square drip-stones. Almost below the level of the moat, which constantly contains several feet of water, and still surrounds two-thirds of the house, is a kind of crypt, now used as a cellar, running under a great part of the premises, and of which the masonry is peculiarly massive. In this is found a figure rudely carved in stone, which has been inserted perpendicularly as a support to the walls. The features are much impaired by the action of time or violence: the head is invested with a cap of circular design, the rest of the body being clothed in a plaited garment confined at the waist. The whole costume refers to a much earlier age than the existing features of the building will justify us in ascribing to the present erection, which I have ventured to fix at about the commencement of the fifteenth century, assigning this period, partly from the lingering traces of defence still observable in buttress, battlement, and court-yard; and partly from comparing some records of the old chapel of St. David's, once standing here, with architectural fragments of a sacred character, now incorporated with the very foundations of Gillow manor.

VENTILATING A BILLIARD-ROOM.

Sir,—The most simple, effectual, and inexpensive mode of ventilating the billiard-room, described by your subscriber last week, would be by inserting external air-gratings, about 9 in. by 6 in., at the level of the floor, with perforated zinc sliding-doors internally, in order to prevent too great a current of cold air at one time. Over each light above the billiard-table should be a zinc tube, about 2 in. in diameter, communicating with a larger one, 3 in. in diameter, and this again communicating with the external air at one end, and carried into the flue of the chimney at the other.

This method has been adopted in some of the large billiard-rooms of the metropolis, and has answered the desired purpose. The pipes are concealed between the joists. I am, Sir, &c.,

A Subscriber.

Sir,—If your correspondent, "A Subscriber," to whose inquiry you prefix the term "Ventilation," will have the goodness to initiate me gratuitously into the art and mystery of the billiard-table cue, I will gratuitously initiate him into the art and mystery of ventilating his billiard-room. Cue for cue. Live and let live. There are many men, many women, and many children who can do—(what cannot they do?)—nay, teach—all sorts of things theoretically, but practical men, who perfect their knowledge by long-continued experiments and long-tested practice, expect a fee in return for their advice.

I have yet to learn why the professors of ventilation should form an exception to the general rule.

Does Dr. Reid ventilate the Houses of Parliament for nothing? Do men descend into and clear our common sewers for nothing? Do either one or the other teach the art and mystery of their special vocations for nothing? Occasionally, it is true, one and another (the fewer and farther between the better) exact fees for one professed branch of science, and pretend to teach another gratuitously. And it is thus that some pure professional men mark their contempt for the interest of as pure, as studious, and not less scientific mechanical men. The contempt in which a scientific mechanic is held, and the conventional refusal to reward his application of his skill by a professional fee, has helped to create the necessity for the labours of our Sanitary Commissioners. Nothing will lighten their labours more than encouraging a skilful tradesman to communicate his practical knowledge to your subscribers and non-subscribers on their inclosing a fee with their inquiry.

One who for nearly Forty Years has lived by the profession and practice of Ventilation.

ARCHITECTURAL EXAMINATION.

The following is a list of questions put to students in the first class of architecture at the Putney College of Civil Engineers, at the last examination: the questions to the other classes we will give hereafter:—

"1. In laying out grounds forming the site for a villa, how is the greatest variety produced?

2. What arrangements are necessary to produce the effects of light and shadow in planting? And how are they capable of increase?

3. What is the principle upon which approaches to houses should be laid out and constructed?

4. Where should the chief apartments of a country-house be placed; and what should be their relative dimensions?

5. In what part of a private house should the stairs be placed; and what is the best proportion for treads and risers?

6. How should the offices of a country-house be arranged; and where should the servants' rooms be placed?

7. What is the proper way of arranging the size of fire-places and smoke flues, so as to secure them from smoking?

8. What subjects and materials should be adopted in the decoration of drawing-rooms?

9. How should the walls and ceilings of dining-rooms and halls be decorated?

10. Show the mode of proportioning the members of different styles of architecture to town houses?

11. What is the rule to be observed in using and carving mouldings for exterior and interior decorations?

12. How is the effect of magnificence in architecture produced; and what relation should accessories bear to the whole?

13. Show how the dimensions for cornices to rooms are obtained, and the manner in which they are usually constructed?

14. How are architraves and cornices to internal doors proportioned and constructed?

15. Certain general principles have been laid down, by which we are to decide on beauty in art: are they applicable in architecture? and if applicable, state how they may be modified in different circumstances.

16. It is a very general custom with architects and engineers to use the word *best* in describing materials and workmanship in specifications: show that this does not secure the required quality of materials or workmanship, and how this ought to be done.

17. Should an *order*, when introduced in a building, form a predominant object or otherwise, and why?"

SOUTH PORCH, LINCOLN CATHEDRAL.

EARLY ENGLISH.



THE ARCHÆOLOGICAL INSTITUTE AT LINCOLN.

THE meeting of the Archæological Institute at Lincoln commenced on Tuesday, and the appearance of this venerable, picturesque, and truly interesting city at the time of writing this promises well for it. The Duke of St. Albans, the Marquis of Northampton, the Earl Brownlow, the Bishops of Lincoln and Norwich, Lord Monson, the Deans of Lincoln and Hereford, Messrs. Hallam, Willis, Britton, Lawson, Disney, E. J. Willson, W. A. Nicholson, and others had already assembled.

Lincoln abounds in edifices and remains of the most interesting kind. Its cathedral, or minster, is amongst the finest of its class, not only in historical and biographical relations, architectural features, construction, and details, but also in its monumental and sculptural ornaments. The first, or architectural portion, is to be explained and commented on by Professor Willis, who has already done the same kind turn for the cathedrals of Winchester, York, Canterbury, and Norwich. The

sculpture is to be displayed and elucidated by Professor Cockerell.

As a noted and remarkable Roman station, the *Lindum Colonia*,—as still retaining fragments of walls and gateways of the old fortified city,—and particularly as displaying bold and singular features of a Norman castle and a domestic private residence, with numerous churches and other vestiges of former times,—Lincoln cannot fail to afford ample matter for the study and admiration of the old and young antiquaries who visit it for the first time.

We propose to lay before our readers notes of such of the papers read as have architectural interest, and particulars of some of the excursions.

Annexed we give an engraving of the very interesting Early English porch (thirteenth century) which is attached to the west side of the south transept,—a peculiar position. It has three entrances, north, south, and west, with a small room over it, and is well worked. This and the Galilee porch at Ely, which we gave some time ago,* may be regarded as the two finest specimens of Early English porches in the kingdom. The Lincoln porch inside is finely groined. The "decorated" circular window in the south end of this transept is one of the finest remaining: we gave an engraving of it a short time ago.† It is 23 ft. 8 in. in clear diameter.

Lincoln Cathedral is full of interest and offers numerous points for study and comparison. Our notice next week will be accompanied by a fine interior view of the Chapter House.

THE QUEEN'S BOX AT THE ITALIAN OPERA-HOUSE.

THE box which was constructed on the occasion of her Majesty's state visit last week to the Italian Opera House, Covent Garden, deserves special note, as well on account of its elegance and the rapidity with which it was effected, as because it was an innovation,—a step out of the beaten track,—which had all the prognosticators against it, and was taken in the face of numberless shrugs, and "it won't do." The box was formed in the centre of the house, on the grand tier, projecting with a graceful curve in front, and comprising the lobby behind, so as to present a spacious saloon. Over it was an enriched canopy, with very full curtains on either side, of Indian brocade and white lace, surmounted by a large (rather too large) crown and cushion, with a number of glittering flags disposed in form behind it,—the whole reaching up to the front of the amphitheatre stalls. The box was lined with white, ornamented with gold stripes and small bouquets of flowers at regular intervals, with double vallance of white lace all round it. There was a bordering of roses on the floor, and under the ceiling; and the columns which carry the tier of boxes above, entwined with flowers, bore numberless wax lights. The retiring room, with a magnificent toilet, and the saloon adjoining, were fitted up in a similar manner, and lined with flowers, cleverly disposed as to form and colour. When it is remembered that the front of the box was built out solidly to accord with the remainder of the circle, with the like gilt enrichments and decorations, all, of course, made purposely for the occasion, and that the whole was of necessity executed between one opera night and another,—between the Tuesday and the Thursday,—the result seems marvellous. The whole was most creditable to the taste and skill of Mr. Frederick Gye, by whom it was executed, and to the spirit and liberality of the proprietor, Mr. Delafield.

The same liberality has been extended to the production of the opera, "The Huguenots," played for the first time on that occasion, and which must be placed amongst the finest things ever done in England. A garden scene, with the Queen's chateau on a mount, to the left, and an extensive flight of embowered stone steps reaching half the height of the stage, and by which all the characters approach and retire, is exceedingly effective.

* See p. 374, vol. v.
† See p. 54, *ante*.

BAPTISMAL BASIN, VITERBO.



BAPTISMAL BASIN AT VITERBO.

ALL the constructions which have been put up in this city for the distribution of water in the public places, have so much elegance and grace as to have gained for Viterbo the title of the city of the beautiful fountains.

In an obscure corner of the damp cathedral of St. Laurent, lies forgotten the elegant basin, of the sixteenth century, of which we give an engraving in our present number. This basin serves as a font: in the centre rises a triangular pyramid, supported by dolphins, and sculptured into three niches. The ornaments of the basin and its pedestal are very beautifully executed, but are in a bad state of preservation. The height of the basin from the ground is 3 feet 10 inches: its diameter 4 feet. The total height is 6 feet 8 inches.

PAYMENT OF COMMISSION TO ARCHITECTS BY THE TRADESMEN.

SIR,—In your number of the 8th inst. you published a letter signed "A Tradesman," making some remarks on the above subject. The evil he there speaks of—that of architects charging commission on contractors, as well as employers, is of much greater importance than even "A Tradesman" seems to think.

That it is an evil of very great extent will be admitted by every builder, of any amount of business amongst architects; the commission that a contractor will submit to, sometimes influencing the decision of the architect, upon *tenders*, and giving rise to a great deal of disreputable arrangement, always greatly to the prejudice of the employer; while in works that are disposed of without tender it becomes much more a matter of business.

The effect of the practice is most prejudicial to all parties. The proper relation between the architect and contractor becomes immediately cancelled, for how can an architect maintain the proper control over the work, and extra charges of the contractor, when he, at the outset, commits so great a breach of trust against his employer, that it is at any time in the power of the contractor to injure him by exposure?

Another practice equally reprehensible is that of an architect raising forced loans from the contractor, the refusal of which would be visited by the most unmitigated severity, so that the contractor would soon learn that he had better give double the sum demanded rather than resist.

In addressing to you these few lines it is very far from my wish to calumniate architects as a body, or to stigmatise the character of any individual; but it is to defeat certain practices which can only be successfully grappled with in this way. Among architects I am acquainted with many of the most estimable character and the most undeviating rectitude of conduct; but still I must confess that I have fallen in contact with some of very opposite principles: that they are a minority I most cheerfully admit, but that minority is sufficiently numerous to render the exposure extremely desirable to all parties. That these statements are not unfounded I appeal to the large body of your readers: it will be known to most contractors, though I have no doubt many will doubt their truth, except in a few isolated instances, knowing that the body contains so many of the brightest ornaments of society.

We have seen the evil,—what is the remedy? That moral principle that should exist in the breast of every man. The sin requires two parties: the one to whom such an offer is made ought as a man to resist the temptation, and condemn the practice whenever he hears of it. Both parties would recoil with horror from trafficking in fraudulent bills, or false transfers of property; but a false contract is equally criminal, though many men think they can transgress in matters affecting their own business without committing any crime, while in any other they would look upon a similar transaction with

horror; but this is a false reasoning that cannot be too soon exploded.

It has not been my desire to call things by hard names, but we do wrong not to call them by their right ones. People who would recoil at any act called a fraud, would laugh at the same act called by the cant name of overreaching your opponent.

In conclusion, I must beg to apologise for so far intruding myself upon your notice: but I feel satisfied you will excuse it when I assure you, that the reformation of abuses has been my only object in addressing you. FIDES.

RAILWAY JOTTINGS.

THE narrow gauge express speed on the South-Western, as evidenced by Mr. Stephenson in the House of Lords, is 1½ mile an hour greater than that of the broad gauge on the Great Western.——The short passenger traffic on the South-Western, since the opening to Waterloo-bridge, has been enormously increased, and when the Hampton Court and Windsor branches are completed, in less than a fortnight hence, the pleasure traffic on this line will, it is fully expected, be the greatest in the country. The Waterloo-bridge receipts too have kept pace with the increase, and have required additional toll-takers at the horse gates.——The want of water and watering places for cattle near the metropolitan stations is an evil requiring redress. A correspondent of the *Times* suggests that water troughs ought to be placed at or near each station to which drovers should be compelled, at a small charge, to lead the cattle, which frequently die, or become raised and dangerous, from want of such accommodation, especially in the heat of summer.——The Midland Counties Company have fitted up a lecture and reading room at Rugby station. Upwards of 150 of the *employés* of the different companies have become subscribers.——The Oxford and Wolverhampton company some time since offered Mr. W. Robeson, solicitor, Bromsgrove, the sum of 2,250*l.* for compensation for some houses and land, taken for their line of rail. Mr. Robeson, however, declined the offer, and an expensive arbitration was gone into, which ended in nothing, and an umpire has at length decided that Mr. Robeson is only entitled to 2,237*l.*, the effect of which decision is, that besides having less than the company's offer, he will have to pay his costs of arbitration over and above.——A correspondent of the *Carlisle Journal* complains of the want of consideration and accommodation for a number of villages, in the planting of stations, or rather in the want of minor stations, on the Lancaster and Carlisle line. Self-interest, as he observes, ought to induce attention to the convenience of villages in such cases. On old-established lines, such as the Liverpool and Manchester, the trains stop twenty times in thirty miles; and even on the dreary waste of Chatmoss, with their heavy trains of from 1,000 to 1,500 passengers, experience has taught the directors of the North-Western company that it is worth their while to stop even at the bye-paths (where no stations are erected) to take up or set down a single passenger.——An open fencing of galvanized wire on a portion of the Irish North-Western line has been decided by the Skipton magistrates to be insufficient, sheep and cattle having got entangled in the wires. The company have been therefore ordered to substitute a wood fence, 4 feet 6 inches high, with five bars, 6 inches apart, and that within one month. They had provided wire materials for fencing the whole of their line, and their loss in consequence has been estimated at not less than 8,000*l.* to 10,000*l.* The wire-fence agent, on the inquiry, stated that he was employed to put up such fences, not only on this railway, but on the Chester and Holyhead, Liverpool and Ormskirk, Caledonian, Ayrshire, Chester and Shrewsbury lines, &c., and that, on the Southampton and Dorset line, a sample fence was set up, which the Commissioners of Woods and Forests supported: had complaints of the fence in fox-hunting districts: 40 0 landholders in Scotland have this fence.——The trains on the Erie Railroad brought down to New York, one day lately, 80,000 baskets of strawberries and 40,668 quarts of milk. The strawberries, allowing 2½ baskets to the quart, measured 1,000 bushels, and weighed, including the baskets and boxes, more than 50 tons.——Some farmers in the north of Germany have protested against the use of electric telegraphs, on the ground that the electric wires endanger their lives and property and injure their crops!

NOTES IN THE PROVINCES.

THE foundation stone of a new north aisle for the enlargement of the parish church of St. Giles, at Costock, was laid on the 13th inst., by Mrs. Edward Wilson, the rector's wife. The architect is Mr. George Gordon Place; and the builders are Messrs. Samuel Hall and William Smith.——The new market building at Malmsbury has been opened. Its chief front, which faces the old cattle market in the Cross Hayes, consists of three arches with gates opening into an area for pitching corn and cheese: behind are butter and poultry, and other market places. Above is a large assembly-room, roofed with timber, besides two smaller apartments. The front of the building is faced with carved free-stone. A police-station is to be erected in the back area, enclosed with gates looking to Oxford-street.——The extensive alterations at the Leamington parish church are assuming form. The tower is of considerable elevation and plain in appearance. The north transept is progressing, the roof being now in course of formation.——The reduction of wages is spreading amongst the puddlers and others at the iron works in the Dudley, Stourbridge, and Brierly-hill districts, where the puddlers have had notice of a reduction of 1s. per ton and others of 7½ per cent. off their wages.——The safety of the foundation of St. Simon's Church, Liverpool having been called in question, in consequence of the near proximity of the railway improvements, Mr. Edward Woods, engineer, has reported to the church-wardens that the foundation, being on hard rock, is not at all affected by the railway works, and that the church is more secure than public buildings frequently are.——The new church at Ferriby (near Hull) was consecrated on Thursday week. It is in the decorated style of the thirteenth century, like most part of the original church, many of the old arches of which, and an east window, have been rebuilt. The nave is 50 feet 6 long, and 16 feet 10 wide, with side aisles same length, and 11 feet wide. The chancel is 27 feet long, and 15 feet 6 wide. The tower is 14 feet square inside, and 55 feet high, surmounted by a spire 80 feet high, including cross. The seats are of oak, and open at each end. In the interior the nave is divided into four bays. At the east end of the church is a painted window, by Wailes, from the Turners, of Ferriby. The other painted windows of the church are also contributed; one by Mr. W. L. Pearson, the architect. The heads of the windows are filled with geometrical tracery. The east is of five lights, and the side window, like that at the west end of the aisles, is of two lights. The font is of Caen stone, supported by eight slender columns of Purbeck marble, surrounding a stouter central shaft of Caen stone. The doors are of massive oak, with wrought iron hinges. The pavement consists of Minton's tiles laid in patterns, those within the altar rails being encaustic, and composing a pattern of vines running round the floor. Over the arches of the nave, windows, and doors, and under the roofs, texts are painted in black letter. The roofs are of open timber work, the chancel one having rafters with a curved rib to each. The contractors for the stone-work were Messrs. Simpson and Malone, of Hull; and for the walls and plastering, Mr. Kirby, of Swanland. Messrs. Binks and Son, of Hull, were the painters; and Messrs. Habbushaw and Gray, of Swanland, the carpenters.——Mr. Roberts, C.E., estimates, that work for watering the town of Galway would cost 20,000*l.*, including 12,000*l.* for 4 miles of pipes and a reservoir.

THE STATE APARTMENTS AT WINDSOR CASTLE.—Her Majesty has ordered these apartments to be opened to persons presenting tickets on Mondays, in addition to the days on which the public have hitherto been admitted, namely, Tuesdays, Thursdays, and Fridays. Some of the rooms still continue closed for the completion of works.

THE LABOUR QUESTION IN FRANCE.

THE National Assembly have decided on exempting from taxes during ten years all houses commenced before February 24, 1848, and completed by July 1, 1850.——In order to extend employment to the well-disposed operatives in Paris, the Minister of Public Works has resolved that the 80,000*l.* voted by the Assembly for supplying the *matériel* for working the railroad from Versailles to Chartres, which is shortly to be opened, shall be expended among the manufacturers of the capital and the suburbs, who have received orders to supply the locomotives and tenders, the carriages, waggons, and trucks.——The Committee of the Assembly on Labour have admitted in principle that individuals who, by ill-treatment, menaces, or acts of intimidation, should attempt to prevent labourers from working, or masters from employing labourers, should be liable to an imprisonment of from six days to six months, and to a fine of from 25f. to 500f. The Committee have been also occupied with a proposition relative to the creation of a school of professional instruction, and for the formation of workshops for receiving children as apprentices. The Minister of Agriculture and Commerce announced his intention to present a Bill on these subjects.——It is remarked as a proof of the improved disposition of the working classes in Paris since the dissolution of the national workshops, that a number of operatives have returned to seek employment in their several trades who preferred to idle on diminished pay in those establishments formed under the sanction of the late Provisional Government. A number of extensive manufactories of stained paper in the Faubourg Saint Antoine, which were closed for the want of hands, are now at full work. At Chanay, in the department of the Aisne, the plate-glass manufacturers have commenced working.——The bill granting 12,000*l.* in aid of the fine arts and *belles-lettres* has been adopted without discussion.——A monument is to be erected in the Cathedral of Nôtre Dame to the memory of the late Archbishop of Paris: 1,200*l.* have been voted towards it.——A friend writes us that Paris is now perfectly quiet, and that confidence is returning.

MODEL BAKERY AT KEMPSEY.

IN October, 1840, Mr. Henry Pratt, then residing in the city of Kingston, Jamaica, conceived the idea of combining a tube with a building to apply the motive power of the atmosphere, and to use up the waste heat from any of the processes connected with the arts of life.

Now, suppose the velocity of air up a tube 16 feet in diameter be 5 miles per hour, the weight of air passing would be $\frac{3\,6\,0\,0\,0}{5\,2\,8\,7\,5}$ lbs. which would require 11 $\frac{1}{10}$ lbs. of coal to raise it one degree. And if a steam engine of 8 horse power be applied night and day, 5 tons 6 cwt. of coal would be consumed on an average; which quantity of coal would raise the air 8 degrees, and this would be an expansion equal to $\frac{1}{65}$. Then, if the tube was about 92 feet high, the difference of the two columns of air would be about 25lbs., which pressure of itself would force the air 8 miles per hour, independent of other causes, and on a fair calculation 4 horse power might be gained.

The above is based on certain data, but it has been said, that in heating air through the intervention of water and steam, double the heat is obtained and half the fuel saved.

In the model bakery at Kempsey,* near the city of Worcester, it is proposed to attach a portable steam-engine and boiler of 4 horse-power, to which is to be connected a condenser of a peculiar construction, capable of forming a vacuum of 20 inches mercury more or less. This condenser is to be placed in the tube above the screw-wheel which intercepts and receives the force of the current to knead the

* This building is 58 feet square at the base and 100 feet high outside measurement. It does not contain 150,000 bricks (large size) including the fire bricks for the ovens which are capable of baking about 280 sacks of flour every week or 10 bushels per hour. The body of the building is 32 feet square, the tube 17 feet 8 inches diameter, with walls 10 inches throughout. The shed, roof, and porticoes, 4½ inch work with pillars. The body of the building is supported by four chimnies at the corners. The tube is covered with a circular roof 28½ feet diameter, resting on 10 light cast iron pillars. The internal diameter of the tube at top is 19 feet. The opening in the screw wheel is 5 by 5=25 feet being one-eighth the area of the tube at the lower part

dough, &c. The effects which would be produced by this combination appear highly valuable. Namely :—

1st. A vacuum to a steam-engine which will create a power without danger and without complication.

2nd. A large quantity of distilled water, useful for bread, or for other purposes.

3rd. The application of a current of cold air rushing through a moving wheel, and impinging on the heated surfaces of the condenser, from which simple application two distinct motive powers are attained without danger or complication.

Now if this combination of principles were properly and extensively carried out, it does appear that the nation would be benefited. For instance, ten fire-proof bakeries might supply London with bread from the grain direct; while iron works, sugar works, salt works, and other arts might avail themselves of the safety, durability, and economy of the combination.

HENRY PRATT.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday, the 20th, Lord Ebrington, M.P., in the chair. Various works were ordered to be carried into effect.

Mrs. Farland, of Strutton-ground, Westminster, was summoned to appear, for having neglected to lay in drains from her premises to the public sewer, in compliance with a notice served upon her under the powers of the new Act of Parliament. In reference to this subject a letter was received from the clerk to the Westminster Improvement Commissioners, stating that, as the property would shortly be required in the formation of the new Victoria-street, with several other houses in that neighbourhood, the commissioners recommended that some general arrangement should be come to upon the subject.—A short conversation ensued, and it was agreed that the surveyors should report to the court generally on the improvements by the Commissioners of Woods and Forests, and of other property in the city of Westminster.

Mr. Lowley, of Piccadilly, was summoned to shew cause why he had not drained his house, in pursuance of notice received. An agent attended for Mr. Lowley, and stated that he was merely the tenant-at-will of the premises; that upon receiving the order of the court he had communicated the same to his landlord, but that he had taken no notice of it whatever.—Mr. Hertslet said a form of notice had been proposed by the late commissioners to meet such cases as the present.—It was then agreed that a proper peremptory notice should be served upon Mr. Lowley, requiring him immediately to carry their first notice into effect.

On the question that summonses be issued for the defaulters in the payment of sewer rates in the Lower Hamlets division, Mr. Hertslet said, at the present time there were 2,040 defaulters in this division: and a report having been circulated that it was not the intention of the present Commissioners of Sewers to enforce any rates, the greatest difficulty was experienced in collecting them.—The necessary notices were ordered to be made out, and a court will be held on the 24th of August next to take them into consideration.

The City of London and the Ordnance Survey.—Mr. Chadwick said that having been invited, himself, Captain Yolland, and Mr. Austin, had waited upon a deputation from the corporation of London, and had given such explanations on the subject of the survey as were required. The matter had been referred to a committee, and their report would in due time be laid before the Court, and he trusted that in working out this plan they should not be under the necessity of leaving the city of London a blank in the map. As regarded the question of the expense, it was calculated at the rate of 130*l.* per mile, but this average was formed for the whole districts, and not for any dense or intricate portion. The corporation portion consisted of about one-tenth, and that the most crowded in the metropolis, which might raise the expense for it to 450*l.*

Mr. Lambert Jones said there could be no difference of opinion as to the importance of an Ordnance survey—there could be no question as to the value of it, whether to the corporation of London or any other body.

It was resolved unanimously, "That the General purposes Committee be authorised to direct the execution of any works that may appear to be expedient for covering in any of the out-falls of sewers."

Thomas Mitchell, of Beresford-street, Walworth, was summoned for having caused certain erections over the sewer in that street.—It appeared that the late commissioners, in their annual view, had observed the shed now complained of, and having summoned the party, ordered him to be fined 50*l.* unless the nuisance was removed. This, it seemed, up to the present time, had not been done.—The court this day, after a long investigation into the circumstances, ordered that the former fine of 50*l.* should be enforced, unless within one month such erection should be removed in a manner satisfactory to the surveyor.

Thomas Morris, a builder, was summoned for irregular drains at the rear of Pomeroy-street, Kent-road.—In this case it appeared that square brick drains had been improperly constructed, without mortar, below the level of the sewer, and the discharge effected in a manner quite opposed to the rules of this court.—Mr. Morris said that he had erred in entire ignorance.—Mr. Leslie inquired what would be the expense of a proper drainage?—The surveyor said that a proper drainage might have been laid down at one-third less than the present one had cost.—Mr. Hutton thought that, as Mr. Morris was a builder, he should be fined for his ignorance, and moved that he be fined 40*s.*, and be required to lay down a drain in a proper manner.—Resolution carried.

Adjourned to the 10th of August.

Correspondence.

ST. PANCRAS' CHURCH.

SIR,—In your last number there is a "word to the authorities of St. Pancras," alluding to "a prevalent report that the parochial authorities of the parish are about to build a residence for their clergyman upon the space on the north (query south) side of their church in Euston-square."

If the writer, when speaking of the "parish authorities," alludes to the churchwardens and vestrymen, I beg to inform him that they have no authority to interfere, nor have they been consulted on the subject. The duly-constituted authorities are the vicar and the church trustees; but I can scarcely believe they would be so wanting in good taste and judgment as to disfigure the church by building any common dwelling-house near to it.

Any building close to the church would be highly objectionable. It would obstruct the present fine open view of the church, would be very near the catacombs, and injurious to the adjoining residence, and be generally disapproved by the great body of the parishioners.—I am, Sir, &c., A VESTRYMAN.

Miscellanea.

ROUND TOWER IN THE ISLE OF MAN.—It is near Peel Castle. "In the midst of the greensward, which now has overspread nearly the whole of the area within the walls, and forms a short, sweet pasturage, is a pyramidal mound of turf, of a rectangular form, facing the four cardinal points, and measuring about seventy yards along each side. The angles have well nigh disappeared, and it presents but the rude outline of its ancient proportion. It seems to have been an old Danish fort, thrown up, probably, about the beginning of the eleventh century. Close by this mound, perched on the highest point of the island, rises the Round Tower, with its antique masonry almost wholly of the old red sandstone, regularly laid in courses of long and thin stones, with the wide jointing filled in with coarse shell-mortar of extreme hardness. It is in every respect similar to those of Ireland, so admirably described by Mr. Petrie; and its position, a little to the north of the ruined church, seems to tally remarkably with the view which he has taken of the double purport of these buildings, as belfries and as deeps or places of strength for the protection of sacred utensils, books, relics, and other valuables, and into which, in cases of sudden attack, the ecclesiastics, to whom they belonged, might retire for security. There is a little door facing the east at the lower part of the tower, 6 feet 9 inches above the ground, to which access seems to have been gained by a ladder: four small square-headed apertures near the top face the cardinal points, and one other is seen lower down on the north-west or seaward side."*—From "The Isle of Man and its History," by the Rev. J. G. Cumming. J. Van Voorst.

	ft.	in.
* Circumference of the tower near the base	44	6
Internal diameter at the door	5	9
Height of the tower, about	50	0

POLICE DISQUISITION ON "FAIR SCIENTIFIC DISCUSSION."—On a summons at the instance of Mr. Joseph Woods, patentee of the chronometric governor used in steam-engines, issued under 6th and 7th Vic., cap. 96, sec. 3, against such as shall, amongst other misdemeanours, "offer to prevent the printing or publishing of any matter or thing touching any other person, with intent to extort any money," Mr. Robert Booty Couzens, of 4, Bedford-place, Old Kent-road, was brought before the police magistrate at the Mansion-house, on Thursday last, on evidence including a letter which the complainant's representative, Mr. Humphreys, said "was perhaps such as had never been heard of before." This therefore unprecedented letter run curtly in the following terms:—"Sir: I have written for publication a small treatise on the causes of the inefficiency of steam-engine governors, and in investigating the principles of the chronometric governor of which you are the patentee, *I find myself compelled* [by conscientious scruples, doubtless] *to speak of it* in a way which may perhaps lessen its value as a commercial speculation. Now, as I write only for pecuniary profit, I am willing to withhold the paper from the public eye [compulsive scruples notwithstanding] if, after perusing the accompanying copy, &c., you feel disposed to *purchase it* at a *fair remuneration*." With an ingennous and anti-circumlocutory *naiveté*, in the strictest and most admirable keeping with so business-like and off-hand a proposal, Mr. Booty Couzens adds that "It is quite immaterial to me whether it be read by many or by one—whether it be preserved in the pages of a scientific periodical, or destroyed,—if I profit by it." Having thus come directly to the point, and with a bare naked unconsciousness of the exposure of aught but the most innocent and comely intent, clothed and armed at all points with the *honi soit qui mal y pense*, Mr. Booty Couzens, with the impatience, doubtless, of a practised man of business, awaited the receipt, in due course, of an order "payable to bearer on demand." But, strange to say, Mr. Wood took it into his head that an attempt to cozen both him and the public for the sake of booty shone through the sharp practice of his correspondent, and after ascertaining from him that the "paper on 'Governors,' *if* published in one of the periodicals, will *most likely* appear in the *Civil Engineers' and Architects' Journal*;" but that he was "yet undecided as to whether it shall appear in a periodical, or form part of a separate pamphlet on that and another part of the steam-engine—in all probability the latter, as being the more remunerative,"—Mr. Wood considered the Mansion-house to be the proper arena on which to discuss and settle his small account with Mr. Couzens. Mr. Hobler, as the professional advocate of the claims of the latter to his due measure of justice, declared that the procedure of Mr. Wood "was nothing more nor less than an attempt to prevent the fair discussion of a scientific subject!!" Alderman Gibbs, however, was stupid enough not to be able to see how that could be; but he did not think a mere police magistrate the proper judge of the merits of such a *discussion*, and therefore dismissed the case, as he could not find any *libel* in it, or any *matter* of which *he* could take notice.

EXETER DIOCESAN ARCHITECTURAL SOCIETY.—On the 5th inst. the second ecclesiological excursion of the Plymouth branch of the above society during the present year, took place amid the remains of the ancient Castle of Plympton. The Castle of Plympton affords but little architectural data; but its form and the numerous earthworks connected with it prove that, at one time, it must have been a place of great strength. Some few remains of a grouted wall, which stand on the top of the mound, are now the only relic of this ancient fortress. It possesses no architectural features beyond its circular form, nor any of its military attributes, excepting a very curious passage or flue, not more than a foot or so in width and height, which runs through the thickness of the wall, in a somewhat horizontal position, but at different heights from the ground. The real purpose for which this was formed it is perhaps impossible to determine: too small for the passage even of a child, and unfitted for a drain, its only probable use, according to the *Plymouth Times*, was the convey-

ance of sound, similar contrivances being common in other castles of Norman character—such as at Rochester and elsewhere. From the castle, the archæologists proceeded to the Church of Plympton Maurice, which they closely inspected. There are several curious portions in this church—such as the foundation or lower stage of the ancient pulpit, built into and forming part of one of the pillars on the south side of the nave. The Church of Plympton consists of a tower, nave, chancel, and side aisles, together with two large lateral chapels, one on either side: many windows have been restored. The curious Cinque Cento monument of Sir William Strode has been repaired, and repainted and gilded by the present representative of that very ancient family. There are three piscinas, two of which are very large: that in St. Catherine's Chapel has a credence shelf. On the south side of the altar are three sedilia. The porch is very large, and has a parvise over it: on the exterior are curious sculptures, representing the Angel Gabriel, the Virgin and her emblem, the fleur-de-lis, &c. It was stated, that within the memory of man the original stone pulpit had been knocked to pieces, for the purpose of forming sleepers to some of the present sleeping pens or pews, and that the old man who did the deed confessed himself after this style:—"O, ah, ees Sur, it wor voinely carved, but we'd a tarribul job to knock 'un abrard."

THE GLASS TRADE AT BIRMINGHAM.—The workmen at Mr. Rice Harris's establishment, in Broad-street, have struck work, and compelled Mr. Harris, it is said, to employ French operatives, whom, however, there appears to be a determination to annoy and expel. The workmen have not done so personally, but are charged with adopting "the Irish system" of procuring others to do it for them. There has hence been rioting in the streets, and a tailor was arrested for throwing stones at the new operatives. Mr. Harris disclaims all desire or intention of displacing English hands by foreigners.—A question as to defective mould machines for closely imitating cut-glass articles was lately tried at the Warwick County Court. Both plaintiff and defendant are Birmingham tradesmen. The defendant, Mr. Stevens, alleged that the mould machinery supplied by the plaintiff, Mr. Warner, was defective, the usual allowance not having been made for the expansion of the metal-moulds when the hot glass is poured in, so that the articles were either distorted in removal, or could not be got out at all. The plaintiff blamed the glass, which he said was of inferior quality, whereas his machines had gone to all parts of Great Britain, and given universal satisfaction. The magistrate was on the point of giving a verdict for the defendant, on the ground that the plaintiff had not offered to rectify defects; but a nonsuit was allowed, on the mutual understanding that these would be rectified, and the balance of price paid.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.—At the last meeting of the association, previous to the annual congress, which is to be held in Worcester, commencing on the 14th of August, Mr. Fairholt read a paper on "Mural Painting," as a domestic decoration in the middle ages, remarking, that the more generally diffused taste for antiquities which characterizes the present time, and the more careful record of discoveries made, in altering or repairing churches and old buildings, together with the facilities afforded by archæological associations for giving such records publicity and permanency in their journals, have added much to our knowledge of the habits and customs of our ancestors in the retirements of their domestic life, where the chronicler rarely followed them, and of which we know least. These and similar notices satisfactorily shew, by their number and variety, how widely the taste for such decoration spread during the middle ages; and that, far from such displays being rare, they were all but universal,—appearing as well upon the walls of the humble village church as upon those of the more sumptuous cathedral. The object of the paper was to show that the same taste for wall-paintings existed in private life, where more expensive tapestry could not be afforded, or was not deemed requisite; that it occupied, in fact, the place of modern portable pictures, diffusing religious or moral instruction, or reviving the remembrance of the popular romances and tales, by the vivid representation of the principal scenes and actions therein narrated. Church decoration of this kind, he observed, was often concealed by whitewash, and is not unfrequently brought to light; but specimens of domestic internal wall painting are of much greater rarity, particularly if of an early date—a circumstance easily accounted for by the rapid and continuous changes which fashion or altered habits render necessary or usual, and which induce a succeeding generation so speedily to obliterate or *improve* the residences of the preceding one. Thus, while the exterior of many an old mansion or private dwelling may preserve its more ancient appearance, it is a matter of much greater rarity to find their interiors present any of their original features. He then directed attention to a curious fragment still remaining in a private house in Salisbury, which represents the visit of the three Magi to the Virgin and Child; and instanced the frequency with which such subjects were depicted, and the superstitious value that was attached to the names of relics of the "three kings of Cologne," as they were frequently termed.

THE OLD CLOISTERS AT WESMINSTER.—The removal of the lath and plaster rubbish which has long encumbered the old cloisters on the east side of Westminster Hall, has let in the light on their great and manifold beauties. The minute and elegant sculptured decorations which are carried web-like over the whole surface, make the so-called excess of decoration on the new parts appear positive plainness by comparison. The little chapel offers many points deserving of study. In the course of the operations, some of the old Norman work forming the side of the hall has become exposed: it shews two semi-circular headed windows, with a hatched string-course underneath. The object of the clearance is to effect the communication between the new Houses and Westminster Hall.

SHEFFIELD SCHOOL OF ARCHITECTURE.—The Sheffield Master Builders' School of Architecture was opened on the 17th, when an address was delivered by Mr. W. R. Harrison, Professor of Architecture, and general director to the school. Mr. Harrison said, that the objects of the school were, to provide historical, theoretical, and practical instruction in the art and science of architecture and building—to promote industry and skill—to explain the wants and defects in the practice of the trade—to offer inducements to the cultivation of the fine arts—to promote good taste by the examination and study of nature—to form an alliance of industrial interests—and to labour for the general improvement of all classes of society. It had been said that the majority of the community have no need of any other culture than is necessary to fit them for their various trades and professions. But the grounds of man's culture lie in his nature—not in his calling. His powers are to be unfolded on account of their inherent dignity—not outward direction. He is to be educated because he is a man—not because he is to make shoes, nails, or pins. A trade is not the great end of his being, for his mind cannot be shut up in it. He has faculties to which it gives no action, and deep wants it cannot answer.

THE CHURCH OF SAFFRON-WALDEN.—A large interior view of the church of St. Mary, at Saffron-Walden, which has just been published by Mr. W. Doyley, of the Adelphi, and is now before us, leads us to remark upon the hideous screen which exists there between the nave and chancel, and is called the "Braybrooke Pew." It was placed there, we believe, by the late Lord Howard, and as long as it remains will be a monument to his bad taste. Endeavours should be made to get rid of it at once. The church is a good specimen of the perpendicular period, chiefly erected in the reigns of Henry VI. and VII. The height and breadth of the nave are considerable. The view shows the church as seen from the west end.

METROPOLITAN BUILDINGS ACT.—In answer to a question the other night, Lord Morpeth said he had received the opinions of a body of builders and architects on this subject, which were now under consideration. He hoped to reduce them into a satisfactory form, so as to be able to propose some legislative measure on the subject in the *next* session of Parliament.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th August, for the erection of schools and school-houses at Northaw, Herts; by 11th, for the erection of an Odd Fellows' literary institution at Birmingham; by 1st, for new store-rooms at the Lambeth Workhouse; by 31st July, for repairs to Lambourne Church; by same date for repairs and alterations to four houses and range of stabling in the City; by a date not specified, for gas works and fittings for the station at Stoke-upon-Trent; by 9th August for the construction of a large reservoir, a large watercourse, a viaduct, tunnel, and other works for the Manchester Corporation Water Works; by a date not specified, for the supply of about 7,500 tons of cast-iron 33 to 48-inch pipes for same works; by 5th August, for the various works to be done in the completion of the new assize courts at Liverpool; by 7th, for about thirty turntables 12 feet diameter, for the London and South Coast Railway; by 1st, for providing fitting and furniture for industrial school-rooms, &c. at Leeds; and by 3rd, for a supply of 800 yards of broken granite for the roads at Bermondsey, &c.

COMPETITION.—Plans are wanted, by 1st September, for laying out grounds in streets and villas at Glasgow—premiums 30*l.*, 20*l.* and 10*l.* for the first, second, and third best plan or design.

CONSOLIDATION OF METROPOLITAN COMMISSIONS OF SEWERS.—Lord Morpeth has obtained leave to bring in his Bill for the substitution of one commission of sewers for the metropolitan districts in place of several separate commissions, as at present. The City is to be subject to the same rule adopted, in the Public Health Bill, in respect to boroughs surrounded by other town districts. It will therefore be included in the jurisdiction of the new commission, so far as the city sewerage is material to the drainage of the districts beyond its bounds. The Lord Mayor and four corporation commissioners are to be members of the new commission, entitled to vote on questions relating to this main sewerage; but in conformity with the Health Bill, the City Commission will superintend the improvement of internal house drainage. Powers are to be given not only for the more systematic prosecution of public drainage works, but for enforcing improved house drainage and removing nuisances. The principle of spreading charges for permanent works over periods of years is to be resorted to, in addition to the economy of improved expedients; and the commission is to be eventually elected by the inhabitants.

SCHOOL OF DESIGN, SOMERSET HOUSE.—On Friday, in last week, Mr. C. J. Richardson delivered a lecture to the students and their friends on *Perspective*, and, although it was a bad night, had a fair audience. First alluding to optics and the nature of vision in relation to perspective, he exhibited the *horizontorium* and some curious examples of Catoptric projection; then illustrated isometrical projection,—then perspective projection; the first as exhibiting real form, the latter apparent form. He then gave a general description of linear perspective, explaining the station point, horizontal line, vanishing point, &c., and for interior perspective illustrated the subject by sketching the room we were in. A large number of drawings were exhibited.

ARTISTS AND BUILDERS IN BELGIUM.—We are sorry to read in a Belgic newspaper that thousands of men are out of work in Ghent. Half of the manufactories are suspended, and the other half are at work only three or four days a week. Not one of the master masons or carpenters has employment for one-fourth of the men he was able to engage last year. The sculptors, painters, and other artists, have their studios crowded with their productions, which no one will purchase at any price. In fine, there is in all ranks and all classes a reduced state of things which has become intolerable. The sole idea of economy pervades the minds of all classes, and cries of distress are the only echoes to the ministerial songs of joy.

PRICE OF COPPER.—The reduction in price at Birmingham, on Tuesday week, amounted to 9*l.* per ton, making the present price of tile copper 79*l.* 10*s.* per ton.

AMERICAN RAILWAYS.—When Americans boast, as they are very ready to do, of their thousands of miles of railways, Englishmen, who are startled at the prodigious amount, should remember that these roads are single lines, and that in the value of the material, and in the skill and labour expended upon them, they differ as widely from what is seen in England, and called a railway here, as Rome built of brick differed from Rome built of marble. The carriages used upon them are also very dissimilar to ours; they are much longer, and are entered by a door at either end, so that one can walk right through them, and stand upon the little platform outside. The passengers, about fifty in each car, sit two and two, on rows of *vis-à-vis* sofas, or stuffed chairs, ranged right and left of a passage which runs down the centre. In cold weather a portion of the seats is removed to make room for a stove; in warm weather there is ample ventilation by means of Venetian slides. It is hardly safe to keep the windows open, for, the furnace of the locomotive being fed with wood, a shower of sparks constantly issues from the chimney, and these finding their way, red hot, into the cars, occasion at once great pain to the eyes and serious damage to the clothes, which are often riddled with the holes they burn. At night this stream of sparks which the engine vomits forth has a very singular effect. In the distance one would almost suppose it to be a rocket in its course; and when nearer—and one can hear it throbbing, panting, groaning—it does not require a very lively fancy to make it out to be the fable realised of a fierce dragon, breathless with its flight, and breathing forth flames of fury. It is no uncommon thing for the locomotives, with their showers of embers, to kindle the forests through which they pass; and I have seen not only trees of gigantic mould leafless and dead, standing like bleached skeletons, from whose bones the flesh had been licked off by the tongue of flame, but whole acres of ground—nay, a whole hill-side—bare and blackened, and strewed over with the charred trunks of pines and other forest trees, which had yielded to the fire, and lay heaped together as they fell, looking in the distance like huge black snakes, stretching themselves in the sun, whose light was brilliantly reflected from the charcoal all around.—*English Presbyterian Messenger.*

THE PUBLIC HEALTH BILL we last hailed while about to steer out of the Lords with flying colours on its way back to the Commons, where it must touch, in *passing*, for some slight repair, before being fairly cleared out by the Royal sign manual. Having thus at length steered clear of all the rocks or *blocks and shallows ahead*, of course all sail will now be set, and with a fair wind and a clean bill of health, or healthful bill of cleaning, this notable pioneering sanitary bark, well battered, spliced, and overhauled as it has been, will now, after all, at length make way, with its helm aport, to the provinces direct.

TO CORRESPONDENTS.

"*M.*"—If applied to professionally we are quite ready to undertake the business in question,—or any other.

"*Jeune Homme.*"—If our correspondent is the pupil of a member of the Institute he can become a student there, but not otherwise. He must submit a set of drawings to the council.

"*T. C.*"—We have not time to make inquiries which would interest only the inquirer.

"*J. K.*"—Thanks. The subject not being one to be *often* referred to, we must, when we touch it, go into it fully at once.

"*Tiles.*"—We do not know of any manufactory of "green, blue, and yellow tiles." Enquire at Minton's manufactory, Blackfriars.

"*Papier Mâché.*"—We should recommend Messrs. Jackson. Our personal experience of the other manufacturer named is any thing but satisfactory.

"*J. S.*"—As we are not informed of either the gentleman's name, whose remarks at the "Architectural Association" are commented on, or that of the writer, we cannot judge of the worth of the strictures.

Ants in Dwellings.—"B. W." may turn up pp. 502 and 514 of vol. iv. Cajeput oil, or jalap with sugar, are there recommended: fumigation also, or solution of sulphur, soot, and quicklime, in water, poured into the haunts of the vermin, have been suggested.

Received.—"J. F.," "W. M. F.," "W. & L.," "W. D.," "S. C. S.," "An Architect," "Cyro," "L.," "Government Officer," "B. & H.," "W. H.," "H. & M.," "Metropolitan Association for Improving Dwellings," &c., "An Architect," "W. C. H. Jun.," "Mr. C.," "A Competitor," "Clericus," "R. P. C.," "A Subscriber," another "Subscriber," "G. W. Y.," "Paumier," "C. F. & Sons:" also "Health of Towns: a Selection from Papers on Sanitary Reform," &c., by Mr. Thomas Dunhill, C. E. (Renshaw, Strand); "The Constitution and Laws of the Whittington Fund Benefit Building Society" (W. Clowes and Son, Stamford-street).

ADVERTISEMENTS.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, BITUMEN AND PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse

P. FOUCARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr RANDHET, at 39, Stoney-street, Borough Market, —Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—LUARD, BEEDHAM, and Co beg to inform Architects, Surveyors, Merchants, Builders, and others, they are importing, by large and frequent shipments, CAEN STONE of the BEST QUALITY, from their Quarries at Allemagne, quarried during the late season.

L., B., and Co., invite inspection of persons capable of judging of its quality, at their depôt, Caen Wharf, Rotherhithe.

Orders executed with dispatch to all parts of the United Kingdom.

Office, 18, Southwark-square, near Southwark-bridge; Depôt, Caen Wharf, Rotherhithe; and Sur le Quai, a Caen, Normandy.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. A. WITHALL, Surveyor, 50, Cheapside, where further information and samples may be obtained.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

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Mr. GRISSELL has the honour to inform Architects and gentlemen engaged in Building, that in consequence of having nearly completed the above works, he is at liberty to supply the Anstone Stone for building purposes in general.

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It is also preferable for staircases and rubbed landings, for which purposes it can be supplied in any sizes; and as regards cost, with the exception of common paving, it is not more expensive than York.

In addition to the New Houses of Parliament, Mr Grissell takes leave to refer to the Museum of Economic Geology, just erected in Piccadilly; to the Amicable Assurance Office in Fleet-street; and to the New Hall in Lincoln's-Inn-fields.

Mr. Grissell desires also to state, that the stone, which he has now the honour for the first time to offer to the public, and which has been used exclusively in the above works, is from the estate of his Grace the Duke of Leeds, and that Mr. Grissell alone possesses the right of quarrying this stone.

11, New Palace-yard, Westminster.

ANSTON, or ANSTONE STONE.—W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

*** "Anston" is the name of the village, and is correctly spelled without the E.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

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MONUMENTS and TOMBS in great variety of design.

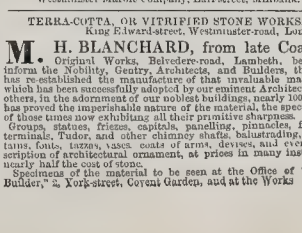
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from ..... 12s.
Vein-Marble " " ..... 40s.

RESTORATIONS Estimated for in which Branch S. C. has had considerable practice. Dairies fitted up, &c. &c.

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BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.

Westminster Marble Company, Earl street, Millbank.

TERRA-COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

MR. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devices, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works

YORKSHIRE PAVING.—TO MASONS, BUILDERS, and Others.—60,000 feet of excellent new Yorkshire Paving to be sold cheap for cash. Apply at R. MILES'S, Marble Wharf, Kingsland Basin, Kingsland-road.

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr MADOCKS, at the PENLLYO SLATE WORKS, Upper Belgrave-place, planed both faces at the price that inferior Slabs in the rough (self-faced) are currently selling. These Slabs are also subject to a very large trade discount. These Slabs have been extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone-square, Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.

W. CROSBY, 29, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot, cannot be deranged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized, 23s. each; ditto, for kitchens, 20s. To slip on chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 51, Great Russell-street, Bloomsbury, where it may be seen and tested

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 22a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

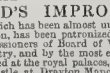
Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

BENHAM'S ICE CLOSETS for Keeping Provisions perfectly Cool during the hottest weather.—For economy, as well as comfort, they are invaluable; also, for cooling wine, or ensuring a delicious draught of cold water to admirers of that beverage; price three guineas and upwards. Benham's Cream Freezers will freeze a quart of cream, fit for the table, in six minutes; price five guineas. Patent Knife Cleaners, Benham and Sons, Agents, price 78s. These machines not only clean, but actually polish the knives, and the most unskilful person can accomplish the work in less than one fourth the usual time. They are now adopted at all the principal hotels.—19, Wigmore-street, Cavendish-square.

VALUABLE INVESTMENT.—Partnership or Licences for Districts, or entire Counties. Under British and Foreign Letters Patent.—HUTCHISON and Co's Indurated and Impervious Stone, Chalk, Sand, Plaster of Paris Works, Carton Roof Sheeting, and Wood, &c.—The produce supersedes all other building and decorative materials for richness of effect, cheapness, and perfect durability. Specimens to be seen at the Chief Offices, East Temple Chambers, 3, Whitefriars-street, Fleet-street, London; also at the Indurated Sandstone Works, Tonbridge Wells, Kent; or a la Maindrérie, near Caen, France. All particulars afforded at H. and Co.'s Offices; or of Mr. W. HUTCHISON, Castle Hotel, Tonbridge Wells, Kent.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe,	4d. per foot run,	including fixing.	
2½	ditto	4½d.	ditto
3	ditto	5d.	ditto
3-inch eaves gutter,	3½d.	ditto	ditto.
4	ditto	4½d.	ditto
4½	ditto	5d.	ditto

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter formed to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, laned to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brick-kilns Arms, SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Fantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds

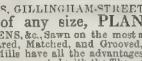


SAW MILLS, GILLINGHAM-STREET, PIMLICO

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Moulded, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED IN DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Bridge-street to No. 11 ARCH CHURCH-STREET, CITY.

LADDERS, BARROWS, &c.—G. ELL respectfully invites the attention of Railway Contractors, Builders, Decorators, and the Trade in general, to the extensive assortment of Ladders, Barrows, Machines, Trussels, Steps, &c., he has constantly on hand, at a very low scale of Prices; is now selling Extension Ladders, with flange and rung, as low as 18s., by a quantity being taken; and the best make of stout ash frames, stayes to legs, inch elm top, largest size, as low as 16s. for cash; Ladders commencing at 4d. per round. Every other description of Barrow and Ladder equally low.

G ELL'S MANUFACTORIES, 3 and 6, Tottenham-court-road, New-road, St. Pancras, opposite Hampstead-road.

TO ARCHITECTS AND BUILDERS

E. ENGLISH and CO., No. 7, Winckworth- place, East-road, City-road, HAND-RAIL MANUFACTURERS, beg to inform the Trade that by giving them one Order they will then prove that their Material and Workmanship is of the first quality, with punctuality, at the following low prices:—

Continued Rails, fixed complete, and French polished, with square Wood Ballisters and Iron Newel—

One story, per house	£2 15 0
Two ditto, ditto	4 10 0
Three ditto, ditto	6 10 0

Within ten miles of London no extra charge if capped.

N.B. To avoid expense, if a correct Plan be sent, with rise and tread of stairs, by post, it will be immediately attended to, and insured to fit stairs correctly, and worked to any pattern.

IRON FOUNDRY, 9, Brick-lane, Old- street, St. Luke's. J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Entrance Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cranklevers, Newel Bars, Water Closet Work, Area Gratings, Pit and other Wheels, Wheel Plate, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for repairs, either structural or ornamental; Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,
163, DRURY-LANE, and CHARLES-STREET.

LIGHTNING CONDUCTORS for BUILDINGS. SMITH'S PATENT COPPER WIRE ROPE is being employed for the protection of CHURCHES, and other buildings from the effects of thunder-storms. It possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Bolt and Sunde Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Line, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns. Also, Metal Sashes, Shop-fronts, Stall-board Plates, and Brass Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH 69, Princes-street, Leicester-square, London.

BRASS and GUN METAL CASTINGS. —Present price for Castings above 1 lb. weight each:—Brass, 9½d. per lb.; Gun Metal (common), 10½d. per lb.; Gun Metal (best), 13d. on copper to 9½ oz. tin, 12½d. per lb.

J. TYLOR and SON, Brassfounders, Warwick lane, Newgate-street, London.

TO BUILDERS, ARCHITECTS, &c.

NAILS, and every description of Builders' IRON MONGERY, supplied at the lowest Birmingham Prices, by FREDERICK BLYTH, Patent Cut-Nail Manufacturer and General Factor, Edmund-street, Birmingham.

*** Lists of Prices forwarded upon application.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts—Prices equal to all competition. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA- RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes wherein a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and rose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

WARMING by means of the circulation of WARM AIR "BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner.—BURBIDGE and HEALY, 190, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficacy. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Crossstreet, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per in. and upwards.
Bright ditto and Bright Bars, 3d. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 4s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO ARCHITECTS, BUILDERS, &c.

HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 109, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 15s.	£3. 16s.	£4	£4. 10s.

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturers of WORLASTONE'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 42s.; 3 ft. 4, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d. per 1,000.
8l.	6d.	8d.	10d.	1od.	20d.

Best Sheet Floor Brads 1s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell street, Finsbury-square

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

N.B. Warehouse closes at Seven o'clock.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRON MONGERY WAREHOUSE, 39, WEST SMITHFIELD.

Register Stoves, 6d. per inch.
Elliptic Stoves, 3½d. per inch.
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3l. 10s.
Drawing-Room Fenders 14s. each, usually sold at 1l. 1s.
All Goods Warranted.

J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dudley. Established 1825.

TO BUILDERS, CARPENTERS, &c.

THE undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	¾	3 Inches.
Cast Butts	11s.	16s.	24s. per gross.
Cut	4d.	6d.	10d. 20d.) per
Clasp	6d.	8d.	1s. 4d. 1s. 10d.) 1,000.

Nos.	3	4	5	6	
Patent Line	6s. 6d.	7s. 3d.	9s. 10d	12s.	per gross.
	2	2½	3 Inches.		
Rain Pipe	1s. 1d.	1s. 3d.	1s. 5d.	per yard.	

RIDER'S RAILWAY BRIDGE.—To Railway Companies.—A PROSPECTUS of the above newly-invented HOLLOW TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr MOULTON, Bradford, Wilts

TO THE BUILDING PUBLIC

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and IMASTER OF PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masqu. Heads, Trophies, Paterns, Gothic and other Cornices, Shafts, Soffits, Bed-mouulds, Paterns, &c., &c., 36-inch Centre Flowers fixed complete, 24s. each, smaller in proportion. As a assortment of Shop-front Trusses always ready for fixing. JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs RUTTA and VEREY'S, 2, South Wharf, Paddington Basin Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cements, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished with imitation of stone, by the addition of pigment or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, for the application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 234 and 285, pages 313 and 231, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purposes of building, the coming power of Portland Cement exceeds that of Roman Cement in the proportion of fourto one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of docks and other sea walls, the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, exudate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured first from the chalk minutes. For all purposes that Cement is applicable it is in every respect unrivalled, and for the new process invented by Messrs ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotton Yard, Whitehall.

PATENT PORTLAND CEMENT.—To ENGINEERS, ARCHITECTS, SURVEYORS, and BUILDERS.—Messrs ROBINS, ASPDIN, and Co., are preparing at their Manufactory, Northfleet, Whitehall, a course of experiments to test the adhesive power and strength of their Portland Cement, as compared with Cements of every description, manufactured in this country; and for the satisfaction of the building trade, they hereby invite all Cement Manufacturers to compete with them, either at their Wharf, or any other place to be agreed upon, pledging themselves to establish the great superiority of their cement over all others. R. A. and Co. have published in "The Builder" and other papers, the time of trial to afford the opportunity of Engineers, Architects, Surveyors, and Builders (or) present thereat.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials which, for their appearance, durability, impervious ness, little repair, and freedom from dampness, decomposition, &c. render them from all other cements and paints, and fully justify the confidence reposed in them, as shown by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 23, Steed-street, Upper Thames-street.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. Messrs S and S plice them selves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from all corrosive action on metal substances with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties which it exclusively possesses:

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface, which may be made equal to that of the finest marble NEVER THROWS OUT ANY SALT, and will receive paint in four days, without its peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical, and made of the same description of work which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties which it exclusively possesses:

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball near Bridgwater.—The Proprietor of these Works begs to inform the public that he is now enabled to supply them with an unlimited quantity of the above Cements, and that the Bath and Portland will be found to resemble these celebrated stones both in colour and durability. They are recommended as being superior to all others, for the following reasons, being made of Lias and stone (and not dredged from the sea as stone for Roman is), they are not impregnated with salt, therefore never vegetate or turn green a fault so generally complained of with Roman Cement; also a much larger quantity of sand than other Cement, never crack black or peel off, and will be found even preferable to stone. They are perfectly Hydraulic, and will set under water in a few minutes; as an external Stucco they are impervious to all kinds of water, and not affected by frost or heat; they improve both in texture and durability, and a composition being made of them to make them resemble the Bath and Portland stone no other mixture being so perfect as sand. When used as an internal Stucco for walls, staircases, passages, &c., the Bath and Portland Cements may if required be trowelled up to a face almost equal to marble, or may be painted or papered on in a few days. The IMPROVED ROMAN CEMENT will set under water in a few minutes; as an external Stucco they are impervious to all kinds of water, and not affected by frost or heat; they improve both in texture and durability, and a composition being made of them to make them resemble the Bath and Portland stone no other mixture being so perfect as sand. When used as an internal Stucco for walls, staircases, passages, &c., the Bath and Portland Cements may if required be trowelled up to a face almost equal to marble, or may be painted or papered on in a few days. The IMPROVED ROMAN CEMENT will set under water in a few minutes; as an external Stucco they are impervious to all kinds of water, and will be found to possess all the qualities of Bath and Portland except that of colour; it is cheaper, and in every respect better, than any previously offered to the public, and only requires one trial to be appreciated.

A stock of these Cements, as well as Blue Lias Lime ground for concrete, always on hand, which may be had at BOARD'S Depot, Stone-yard, Paddington Station, and of the following Agents—Viz. Mr. R. Croft, Surrey-street, Kent-square, Liverpool; Mr. Baker, 73, Digbeth, Birmingham; Mr. Furze, Hotwells-road, Bristol; Messrs. Tothill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay Bath; Mr. Grimsly, Oxford; Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Hurnman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. Southam and Evans, Gloucester.

The Builder.

No. CCLXXXVII.

SATURDAY, AUGUST 5, 1848.

WE followed the fortunes of the Archæological Institute in Lincoln and its neighbourhood last week, rushing here and there, as is the necessity on these occasions, by means of gigs, omnibuses, steam-boats, and railways (not omitting the gravel-truck expedition to Boston), for the purpose of laying before our readers, not a full and particular account of the whole proceedings, and even the names of all the papers read, but the pith of such of the communications as are likely to interest them in particular, and notes of various ancient buildings visited which have interesting architectural features. We have not space, for example, to report all that took place at the introductory meeting on Tuesday, but it would be unwise were we not to record some of the observations which were then made; tending, as they must, to induce the preservation of our architectural antiquities, to the improvement of modern buildings, and extension of good taste and feeling.

The Bishop of Norwich, when taking the chair, in order to yield it to his successor as president, Lord Brownlow, pointed out forcibly some of the advantages of such societies. All studies connected with taste, said he, all connected with art, may be considered as so many additions to the senses. Take the whole range of sciences—take astronomy, for instance. The astronomer—how far higher does he stand than the simple peasant, who views the stars but as mere bright spots in the vault of heaven; while the astronomer gazes upon them with higher respect—with increased veneration—for the great and good Being who called them into existence, and who holds the firmament, as it were, in the "hollow of his hand." Take again the art of painting. The artist walks along the fields, over the mountains, through the city and the plain, and sees objects, the beauty of which to those who are ignorant of the true effect of light and shade, is effectually hidden. Again, let us come for a moment to our own science—that of archæology: and archæology is indeed that science which awakens our attention to the study of subjects which are interesting for us to know as historians, as Englishmen, and as Christians. An archæologist, whichever way he turns his eyes, must derive satisfaction from what he beholds. Let an archæologist, for instance, look upon an old baronial castle, and how different are his views from those of persons ignorant of our craft, and who take little interest in the history of former days. The archæologist may indeed find

"Books in running brooks,
Sermons in stones, and good in everything."

"But, my lord," continued the bishop, "there is another point of view in which I may turn your attention to the pursuit of archæology. There have been objections made to it—we have been looked upon through the narrow telescope of prejudice—we have been considered as infringing upon ancient times—as desirous of reviving the practices of the dark ages. Now I repudiate that idea altogether—it is unworthy the Protestantism of the country—it is unworthy enlightened individuals. Let it be ours to cultivate a taste which shall benefit those who come after us, when we shall be looked upon as those of ancient days. When we look upon that splendid cathedral, how can we avoid admiring, respecting, and venerating those by whom that wondrous pile was reared. When we know what our ancestors have done, let us, who boast of a purer faith, advance with their faith—their zeal—their energy—to further the progress of religion by doing all we can to restore, renovate, and embellish our churches. I will boldly avow, and I am not ashamed to confess, that I am not a Tractarian; but I am a Tractarian, hand and heart, as far as introducing taste and embellishment can go towards renovating our churches. I see not why taste in all its branches—why sculpture—painting—those blessed gifts of God, should be cast aside when speaking of religion, and should not be used for embellishing the edifices used to God Almighty's glory: on this principle I adopt and advocate the cause of archæology. I could hope and trust that from the ecclesiology of the present day we may date the renewal of churches for which posterity will be grateful. We have seen, in looking back over the history of the last forty years, desecrations of the edifices dedicated to God. Now, instead of green, cold, and damp places—instead of that detestable architecture of lath and plaster, and bruised brick-bats, filling the tracery of Gothic arches, and making up and restoring the mullions of the most beautiful windows—I trust a better feeling is aroused, and that the age of lath and plaster and brick-bats is gone for ever. I have spoken of painting. I would introduce something better than the miserable white-wash which our modern churchwardens have hitherto been enabled to practise with. But, however, here also are the tares and the wheat. Had it not been for the whitewash, sure and persuaded I am that many a beautiful font—many a beautiful shrine—would have been mutilated and defaced."

Lord Brownlow pointed out that Lincoln possesses the only Roman archway still in use in the kingdom (a most interesting remnant it is); that there are also specimens of the Saxon times and the Norman times, and that the cathedral is second to none in the kingdom. Gothic architecture, observed his lordship, is the poetry of the science, and I never go into that cathedral but I look upon it as a religious epic, and that the chapter-house and shrines are so many cantos in the poem. The erection of edifices worthy of our religion is one of the good practical results which may be expected from the establishment of archæological associations. During many years, he observed, our churches had suffered much from bad taste, but he hoped that in future all who meddled with church restoration would take good advice, bearing in mind that they were working for future generations.

The Marquis of Northampton, in the course of his speech, urged that it was of the greatest importance, even in a utilitarian point of view, that good taste in architecture should be extended. New churches are rising all over the country, not before they are wanted, and it is desirable that our children, instead of being compelled to expend their money in alterations, should be able to devote it to the erection of new ones: he hoped that, good as the churches now rising generally are, twenty or thirty years hence they would be better still.

At this same meeting Mr. E. J. Willson, the veteran architectural antiquary, to whom Lincoln, where he resides, owes so much, read a paper on the Episcopal Palace, adjoining the Cathedral, the architectural portion of which we give *in extenso* on another page. After this and another paper had been disposed of, Mr. Willson took his audience to the palace for illustration of his remarks. Thence many of the members visited the numerous remains of the past, in which, as we said last week, Lincoln is rich. The Jews' House, a domestic façade of the Norman period, known to most of our readers; another Norman house near to it, in a less perfect state; the Norman building vulgarly called "John of Gaunt's Stables," and part of his palace, with its celebrated oriel of a later period; the Stonebow, or bar-gate; the very curious church, St. Mary's le Wigford, and the Conduit attached to the enclosure wall of the churchyard; St. Peter's, at Gowt's; St. Benedict's, and others, were examined. Of these three churches, which have some Saxon features, we may perhaps speak again on another occasion.

The chancel of St. Mary's le Wigford is early English, and the east end of it has two nice lancet windows with a buttress between them. These windows were blocked up, and plastered over inside, but on the occurrence of the meeting in Lincoln, they were opened and restored,—one good result at all events.

Several of the antiquities of Lincoln are threatened with demolition at no distant period. The High Bridge, a venerable relic of uncertain age, is scarcely equal to the wants of the times, and the Stonebow already alluded to (belonging probably to the early part of 16th century), which has the Guildhall above it, and spans the High-street, is often complained of as offering obstruction to traffic. It is to be hoped, however, that the endeavour will be successfully resisted, and other means found to remove existing inconveniences.

At a meeting on Wednesday morning, Professor Cockerell read a paper "On the Sculptures in the Presbytery of the Cathedral," which, on account of the height at which they are placed, have been overlooked. Mr. Cockerell said Lincoln Cathedral was rich in specimens of sculpture: in the frieze in the west end they had some beautiful works of about the year 1124; they had the kings in the front, representing the decline of sculpture, about the time of Edward III., and then they had the flourishing period exemplified in the sculpture of the south gate, and in the statues of Edward I., Eleanora, and Margaret of France. In the frieze in the west front, in the centre over the west gate, was the Saviour in the usual oval, surrounded by the four Evangelists, with St. Peter and St. Paul right and left. In the presbytery, in the spandrils of the triforium, there was some most interesting sculpture, which he looked upon as an epitome of revelation. It consisted of thirty subjects, fifteen to the north and fifteen to the south, and the whole was best described in the Epistle of Peter, where was set forth the dealings of the Deity with the human race. From these magnificent specimens of sculpture, he concluded that the sculpture of England was superior to the sculpture of Italy in the 13th century. He had been favoured with a view of copies of the finest sculpture in Italy, executed from forty to fifty years after the sculpture in Lin-

coln Cathedral, to which he had referred, and he would affirm that the Lincoln school of art was superior to the Italian. Another fact was that the sculpture in all their cathedrals proved that the work was executed by different hands: their styles were dissimilar, and it was clear to him that the work was executed by local men. The men of Lincoln embellished Lincoln Cathedral; the men of Salisbury, that of Salisbury; the men of Lichfield, Lichfield Cathedral, and so on. There could be no question that the figures were executed in workshops, and then affixed; and it was proved in Lincoln, where, in the case of one of the angels to which he had referred, the parts having been cut by different workmen, did not fit very well when put up and joined together. It was not to be supposed that the subjects were designed by workmen—they had not that knowledge of theology which would enable them to design such a chain of events; but the works were executed from the designs of churchmen, and were carried into effect by the local talent of the day.

A paper by Mr. Winston "On the Stained Glass of the Cathedral" was then read, the greater part of which we give on another page. Mr. Penrose (architect), "On the Proportions of the Cathedral;" Mr. W. A. Nicholson (architect), "On Tattershall Castle;" and Professor Willis "On the History and Description of the Cathedral" followed; but we shall not now refer to them, further than to repeat Mr. Willis's expression of regret, that in many of our cathedrals (Lincoln amongst the number), the CHAPTER-HOUSE, usually so picturesque and beautiful, is made a mere lumber-room; and we give an engraving of the chapter-house of the cathedral immediately under notice, which will shew its claim to consideration.* It is a decagon in plan, about 57 feet in diameter, and is probably one of the first of the polygonally-formed chapter-houses. One of the ten sides forms the entrance. In the other sides are nine windows. The groining springs, as may be seen, from a central shaft. The exterior has heavy piers, with flying buttresses to meet the thrust of the roof. It was built by Bishop Hugh about the year 1200.

An excursion was made on Thursday to the magnificent Norman church at Stow, the old Hall in Gainsborough, and the remains of a domestic building of the sixteenth century, at Torksey, on the banks of the Trent.

Stow, considered to be the mother church of Lincoln, is a particularly interesting structure: it is cruciform, and has parts for which a Saxon origin has been claimed. Eadnoth II., who died 1050, built a church here, which was rebuilt by Remigius, the first bishop after the Conquest, 1070 to 1092. If the body of the church be Remigius's work, as is believed, the great piers of the tower, at the intersection of the transept, and a part of the north transept, being manifestly earlier than the rest, *may* have formed part of Eadnoth's church. Sir Charles Anderson, to whom, by the way, the members are much indebted for attention and hospitality, laboured hard to prove this. Some efforts should be made to obtain the restoration of this noble structure.

The old hall at Gainsborough, with the adjacent buildings, has many points of considerable interest. The Hall, specially so called, is at present fitted up as a theatre: it has a good roof, and an oriel, and probably belongs to the fifteenth century. About fifty years ago some person was permitted to take away the sculptured corbels. The adjoining buildings are partly of wood, partly of brick, of a later date, and are in course of restoration for public purposes.

* See p. 378.

At the evening meeting, a paper "On the Geometrical Period of English Architecture" was read by Mr. E. Sharpe, the object of which was to establish a more minute classification of the styles than yet exists. He would distinguish the styles, after the transition-Norman, as—1, Lancet; 2, Geometrical; 3, Curvilinear; and, 4, Rectilinear; with the following chronology:—

Lancet	from A.D.	1190 to 1245
Geometrical	,,	1245 ,, 1315
Curvilinear	,,	1315 ,, 1360
Rectilinear	,,	1360 ,, 1500

We hope, however, to find space in an early number for the paper in full, the subject being an interesting one.*

THE SMALL-POX HOSPITAL COMPETITION.

IN pursuance of the statement in the printed instructions for the preparation of designs for the proposed new Small-Pox Hospital at Highgate-hill, that all the drawings would be submitted to two architects for their selection of five, from which the Committee would choose three for premiums, Mr. Sydney Smirke and Mr. John Shaw, were appointed to examine the fifty-five designs which were sent in. These gentlemen accordingly went through the drawings and made a report, which the Committee have adopted to the letter.

The following is a list of the successful competitors. No. 1, Mr. Daukes; No. 2, Messrs. Moore and Mathews; No. 3, Messrs. Hamilton and Medland. The first will carry out his design; the second and third receive respectively 100*l.* and 50*l.*

Mr. Daukes's design, like some others by the same gentleman, is a long building of the **I** form, with the principal entrance in the centre of the long front. The wards are chiefly on the first floor; the nurses' rooms are in the centre, so that one staff may command all the wards,—a point considered of great importance by the committee. The elevation is very plain, and makes little pretence to design. Rusticated quoins, simple dressings to the doors and windows, a balustrade on the wings, and a small campanile in the centre of the long front, are the salient characteristics. The materials, as required by the instructions, are to be brick and stone dressings; the cost is estimated at something over 12,000*l.*

As a guide in other cases, we may mention that the main building is required to accommodate seventy beds, with about 2,120 cubical feet for each patient,—being about double the space required in ordinary hospitals.

The design selected as No. 2 is very similar in arrangement to the last—so much so, indeed, as to present a singular coincidence. The style of this design is Elizabethan, and is better intentioned than set forth.

No. 3 is Tudor in character, and in plan is less extended; the buildings surround two inner courts.

A design marked with a circle, and another signed *Nil Sine Labore*, were selected as 4th and 5th by the referees.

Several of the other designs submitted were nicely drawn, and displayed considerable ability, but mediocrity was the prevailing characteristic. Amongst those which attracted our attention in the course of a hasty examination under disadvantageous circumstances, we may mention the designs marked "Spes," "Junius," "Dum Spiramus Speramus," and a set marked with a red seal.

The committee appear to have been actuated by a desire to do justice to all the competitors, and are entitled to praise for the course they adopted.*

SIR,—The competition for the Small-pox Hospital has been at length decided, and the committee have selected three designs for premium and execution.

In order to secure a decision at once advantageous to themselves, and fair to the competitors, the committee most wisely and most honourably deputed the task of selecting the designs to two professional men, supposed to be both unbiassed and competent to the office. It was moreover most expressly stated in the instructions furnished to the competitors, that the prizes would not be finally awarded, till the committee should have been satisfied that the designs so selected could be executed for the sum of 12,000*l.* So far so good; but on applying for my own drawings, I had an opportunity of examining those which had been selected, and I do assert that if any one of them is to be executed fairly and honestly, and of the materials specified in the conditions, viz., red brick and stone dressings, there is not one of them which will cost less than 25,000*l.* If I mistake not, the contents of any one cannot be less than 900,000 or 1,000,000 cubic feet, including lodges and out-buildings, and this with expensive dressings to windows, cornices, balustrades, and even columns.

Now, not only is it a most unfair test of the comparative merit of designs submitted under specific limitations, to put the cost of execution out of the question, but it will be in the teeth of the instructions furnished by the committee themselves, and it is but just towards the unsuccessful competitors, as a return for the expenditure incurred by them in money and professional time, to exact this condition from the successful architects, and require them to produce satisfactory calculations that their designs come within the limits of 12,000*l.*, or exceed it in a trifling degree only. The calculation in cubic feet will be the most easy method, both to calculate and to check.

Since the committee in their preliminary proceedings have acted with so much foresight and honour, I cannot but feel that it will be only necessary to suggest this step to secure their concurrence in its justice, and that they will postpone their final award till that point has been cleared up; while their own interest is concerned in the instance of the one to be executed, in not pledging themselves to the carrying out a design which will either exceed their means, or, in curtailing the expense, disappoint them when completed, either by defective arrangements or by an unsightly architectural character.

I will only add, that in making these remarks I intend not the slightest imputation on the committee, who have acted in a manner at once honourable and judicious, and one which I trust will be pursued in future competitions. In a case which occurred during the early part of the current year, the design which was at first selected being afterwards found very materially to exceed the sum named in the conditions, it was eventually rejected, and the other competitors again invited to submit their designs to another inspection; and should the same circumstances recur in the present instance, it will certainly be the most just, and perhaps, in the end, the most advantageous to the committee themselves to adopt this course.

ONE OF THE COMPETITORS.

August 1, 1848.

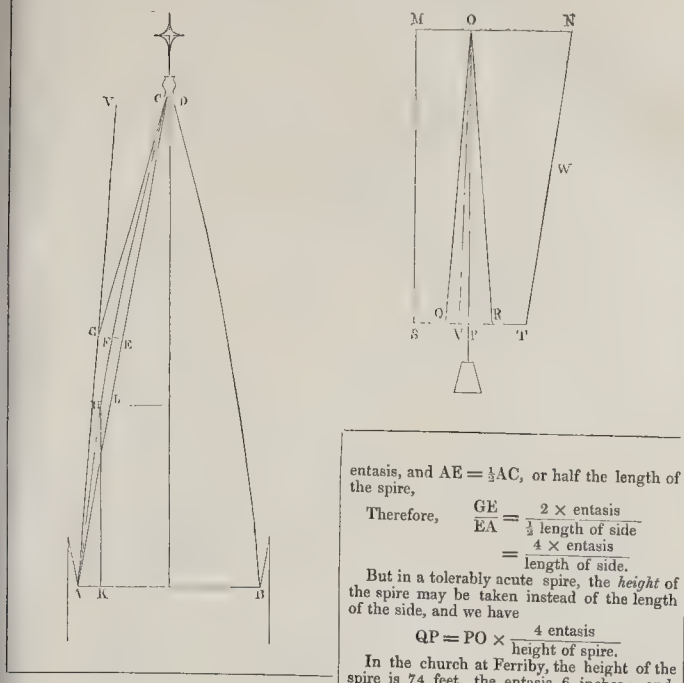
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* The North-Western Railway Company professed to give members the advantage of return tickets, to extend over the whole time occupied in the meeting. We can scarcely believe that the directors of this important company were parties to the trumpery pretexts which were used by their clerks in various cases, to justify a non-compliance with the arrangement. We have four statements before us on the subject.

* A competitor, however, thus writes:—More than three months ago the committee issued printed instructions to those architects who were willing to compete, and I, with many others, made my design in strict accordance with the same. As I wished, however, for some little information which I considered I could best obtain at the present hospital, I went there a day or two before that named for sending in the designs, and obtained an interview with the house surgeon (Mr. Marson), who very politely gave me the information I required, and, moreover, invited me to look through some manuscript instructions, or what he called his idea as to what would be required in the new building. Upon inspection, I found these instructions had been written with as much intelligence as care, and to be clear and distinct in every particular (the reverse of the printed instructions issued by the committee); and I perceived at once, that as I had had the advantage of the printed instructions only, and that those who decided would probably take the manuscript as their guide, there was little, if any chance for myself, or for those architects who had not seen the latter."

We are informed, on inquiry as to this circumstance, that *all* who applied personally for the instructions were referred to the medical officer for further information.

ON THE ENTASIS OF SPIRES.



TO SET OUT THE ENTASIS OF SPIRES.

Dear Sir,—The enclosed is an ingenious scheme for regulating the *entasis* of the spire, communicated to me by my friend Mr. Turner, of Hampstead, an accomplished mathematician: at my request he permits me to offer it to you.
—I am, Sir, &c., C. R. Cockerell.

July 21, 1848.

The principle upon which the plomb-rule I mentioned to you was constructed is as follows:—The side AFC of a vertical section of the spire is an exact circular arc. AEC is the chord. Let MSTN represent a plomb-rule so framed that the line OP, perpendicular to the base ST, represents the position of the plomb-line when the rule is set against the chord, or the centre F of the arc. Let, then, OQ represent the position of the line when the rule is placed against the base A of the spire, where the slope is least, OR its position at the summit C, where the slope is greatest. It is obvious, that if we determine, by calculation, the length QR of the scale through which the plomb-line moves as the rule is pushed up the face of the spire, and can divide the scale into divisions, which will give the proper position of the plomb-line at any assigned height, we shall have a rule which will serve to set every stone in the spire with perfect accuracy.

Now, it will be seen at once, that as the plomb-rule is pushed up the face of the spire, the angle which the plomb line (itself stationary) describes on the surface of the rule is, in fact, the angle through which the edge NT (which is always a tangent to the spire) actually moves. In other words, the angle VGC, made by the tangents at the extremities A and C of the curved face of the spire, is equal to the angle QOR. So the angle GAE, which is half VGC, and which is the angle which a tangent at A and another at F would make with each other, is equal to the angle QOP. The similar triangles, QOP and GAE, give us therefore the following proportion:—

$$QP : PO :: GE : EA$$

whence $$QP = \frac{PO \times GE}{EA}$$

But the arc AFC being a very small part of a circle, GE = 2FE very nearly, or twice the entasis, and AE = ½AC, or half the length of the spire,

Therefore, $$\frac{GE}{EA} = \frac{2 \times \text{entasis}}{\frac{1}{2}\text{ length of side}} = \frac{4 \times \text{entasis}}{\text{length of side.}}$$

But in a tolerably acute spire, the *height* of the spire may be taken instead of the length of the side, and we have

$$QP = PO \times \frac{4 \text{ entasis}}{\text{height of spire.}}$$

In the church at Ferriby, the height of the spire is 74 feet, the entasis 6 inches; and, for convenience sake, the length PO of the rule was taken at 37 inches, which gave $QP = \frac{37 \times 4 \times 6}{74 \times 12} = 1$ inch. The whole scale QP was therefore two inches.

The graduation (assuming the face AFC to be a circular arc) is very simple. For it results from that form, that as the plomb-rule is pushed up the spire, the angle which any two positions of the plomb-line on the surface of the rule make with each other, will be exactly proportional to the height through which the rule has been moved. If, therefore, on the same scale on which QR represents the whole height of the spire, QV represents the height, HK, of any point H, OV will represent the position which the plomb-line ought to take when the rule is set against the point H of the spire. In the rule used at Ferriby there was a division marked in QR for every 5 feet, beginning, of course, with zero at Q, and ending with 74 feet at R. In the same rule the side NT was slightly hollowed, so as to fit the curvature of the spire; but as the depression was only $\frac{1}{10}$ inch in the centre, W, this was a nicety perhaps scarcely necessary to attend to.

In the construction of the spire at Ferriby, the quoins were all set by the rule I have mentioned, the accuracy of the work being tested from time to time, both by trying the length of the diameter of the spire at the place where the working was going on, and also by dropping plomb lines from each side upon a base where the centre was marked, by which means any irregularity would be at once detected—but the rule was found of itself to make the work as correct as possible. The beds of the courses being horizontal, the angle, or bevel, at which the stones were cut, was varied slightly every 10 or 12 feet, so as to suit the varying rate of reduction in the length of the ordinates.

In calculating the ordinates, the following formula was used for determining the excess due to the entasis. Let h be the whole height of the spire, x the height Hk of any point H; e, the entasis, or FE; then we have $HL = 4e \times \frac{x(h-x)}{h^2}$ very nearly.

But the architect, Mr. Pearson, found that he got the ordinates very nearly true by a mechanical process, *i. e.*, merely taking a thin lath, and bending it to the extent requisite.

Thomas Turner.

CHARACTERISTICS OF ANCIENT GLASS PAINTING.

THE STAINED GLASS IN LINCOLN CATHEDRAL.

The great rose or wheel window in the north transept of Lincoln Cathedral must be admitted to be one of the most valuable, and, at present, perfect works of the thirteenth century now in existence. The subject of the window is the Church on Earth and the Church in Heaven; and the greater portion of the original glass still remains in its original position. The whole central part of the window is occupied with a representation of the blessed in heaven, with Christ sitting in the midst. The sixteen circles which form the outer part of the window set forth the scheme of man's redemption, and the efficacy of the Church. It must be regretted that no engraving exists of this window: the want of accurate prints of entire windows being a serious obstacle to the study of ancient glass. One only of the subjects—the angels holding the cross—is given in Fowler's "Mosaic Pavements and Painted Glass;" but this is by no means an accurate representation, and is not to be compared with the excellent drawings made from other parts of the window by Mr. Willson, jun., of Lincoln. No other portion of the Early English glass is in its original position. The white patterns which fill the five windows immediately below the north rose clearly have been removed from other windows; and the same may be said of the contents of both the lowest north windows of the transept. In the westernmost of these two windows the figures of five angels playing musical instruments have been inserted. These are Decorated, and belong to the west window of the nave. Most of the glass in the southern rose is also Early English, and as well as that with which the four south windows of the transept are filled, has been collected from other windows. The lower light of the east windows of both the choir aisles is also filled with a collection of various pieces of Early English glass, amongst which are some medallions representing, according to Mr. Willson's opinion, incidents in the life of St. Hugh at Lincoln.

It is impossible not to recognise, in all these remains, those striking features which indicate the Early English style of glass painting,—such as the extraordinary intenseness and vividness of the colouring caused by the peculiar texture of the glass—the strength and thickness of the outline of the drawing, and which strength of outline was rendered necessary by the deep colour of the glass—the tallness of the figures, their vigorous and spirited attitudes, and the classical air of their heads—also the conventional character of their foliaged ornaments, which exhibit the bulbous form given to leaves in Early English sculpture. The north rose also exhibits the general principles of composition common to any Early English window which contains a number of pictures. Each picture, the design of which is usually very simple, is placed in a panel having a deep coloured ground, and a rich border. The panels themselves are embedded in a coloured ground. Very little but coloured glass is used, so that the window, in its general effect, is a mass of rich and variegated colouring, in which the tints of the grounds predominate.

Of the Decorated style of glass painting, hardly any remains are left in the cathedral; there are, however, some remnants in the Chapter House at Southwell—of the latter part of the reign of Edward I. In Lincoln Cathedral are also some fragments of the reign of Edward II.—in the tracery lights of the first window from the east, of the south aisle of the choir, and in one or two of the opposite windows. The east window of the choir has been deprived of its original glazing. It appears from a survey made of it a few years previous to the rebellion, that it contained the arms of many of the English nobility—a circumstance that leads to the inference that the original glass was Early Decorated, and not Early English, Heraldry not being commonly found in Early English glass.

The glass which fills the upper tracery lights of the west window of the nave of Lincoln Cathedral is *late* Decorated—a little later perhaps than the middle of the fourteenth century. The five angels already mentioned as

being in one of the windows of the north transept are of precisely the same date, and most probably formed part of the window. I think that the west window must have been a jesse window, judging by the forms of the foliaged scroll work still remaining in its head, and round the angels just mentioned. I ought to call your attention to a small piece of this foliaged scroll-work which has been inserted in the Decorated south rose window, near the bottom, on the east side; because the lightness of this glass when compared—from a distance—with the surrounding Early English glass, shows in a striking manner the difference in texture that actually exists between Decorated and Early English glass.

Of Perpendicular glass hardly any remains in the cathedral. Those small circles emblematic of the months of July, April, and March, have been inserted into the centres of the principal tracery lights of the east windows of the north and south aisles of the choir. A head in this light has also been supplied to the lowest of the five angels in the north window of the transept. At Southwell the remains of Perpendicular glass are equally scanty, being confined to a few late arms and other fragments in the west window of the nave.

The glass paintings, which have been executed within the last twenty years, are very interesting to those who hope to see a real revival of the art. It would, no doubt, be unjust to include all those works under one common condemnation, yet truth compels us to admit that even the latest of them, taken collectively, are far from being satisfactory, or worthy the cost which has been expended on them—except so far as they may be considered to have been the means of improving the skill of the painter and the taste of the public. They are, for the most part, servile and faulty imitations of other examples; and, like imitations in general, are apt to magnify all the defects of their originals without seizing upon any of their beauties. These evils are, I apprehend, in great measure owing to the narrow view which is usually taken of the subject; according to which the merit of a glass painting depends on the chance it possesses of being mistaken for an old one by ordinary observers. But a standard such as this, is calculated to foster only a low style of art. It unfortunately too often happens that the distorted drawing of a Gothic glass painting is such as to conceal the real art that exists in the work from the superficial observer; who is thus unable to distinguish the *sentimente* and feeling from the more marked and silent features which can easily be imitated; and thus is soon persuaded with a belief that those are the best modern glass painters who succeed in reminding him the most readily and forcibly of the striking colours of the old glass, and of the characteristic and conventional drawing, which last, deprived of all spirit and originality, quickly degenerates at best into what is called the Teaboardy Style—a combination of weakness and prettyness. Yet, considering the importance of the art as a means of decoration,—that in some localities, as in towns, glass paintings, even on account of their mode of execution, are better adapted for the embellishment of churches than oil paintings or frescoes—because they are not liable, as these are, to be injured by being washed clean from smoke and dust; and that that there is good ground for supposing that the full powers and resources of the art have hitherto been undeveloped; it seems only proper that the subject should be treated in a more liberal manner—that, in short, we ought rather to seek to carry out the art to its perfection, than to continue to practise it in its hitherto undeveloped state. Indeed, before we admit the principle of imitation at all, we ought to be satisfied in what respects ancient glass paintings are really fit subjects for imitation.

This question, to be fairly considered, ought to be considered apart from any prepossession in favour of Gothic glass paintings, arising merely from the respect due to antiquity, or from our always having been accustomed to associate them with the beauties of Gothic architecture. Any consideration of mere antiquity serves indeed but to embarrass the subject, which ought to be taken up, as it could be by a man of highly cultivated taste, apart from all questions of style and date. And it is in this way that, in all probability, it will be regarded some fifty years hence, when the present habit of viewing it in this manner will have passed away, and the man of artistic mind will not have the slightest perception of the anachronisms which would now offend us. The questions are simply these:—First, does that style of painted glass which, for instance, we call Early English, harmonize better with that style of architecture which we call the Early English, than any other style? And—if we think that generally speaking it does—then, is the composition of any Early English painted window such as to make it a fit subject for imitation? Similar questions will, of course, arise respecting any other styles of architecture and of glass, which we have hitherto treated simply as contemporaneous. These questions are replete with difficulties, and the attempt to resolve even one, besides being of a too speculative character to be generally interesting, would require a longer time than could or ought to be devoted to this paper. But, supposing that any particular ancient painted window, or class of windows, should be thought fit for imitation, another question arises—namely, whether we are able to imitate it successfully, and, if not, what is the best course to be pursued under the circumstances?

C. Winston.

THE COMPETITION DESIGNS FOR THE BUILDINGS IN SPICER-STREET, SPITALFIELDS.

DWELLINGS OF THE INDUSTRIOUS CLASSES.

If, lately, we have said less than heretofore respecting an improved arrangement of residences for various classes, our opinion of the urgent importance of a better system of arrangement has not lessened. We have dwelt upon the evil which results to the great mass of the inhabitants of this "world of London," from the anomalous system continued to be practised, by which houses are built in all cases for the occupation of one family, instead of being divided for several, as in the great majority of cases they must be inhabited. We have not been writing for the benefit of those who dwell in Belgrave-square, or Portland-place, but for the great mass of the population of London, and for those of every calling in life, and every grade in society. If, then, the value of time and labour require that residences must be had in localities where, from the value of land and other reasons, it is impossible to get the unlimited use of a residence closed by four external walls and a street-door, obviously it might be expected that residences would be obtainable for every variety of tenancy, *but* that for which they are now always contrived, though hardly ever used. We will not waste ink in combating all the arguments that are current with certain opponents, who would think we would menace the foundation of all the social virtues, and unhinge the very framework of society. We dare say, too, it is much more agreeable to have a house to one's self, but the simple matter of fact is, that houses *cannot* be occupied as they are devised to be. The "100 carpenters, cabinet-makers, printers, engravers, clerks," and those of other occupations, who tenant the new Metropolitan Buildings in the Old St. Pancras-road, would, in almost any town in the country, have each one a house to himself: anywhere in the centre of London, it is simply impossible.

Houses, however, continue to be built upon the old mistaken plan, and it would not be difficult to indicate circumstances destructive of common comfort, most injurious to health, and of the most seriously demoralising nature. It has been said, we know, even lately, that the sanitary state of towns has had no influence upon the morals of their inmates; but were not the matter sufficiently patent, there are the most ample statistical data directly bearing upon the fact. If the improvement of the public health was of the immense importance ascribed to it by its principal advocates, there can be even less doubt that the most vital interests of humanity are concerned in that by which they are more nearly affected, namely, the condition of their dwellings.

If only as a pecuniary speculation, we have always urged that it would be desirable for builders to provide buildings for every description of occupancy, so that tenants, having the opportunity of choosing the description of residence suited to their habits, their occupations, and their means—none of which advantages they have at present—rents would be depended upon with much greater certainty, and house property would be the most valuable of all investments. The loss to landlords, from default in the payment of rents, must, under the present system, be most serious. The continual terror of the distraining for rent, which it becomes necessary for the landlord to hang over the tenant, cannot but be most injurious to the better nature of him whose self-interest requires the frequent exercise of that power; and the existence of the middle-men, more injurious than those of Ireland, who take houses for the purpose of letting portions of them at exorbitant rents, carries the bad influence into every class of society.

Little improvement in the comfort of dwellings can be expected, until it is shewn that to provide residences more conveniently arranged, with the requisite privacy, and with greater facilities for the supply of water and the disposal of refuse, is a profitable speculation; and whilst we have given credit to the Society for Improving the Condition of the Labouring Classes, for shewing, in the words of his Royal Highness Prince Albert, the means of "a most beneficial improvement in the domestic comforts of the labouring classes," we will ascribe to the "Metropolitan Association for the Improvement of the Dwellings of the Industrious Classes" the merit of having demonstrated in an effectual manner "that money invested in improving the dwellings of the industrious classes will yield an ample return on the capital invested." The buildings in the old St. Pancras-road have more applicants than can be accommodated, and there has not been a single default in the payment of rent. Each residence is here, in all essentials, a separate dwelling, being entered from the staircase landing by an outer door, and containing kitchen, scullery, sitting-room, and bedrooms, and other conveniences, with the most complete provision for the supply of water and removal of refuse. The rents vary from 3s. to 7s. a week, but the lowest-rented of the residences have greater conveniences than could be obtained elsewhere for a much greater amount,—and the association would have been able to receive a lower rate of rent but for the oppressive exaction of the window-tax, which, as usual, stands in the way of all improvement, moral and sanitary. But, notwithstanding the rents, there is an income from under 14,000*l.* expended,* of very nearly 1,500*l.* a year,—and this, too, notwithstanding an unaccountable prejudice which has been said to exist against these buildings, "amongst the class for which they were intended." It may be true that some prefer to live in dirt and discomfort, or where the dissolute habits and lawless life to which they have been accustomed, have become indigenous, and it would have been desirable to place these under the influence of social comforts, as well as to benefit those whose poverty obliges them to associate with the depraved. But it is precisely "the carpenters, cabinet-makers, printers, engravers, clerks," and others, that we and the association have in view, as well as others, to benefit; *these* are the individuals, and amongst them many whose earnings should command the *comforts* of a home,—many of education, and not destitute of all decency and sensibility, who are compelled to live in a manner entirely unsuited to them, and of which no account has yet been given, unless in a description of the cottages of some agricultural labourers.

We have, therefore, taken the utmost interest in the labours of the two societies we have referred to; and if we have not been satisfied with the apparent delay in the removal of the evils which had been so ably demonstrated by one of these societies, we are now happy to find the "Metropolitan Association" pursuing their object energetically, as well as with, we believe, a sincere desire for the public good.

The last step they have taken has been the purchase of a piece of ground in one of those localities in which their efforts may be particularly beneficial—the district of Spitalfields. A piece of freehold ground has been obtained,

* It is stated that the cost of these buildings was a considerable excess upon the estimate.

at a cost of 1,300*l.*, on which they are about to erect a dormitory, or lodging-house for 300 single men, and residences for forty families at the least; and they applied to six architects to send designs in competition. Five of these, only, answered to the call, and their designs were exhibited publicly at Willis's Rooms, on the Thursday, Friday, and Saturday, in last week. The competitors were Mr. Beck, Mr. Barnett, Mr. Grellier, Mr. Daukes (three designs), and Mr. Ricardo; and premiums were awarded, to Mr. Beck, 50*l.*, as giving the best arrangement for the lodging-house; and to Mr. Daukes the same amount, for the best arrangement of residences; as well as to Mr. Grellier, 25*l.*, for the second best arrangement of residences; and to Mr. Ricardo the same amount, for the second best lodging-house. Mr. Barnett received 20*l.*, the committee having stipulated for the possession of all the designs sent in. The designs are highly creditable to their respective architects, and particularly so considering the short time allowed for their production. Five weeks (too little), we hear, was allotted, which, it is said, one competitor —and not the least enterprising—reduced to five days. Next week we shall probably have space for particulars.

BOARD OF TRADE AND ART-UNION OF LONDON.

IN reply to the memorial recently presented to the Board of Trade by a deputation of artists, deprecating the interference of the Board with the London Art-Union, Mr. Denis le Marchant, on the part of their lordships, has addressed a letter to Mr. T. H. Illidge, one of the deputation, *withdrawing the proposed regulations as to the selection of the prizes by a committee.* As if the Board of Trade, however, had made up their minds to keep wrong in this matter, and to disturb, if it only can be by agitation, an important national association, they have now made a proposition, in an entirely different direction, which, if it were carried out, could not fail to do much mischief. They propose that prizeholders should be permitted to select for themselves, not from the exhibitions alone where the price is duly registered, but any work being in the possession of the artist at the time the selection is made, and not being a portrait, or to give commissions for works to be painted within one year! All the present arrangements of the Art-Union are made expressly to prevent the possibility of jobbing, and to afford the greatest stimulus to artists. The step proposed by the Board of Trade would remove all check, open the door to jobbing, and ultimately prove destructive to the society. The Board will surely not venture to insist on so unwise an arrangement.

The following is a statement of the number of works of art selected by the prizeholders of last year from each exhibition, and the amount paid:—39 from the Royal Academy, 2,188*l.*; 32 from the Society of British Artists, 1,109*l.*; 24 from the Free Exhibition, 650*l.*; 17 from the New Water-Colour Society, 550*l.*; 15 from the Old Water-Colour Society, 377*l.* 3*s.*; and 11 from the British Institution, 415*l.* Total, 138 works=5,289*l.* 3*s.*

MONUMENT TO CAXTON.—A correspondent writes, "what in the name of fortune has become of the project for the erection of a monument to Caxton in Westminster? Surely after so brave a commencement it cannot have been allowed to drop?" Perhaps one of the movers will favour us with a reply. There has been bad management somewhere. The steam which was got up at starting has not been turned to good account.

WOKINGHAM WORKHOUSE COMPETITION.—In reply to the advertisement for plans in competition for the Wokingham Workhouse, fourteen designs were submitted by architects from London, Southampton, Reading, and other places; and from these the guardians, under the sanction of the Poor Law Commissioners, have chosen a design by Mr. John Billing, of Reading, which is to be carried out under his superintendence shortly. Tenders for the building will be advertised for in a few weeks.

ON THE ANCIENT VILLAGE CHURCH OF LEIGHDELAMERE, WILTS.*

THE subject on which I am about to write, is one that may be considered of less importance in an *architectural* point of view than in an *archæological* one, viz., some particulars of an ancient ecclesiastical structure, which has excited the attention of several able writers and artists of the present day, and some of our most distinguished antiquaries. Even so late as the autumn of 1845, it was visited by the late noble President of the Royal Society, in company with the very Rev. the Dean of Westminster, and other savans, who were engaged in a sessional tour having reference to such objects. I allude to the village church of Leighdelamere in Wiltshire, which it has fallen to my professional lot to be lately engaged in restoring, and especially its bell turret, which has been held to be of peculiar interest.

In the first number of the *Archæological Journal*, a notice is given of this church; and in the second volume of THE BUILDER (p. 606) is exhibited a masterly illustration of this bell turret, from the pencil of a member of this institute (Mr. Richardson), to which I shall have occasion again to refer.

In the spring of 1846 I was called upon to survey and report upon the condition of the structure, and the practicability of repairing or otherwise restoring it. Upon a careful examination of the building, I found it to be in every part so thoroughly decayed and dilapidated, that an attempt to repair it would have been only to substitute piecemeal every stone in it, whilst the timbers of the roof were crippled and fractured in all directions, and the fittings (if such they could be called, that had no fitness in them) were in the most wretched condition that could be well imagined. I may observe here that the living had been held for *half a century* by a non-resident incumbent, which had not of course been favourable to its receiving due care and attention. That it had at one time been taken great pride in, was evident from many interesting points about it, and not the least was, that every thing which could be made of *stone* was so formed, and of the natural stone in its vicinity, viz., the great oolite bed: thus, it had, besides its turret, a stone *pulpit*, a stone *aumbrye* and *piscina*, and a once very handsome *reredos* in stone, to which I shall presently again refer.

Of the exact period of its erection, there is not to be traced any record, but it is identified in the parish books as dedicated to St. Margaret, though chiefly known as Leighdelamere Church. The name "Delamere" has had various derivations ascribed to it, some thinking that it came from the French De la mer "of the Sea," others that it arose from De la mere "of the Mother," and the latter derived some probability from the fact of an effigy of the Virgin Mother, which existed over the entrance door. But the mere general belief—indeed it has been traced by the present incumbent, the Rev. J. E. Jackson—is, that this church owed its foundation to one of the ancient English families, the Delameres, which, according to Dugdale, existed in the time of Edward I., and a branch of which was located in this county.

This brings us to the latter end of the 12th and beginning of the 13th century, about the period when, from its architectural features, it is reasonable to suppose this little church was erected. It is not unlikely that the family whose name it bore, had distinguished themselves in the Crusades, and founded this church in commemoration of their success.

It was one of those periods of which our great poet says—

> "When all the Christian world
> Did march one way—as far as to
> The sepulchre of Christ—
> To chase the Pagans, in those holy fields,
> Over whose acres walked those blessed feet,
> Which eighteen hundred years ago where nailed
> For our advantage, on the bitter cross."
>
> —*First part of King Henry IV.*

But to return to the characteristic features of the building, and first of its *bell-turret*; it is peculiar both in the arrangement of its plan, in its style, and its construction. The plan is not an octagon, but a blunted square, placed diagonally with reference to the cardinal points, of which two of the salient angles rest on the gable over the chancel aisle, and two rest on corbels projecting from it, east and west, so as exactly to balance the incumbent weight. Then the formation of two out of the five pillars is most ingeniously contrived by a sinuous outline, to give relief to the whole with the least sacrifice of substantial material. The caps of the pillars are singularly formed, having, when analyzed, rather the structure of a carved frieze, such as we see in a more decorated period used as a crowning member in lieu of an embrasure.

A description of the turret will be found in a previous volume of THE BUILDER.*

The stone pulpit consisted of three sides of a hexagon projecting from the north wall, in the rear of which was a window, and on the east side of it were the remains of a doorway, leading to a rood loft: on one of the panels was carved, in raised letters, the date 1635. At some period this pulpit front had been shifted from its base; indeed the whole had been chopped and changed from its original shape, and a wooden cornice and book-board surmounted the stone one at the time I allude to.

The piscina and aumbry were formed by sinkings in the wall, both very small, the former being placed in the splay of the south window of the chancel, 8 inches high, and the latter in the north wall, 16 inches square, having a rebate for the oak door, of which there was, however, no other trace.

I must now speak of the reredos. Originally there had been an east window, the masonry of which, a triplet, still remained externally: this had been blocked up to make way for the screen in question. It consisted of nine compartments, viz., three large and six smaller niches. One of the larger ones was placed at each end and one in the centre: each had a canopied head and tabernacle work above them, —and all of them bore indications of having contained figures, when it must have appeared very handsome. I have supposed the smaller niches to be filled with statues of the Apostle, the two end ones of Moses and Joshua, and the central one of Christ, the latter more especially, as there existed a corbel above it, which exactly fitted the niche containing the Virgin and child before alluded to as existing over the entrance door, and had probably been removed thence to preserve it from the fate that had awaited the other statues.

In many other particulars this church was peculiar:—thus the three semicircular arches which divided the nave from the south aisle were of different diameters, all springing from the same level, and thus producing a gradual rise from west to east: thus the westernmost was 7 ft. 6 in. diameter, the next 9 ft., and the third 9 ft. 6 in.—whilst the rise from the floor varied in the same ratio, viz., 9 ft. 8 in., 10 ft. 2 in., and 10 ft. 8 in. I may also mention that instead of having a moulded cap of any sort the splays of the arches were so formed as to terminate in an octagon upon the circular shaft of the pillars, the spandrels being filled up by a leaf carved at each angle.

But there was yet one other feature of unusual occurrence, and the object of which I have not found any very clear solution of. It was a spiral stone staircase, at the west end of the nave, terminating at its summit with a stone doorway, leading on to the middle valley of the roof.

What could this be for? It was evidently not to clear the water-way! for this, besides being (as usual among the old church builders) of very ample dimensions, and having a bold gurgoyle to discharge the contents of the gutter, was so trifling in altitude that a single-story ladder on the outside would reach it. Then, again, the turret was built in so substantial a manner as to imply that it was for some purpose of very frequent recurrence, especially as it had its access from the interior of the church.

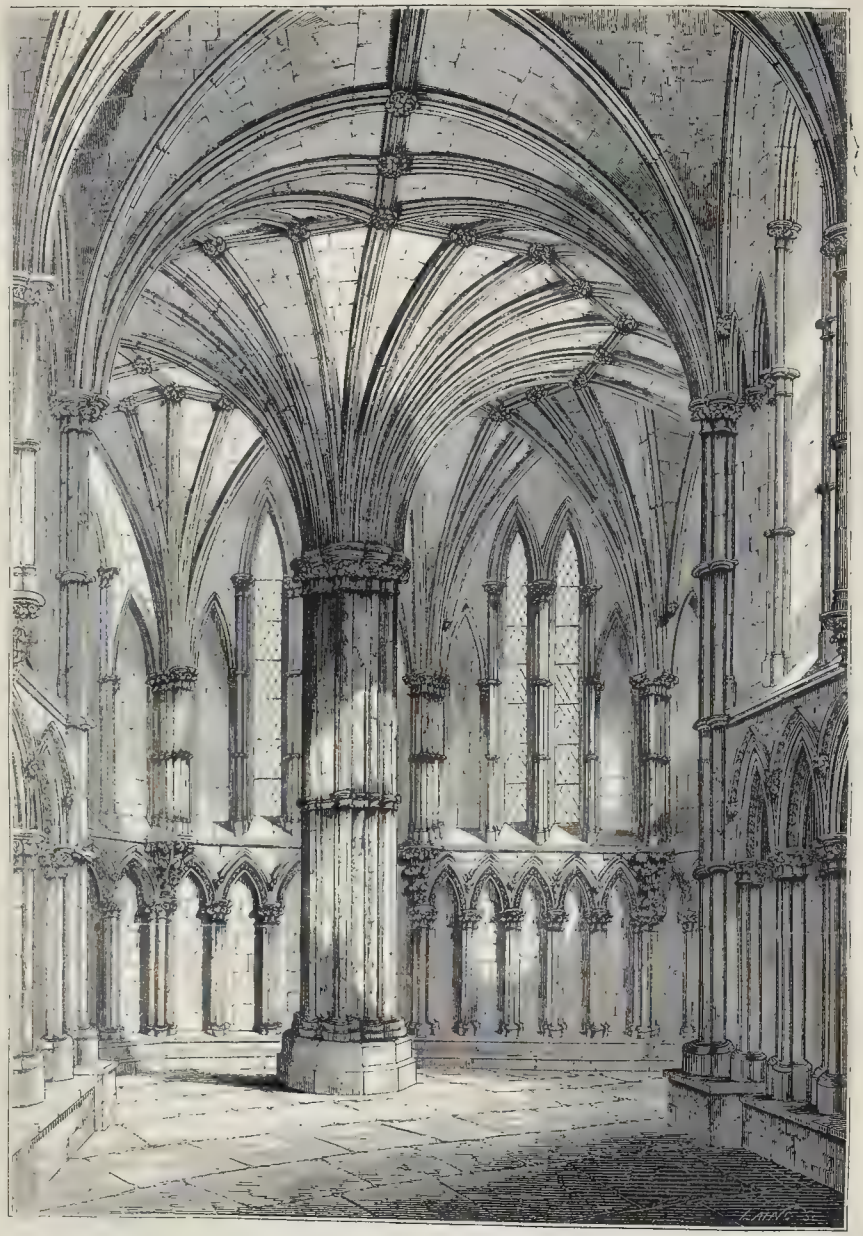
I was led to examine if it might not have some ostensible connection with the bell turret, and it did so happen that the south-west corner of that erection (and the only one that was accessible from the roof) had a peculiar formation of the tabling or coping stones, being so hollowed out as to afford a good footing for

* Read at a meeting of the Royal Institute of British Architects, previously referred to.

* See Vol. II. p. 606.

INTERIOR OF THE CHAPTER-HOUSE, LINCOLN.*

CIRCA 1200.



any one to step upon, whilst the other three sides shewed a strait and continuous line with the gable. I have, therefore (in the absence of a better suggestion) been led to consider that the turret was formed for the use of the sacristan in early times to toll the bell for public service, and the more so, because if it was not done in that way, there appeared no other method except the clumsy one in use in later times, of having the bell-rope dangling down through the roof into the body of the church, when the ringer, at the time I speak of, performed that duty.

I have now mentioned the chief points of this very interesting little structure, and as that which had existed for several centuries has now become but a matter of history, I felt it due to posterity to take of most parts of it accurate dimensions. Of the restorations it would not become me to speak, except to observe, that no expense has been spared by the patron of the living (Joseph Neeld, Esq., an honorary member of the Institute) to render the building worthy of the best days of its predecessors. Whether that which has been done has been done judiciously or not I am alone answerable; but as in a restoration of a varied style of building there must be some difficulties, I may be permitted to say that the course I felt bound to pursue was this,—I found that I had to deal with a work, the product of several ages, from simplest forms down to the latest decorated; and although it would have been

* See p. 374, in present number.

CARVED PANELS OF THE RENAISSANCE PERIOD.





much easier to adopt any one of those styles (say Early Pointed, for instance), yet in doing so I must have sacrificed the restoration of the *early* semicircular arches, as well as the elaborate features of the *later* periods, as in the reredos. I therefore resolved to preserve in the new building some record of whatever was most interesting in the old one; thinking that if, in so doing, I should lose something in the way of *unity* in the composion, I should gain much in picturesque effect by the variety of forms which would thus (as in other more important ecclesiastical structures) become grouped together. That course has been acted upon, and although some enlargement has taken place by adding a new aisle to the church, and forming a crypt beneath it, it has not been allowed to interfere with preserving to after times the lineaments of its time-worn, time-honoured, and venerable parent.

I may just be allowed to mention that I am at this time engaged in the erection of a school-house, formed out of the architectural remains of the old church, every stone of which I had marked as it was taken down, so as to be re-articulated. By this course it is hoped to preserve to a yet distant period those features which had acquired some repute in our time, and prove to posterity that the builders of the nineteenth century are not unmindful of the value of the works of their predecessors.

James Thomson.

The Vernon Collection and the National Gallery.—In order to relieve Mr. Vernon from the disturbance of his privacy, caused by the present arrangement, which opens his house to the public, the trustees of the National Gallery have determined on clearing out the lower rooms of their side of the building in Trafalgar-square, and hanging this noble collection therein. They have likewise accepted two pictures by Taddeo Gaddi, offered to the nation by another liberal individual. The behaviour of the Government towards Mr. Vernon has scarcely been such as will lead many others to follow his example. They ought, on the instant, to have made him a baronet, and then discussed how, properly, to express the national appreciation of his munificent gift.

CARVED PANELS OF THE RENAISSANCE PERIOD.

The two panels engraved are from a series which are fitted in a door in the private residence of Mr. Francis Gibson, at Saffron Walden, in Essex. They are valuable as giving the date of their execution, and as affording fine examples of a peculiar style of ornament that is often more *bizarre* than elegant. What their original location may have been is not now known; they were probably imported from the Low Countries.

DESCRIPTION OF THE BISHOP'S PALACE, AT LINCOLN.

Passing the beautiful remains in Bishop Alnwick's tower, we come to the great hall, which stands nearly in the centre of the whole area. The Parliamentary surveyors have left us this description of its state in 1647:—"The greate hall is very faire, large, lightsome, and of stronge freestone buildinge, in goode repaire, being sixty foote of assise in breadth, and ninety foote of assise long. The forme of buildinge consisteth of one large middle allye, and two out iles on eyther syde, with eight gray marble pillars bearinge up the arches of freestone in the forme of a large church, having large and faire freestone windows, very full of stories, in paynted glasse, of the Kinges of this land. The fire is used in the middle of the Hall; the roofe of very strong tymber, covered all over with leade. The proportion of yt is much lyke the body of Christe Church in London."

"This of ytself (by dividinge of yt) might make a dwellinge howse with all convenient roomes for use."

The porch, as we are also told, had a fair chamber over it with a chimney. The great bay window at the upper end of the hall was undoubtedly added by Bishop Alnwick (1436-49), the few remains that were found of its mouldings corresponding exactly to those of his other works. This noble window was totally destroyed, and even its basement was covered by a range of stables, built in the time of the Commonwealth, which extended from the great porch at the south end of the hall to the turret stairs at the north end. This building was removed by Mr. Mainwaring: he also opened the windows of the hall, which had been entirely walled up. It seems probable that only the upper half of these windows were originally glazed, the lower lights being closed by boarded shutters, as was the case in many ancient halls and other apartments. In winter time the shutters would be constantly closed to keep out the cold air, and perhaps hangings of tapestry extended over the openings. It seems likely that the lower parts of these windows were walled up by Bishop Alnwick when he built the bay window and set up the portraits of the Kings of England in stained glass, with legends in Latin verses, and many coats of arms, of which descriptions are still extant.

The six pillars of dark grey marble which sustained the roof are totally gone, but some fragments of their bases and capitals have been found, which shew that each column consisted of a central pillar, with four smaller and four longer round shafts attached to it,—the whole height of these pillars being about 20 feet, divided into two parts by central bands. The responds or half-columns at each end of the hall are partly remaining; these rest upon projecting corbels. Two of the three doors with pointed arches, at the south end of the hall, opened into two pantries; and that in the middle, into a passage which communicated with the kitchen. Over this passage, and the pantries on each side of it, was a spacious room, to which you ascended by a turret staircase at the south-west corner of the hall, and the chamber over the hall porch was entered by the same stairs. This room, which I take to have been the great chamber—an ordinary appendage to the hall in ancient mansions—had two tall windows in the south front, with a fire-place between them, and there were two other windows at the east and west ends of the chamber. The roof being a continuation of that over the hall, was supported by two stone arches, resting upon corbels of marble, and rose up in the centre to a lofty ridge. Returning to the hall, we find, from the survey, that the passage under the great chamber was flanked by two larders, over which a flat roof of lead extended from side to side, under the windows of the south front of the great chamber. The kitchen had five fire-places, of which the back walls, faced with tiles, are still standing: that in the south-

west corner of the kitchen is deeply recessed in a circular form, and is very spacious. The roof of the kitchen was of timber, covered with lead, and rose up to a great height in the centre, in the form of an octagonal pyramid. Passing again from the hall, we come to two doors communicating with Bishop Alnwick's tower. The larger one opens into the vestibule, which is very neatly vaulted with ribbed arches. Opposite the hall door is another which led by an arched passage towards the chapel. The survey describes the chapel as "very faire, with seates and many other convenience, and very faire painted glass windows." From other accounts we find that the windows contained many coats of arms, as well as figures of saints, and Latin rhymes recording its dedication, by Bishop William Alnwick, to the honour of the Blessed Virgin Mary. At the west end of the chapel were two floors of rooms, containing a study, with a lobby on the lower floor, and a withdrawing chamber, with a closet-pew looking into the end of the chapel, on the upper floor. These apartments communicated with the chamber over the vestibule in Bishop Alnwick's tower, over which was another chamber. All these buildings were constructed with the nicest regard to convenience, and the mouldings and details of the doors, windows, &c., are particularly elegant. An engraved view of the north front, by Nathaniel Buck in 1726, gives a pretty good idea of these buildings, as they had been left by the Parliamentary tenant in 1660:—a tiled roof with garret windows on its side had been put over the chapel in place of the original lead covering—the tower was disfigured by a similar addition, which is seen above the battlements—the chapel windows were divided into two heights, in order to suit the two stories of rooms which had been formed within it—the bay window over the door of Bishop Alnwick's tower was then entire, but its three lights appear to have been blocked up—its projecting basement, which has since perished, was sculptured with the royal arms of France and England in the centre, with those of Bishop Alnwick on one side and of the see of Lincoln on the other. The inside of this window, and the walls of the chamber to which it belongs, bear deep traces of fire, the walls having been made red hot; but we know nothing of the time or other circumstances of this fire. The lofty gable at the south end of the hall range was yet standing with two very high pinnacles at the sides, and a third in the centre, which formed the top of the chimney in the great chimney. Several other high chimney shafts were also standing which are now levelled. Passing through Bishop Alnwick's tower we enter into a narrow court, having the great hall on the west side and a range of buildings on the east, in which was an apartment called in the survey the "Little Hall," with a large dining-room beyond it, and further on a chamber called the study, which extended to the south-east corner of the palace. Under the chapel was a private dining-room or parlour, the front of which looked into an inner court, and had a bay window projecting from the centre. There were pantries and cellars, with closets adjoining to this room, and winding stairs communicating with the apartments in the upper stories. At the lower end of the court stood a brick building, which contained the lesser or privy kitchen, and the pantry, with a well very near to them. Under the lesser hall and the adjoining rooms were three large vaults yet standing, of which the uses can only be conjectured. They are all roofed with semicircular stone arches, and the biggest apartment has a large fire-place on the west side, and has been lighted and ventilated by small windows on both sides placed very high: it has also a well at the upper end in an arched recess: perhaps this vault may have been originally a brewhouse. On the west side of the middle court at the lower end is a flight of stone steps, very steep, ascending to the great kitchen. Beneath the kitchen is a room which is described in the survey as a brewhouse.—The vaulted roof has fallen in. It evidently had a column in the centre; and, from certain marks on the walls, the original form of the arched roof, and also the entrance, must have been altered by some of the ancient builders. Opposite to this building towards the north is the principal cellar which formed the basement of the south end of the hall range, being under the great chamber and the two pantries, to which there was an ascent by stairs in the south-west turret. The roof has been vaulted and groined in a bold and good style with large moulded ribs springing from corbels. The south end of the hall range was separated by a space of 13 feet from the kitchen, and the communication between the two buildings was made by an arched vault, or bridge, as it may be fairly termed, and which was a passage from the hall to the kitchen, with two larders on its sides already noticed. The arch of this bridge is groined in the centre, and is decorated with moulded ribs somewhat similar to those in the great cellar. All these lower parts of the buildings shew an early style, very massive and judiciously proportioned to their purposes. The west side of the vault under the kitchen bears marks of alteration made subsequent to its original construction. There were two, or perhaps three, blank arches in the wall, sharply pointed, and resembling others on inside of the vault, but not corresponding in breadth. These blank arches are partly covered by two great buttresses, one of enormous thickness. The biggest buttress, as well as some other parts of the buildings, have been patched with brickwork, which material may have been employed for the sake of economy when Bishop Williams repaired the palace in the reign of Charles I. Westward from the kitchen there appears to have been a range of buildings that probably extended as far as the western wall of the palace, and might have been offices belonging to the kitchen department. These buildings, however, appear to have been taken down before the Parliamentary survey was made, as they are not described in it. The court where these two buildings stood, which now forms a flower garden, lies on an intermediate level below the principal court and the modern mansion on the north, but overlooking the gardens towards the south, where is now a terrace supported by a high wall with handsome buttresses built by Mr. Mainwaring. The south-front of the kitchen buildings, which rise to a great height on that side, is strengthened by two noble buttresses, built with Ancaster stone, in fine large courses of masonry: these buttresses are evidently of later date than the original buildings, and perhaps were erected by Bishop Burghursh in the reign of Edward III. In the upper court we may notice that the south end of the modern house stands upon some remains of ancient buildings. The Parliamentary survey describes it, "A range of stone buildinge called the officers' lodginges with a little stable at the end under, being built upon the pallace wall upon the west syde thereof towards the cittie, conteyninge 8 bayes of building, and consisting in all of roomes and chambers over and garrets in the roofe, beinge 12 roomes." These officers' lodgings stood upon ground occupied by the present mansion. The gateway in the western wall of the palace, a little beyond the north end of the house, was only modern, and is now blocked up. The arch of the original entrance through the great wall which forms the boundary between the Bail—or to speak more properly, the close—and the palace, may still be seen. This was the gate for which King Henry the First granted a licence to Bishop Robert Bloet. It is a plain semicircular arch, not six feet wide, and is buried in the mound at the base of the wall up to the springing. Nothing can be seen of this gate on the north side of the wall, it being below the surface of the ground; but from some remains of ancient fire-places, it seems that there were rooms and chambers adjoining to the close wall in this part. We may also notice that this gate stood exactly opposite to the great porch of the cathedral, called the *Galilee*, which would be the ordinary entrance into the church when the bishop came from his palace. In later times, when the eastern gate of the palace was formed, the bishop's entrance into the minster would usually be through the beautiful porch on the south side of the presbytery. E. J. WILLSON.

THE SUSSEX ARCHÆOLOGICAL SOCIETY will meet at Lewes on the 10th inst., when a large attendance is expected. The Bishop of Chichester will preside.

NOTES IN THE PROVINCES.

THE Leicester market-place improvements are progressing with the demolition of buildings behind the Exchange, which a correspondent of the *Leicester Journal* proposes should itself be taken down, and adjoining a high wall, to be built for the prevention of frontage, that an awning like that at the railway station should be erected, with a couple of steps for ascent, and the corn-market to be held there.——The Isle of Portland Government works are still in rapid progress. The prison will soon be completed, with its appendages, the bakehouse, hospital, &c. About 960 hands are now employed in finishing the various departments about the prison.——At the Plymouth breakwater quarries, last week, with a charge of 1 cwt. of powder, placed in a hole in the rock 18 feet deep, 1,000 tons of limestone rock were blasted at one blast, without accident in firing. A man was six hours engaged in the operation, and was seven times pulled up to the top of the quarries before the fire took effect. Vast improvements have been effected in the mode of blasting limestone rock at Plymouth since these quarries were first opened in 1811.——A public fountain is to be erected in the centre of College-green, Bristol.——Mr. Charles Williams, a builder in Half-moon street, Bath, has been found guilty of defrauding the Bath Water Works, by supplying four houses in Wellington-place with water for more than twelve years, while renting and paying for the water of four adjoining houses. The magistrates mulcted the defendant 1*l.* in each instance. ——The lowest tender for the erection of the new infirmary in connection with the Union workhouse at Warwick was from Messrs. Branston and Gwyther for 1,550*l.*; the next that of Mr. W. Green, of Leamington, for 1,568*l.*; and the other three were Mr. Hart's, 1,613*l.*; Mr. G. Whitehead's, 1,643*l.*: and Mr. Webb's, 2,250*l.* The advertisement in the local papers stated that applicants were to send in the names of two sureties for the due fulfilment of the contract, and Messrs. Branston and Gwyther having omitted to do so, conceiving it to be unnecessary, as they should require no money until the completion of the building, the tender of Mr. Green was received by a large majority.——The new Presbyterian church in Broad-street, Birmingham, the first stone of which was laid on Monday week, is to be built from a design in the Italian style, by Mr. Botham, of Birmingham, architect. The plan is a parallelogram, externally 99 feet long and 47 wide, with a tower at the principal front end, next Broad-street. There will be accommodation for 640 persons, including a gallery for 260 at the lower end, but exclusive of side galleries to be ultimately erected. The light is to proceed entirely from the roof, so as to exclude annoyance from the adjoining thoroughfares. The interior will be plain and simple. The tower is to be 110 feet high in four stories, with a bell domed roof. The cost is estimated at 2,960*l.* Mr. William Bradshaw, of Birmingham, is the builder.——In accordance with the announcement of Mr. Hartley, the surveyor of the Liverpool Dock Estate, five of the new docks in progress at the north end of the town have recently had water admitted into them, with their basins and adjunct passages; and vessels will be permitted to enter in course of a few days. The foundation-stone of these works was laid without ceremony, and the opening now, as effected by the entrance of the first vessel, will also be unattended by any ceremonial. The various docks have been named, and apportioned to the different classes of vessels which they are intended to accommodate; and the additional water space which their opening will render immediately available amounts, we believe, to an area of between thirty and forty acres.——In Manchester and its vicinity there are only 139 churches and chapels, while in New York, with about the same population, there are 215.——The new Catholic Church of St. John the Evangelist, at Salford, will be dedicated and opened on the 9th inst.——Keighley new parish church, erected from designs by Mr. R. D. Chantrell, is nearly completed, and will be consecrated on 11th inst. Its style is perpendicular Gothic of 15th century. The chancel has stained glass by Willement. —— The fund for erecting a parish

church in Hunslet is on the increase——The extensive works for the new docks at Sunderland are proceeding in the most rapid manner. The sea has been banked out of the tidal basin, and nearly the whole length of the large dock; and the undertaking, it is thought, will be completed, by the contractors, Messrs. Craven, on the plans of Mr. Murray, the engineer, within the time fixed, and within the estimated cost.——The church of St. Lawrence, at Winchester, is about to be made more fit to receive the stained glass window contributed by Miss Littlehales (noticed in the 280th number of "The Builder") by having the walls fresh stuccoed in the interior, repewing the greater portion of the church, altering the present ugly gallery, opening the tower arch, restoring the font, removing the cumbrous deal altar screen which at present hides a great portion of the east window, and by having a new pulpit and reading desk: the large east window will be restored previous to having the stained glass placed in it. The architect employed is Mr. John Colson, of Winchester.

RAILWAY JOTTINGS.

A NUMBER of trucks, loaded with large timber balks, steeped in a combustible preparation of coal tar, &c., took fire on Thursday week while on their way, at the Box station, to a branch of the Great Western, in forming which they were to be used, by the contractor, Mr. Hennet. With difficulty the blazing mass was got into a siding, and fire-engines set to work for an hour and a half; but nearly 50 tons of the timber, besides the trucks, were consumed, and the loss is estimated at 3,000*l.* to 4,000*l.*——A case regarding payment of wages, which is of some importance to contractors and to the labourers employed by sub-contractors or others, has been decided at Forfar differently from some previous decisions elsewhere. An Irish jobber absconded with 70*l.* to 80*l.*, paid him for work done by Messrs. Stephenson and Co., and without paying out of it the poor men employed by him at weekly wages. The sheriff decided that Messrs. S. & Co. were not liable either in law or justice for wages due by the jobber to his own servants.——A new turn-table, on an improved principle, has been invented by Mr. Turiff, one of the proprietors of the Vulcan Foundry at Paisley. The *Ayr Observer*, in describing it, says: "The engine and tender, which weighed 36 tons, were placed on the turn-table; and two men turned it, by means of two wheel-pulleys, with comparative ease, in the most incredibly short time of about a minute and a half. There was not the slightest jar while the movement was proceeding: on the contrary, the carriages rested on the table as softly as if they had been on cushions. The great advantage of this invention of Mr. Turiff's is, that with former turn-tables there were two frictions, while with this table there is only one: it is relieved by a powerful weight resting in the centre, which contains four large bolts that lift the table from the side-rails beneath. The machinery, like all inventions of practical use, is very simple, but composed of massive beams of iron, and can be worked by circular rollers in cases of emergency. The turn-table itself is 36 feet in diameter, weighs 25 tons, and sustains 51 tons revolving weight."——Mr. Samuel Cunliffe Lister, of Manningham Hall, Bradford, has taken out a patent for so applying air, either by compression or by exhaustion, as to act upon the wheels of railway carriages simultaneously as a powerful break. To each carriage is to be attached an air-reservoir, or tank, of sufficient strength to sustain a pressure of 50 to 60 lbs. on the square inch. This reservoir, or tank, will be charged with compressed air, or exhausted of air, by means of an air-pump, actuated in any convenient manner. In connection with each tank a pipe communicates with a main pipe, extending beneath the framework of each carriage lengthwise, and midway between the wheels. From each side of this main-pipe there extend branch pipes, communicating with cylinders, suitably fixed between each pair of wheels at the side of the carriage: each cylinder is fitted with two pistons, working air-tight, and piston-rods, furnished with break-blocks. Instead of the middle of the block being in a line with the centre of the axle, however, the bottom of the block is in a line with it. Now assuming the pressure of the compressed air in the main tube, or pipe, when filled, to be 5 lbs. on each square inch of the piston, and each piston to present a surface of the area of 200 square inches, there will be a force of 1,000 lbs. exerted upon each piston, pressing the break blocks against the peripheries of the wheels; and this pressure will take place simultaneously in all carriages comprising a train, upon the guard opening a valve for admitting the compressed-air to pass from the reservoir, or tank, into the main pipe, by which the impetus of the train will be suddenly checked. Instead of employing compressed air, a vacuum may be formed in the main tube, and the pressure of the atmosphere be allowed to exert itself upon the other side of the piston—the end of the cylinder being left open for that purpose.

UNIVERSITY HALL, ST. PANCRAS.

ON Thursday, the 20th ult., the first stone of the "University Hall" was laid. This building is being erected by the Unitarian body, as a grand central institution for the residence and religious instruction of the youth of that denomination. The present edifice will accommodate about thirty students, who will attend the general classes of University College, which is contiguous to the Hall, and to which there will be an immediate access in the rear; but the religious instruction will be given within their own walls. The site is in the centre of the west side of Gordon-square, St. Pancras, and we understand that the Duke of Bedford has, with very great liberality, allowed the council the opportunity of purchasing, within a certain period, the fee-simple. Mr. Cubitt, who has the improved rent, has afforded every facility to enable the college to redeem that also, so as to render it completely free. The following is the inscription, written in the sunk panel of the slab:—

UNIVERSITY HALL,
This Stone was laid
XX July MDCCCXLVIII,
By MARK PHILIPS, Esq., Member of the Council.
The Rev. Philip Le Breton, A.M., Chairman of the Building Committee.
Francis W. Newman, B.A., Principal.
The Rev. David Davison, A.M., Secretary.
Thomas Leverton Donaldson, Architect.
John Jay, Builder.

The building will have seven stories in height. We understand that the elevation is in the florid Tudor style, and will be constructed of red brick and stone dressings. The central object is a tower with a projecting bay window, and flanked by octagonal turrets, which are surmounted by crocketed pinnacles in stone; and these turrets are repeated at the ends of the façade. The whole height from the pavement of area to the summit of the pinnacles will be 92 feet. The extreme width of the frontage is 100 feet. There will be a central entrance hall, with a groined ceiling; a dining-hall and library, each 36 feet by 27 feet; a council-room, 25 by 23 feet, all of them 20 feet high. Each student will have a sitting-room, 15 by 12 feet, and a bed-room 12 by 10 feet. When the building has been occupied by its full number, the council contemplate erecting a cloister and additional chambers behind in the ample open space in the rear, so as to increase the accommodation for thirty more students. The staircases and passages are to be of stone, and a general system of heating and ventilation will render the whole as a residence comfortable and complete. The cost of the present building will be 10,000*l.*, and when the additional buildings at the rear are completed the total expenditure will be from 16,000*l.* to 18,000*l.*

CHURCH OF ST. BARNABAS, SOUTH LAMBETH.—The foundation stone of this edifice was laid on 27th ult. The design on which it is to be built, is by Messrs. Clarke and Humphreys, and is in the early English style. The estimated expense of its erection is 5,000*l.*, of which about 2,000*l.* have been realised. The site is at the junction of the South Lambeth and Clapham roads.

SHOP-FRONT ARCHITECTURE.

FREQUENT as are the opportunities, and great as seems to be the solicitude, on the part of the occupiers of shops to render them as striking and attractive as possible in point of decoration, there is, in reality, very little of either novelty or variety of shop-front architecture:—scarcely a dozen different examples can be pointed out in the metropolis of any particular merit for their design. This is certainly not owing to excess of economy, as many are got up regardless of expense. Nevertheless such is the case; nor is it at all to be wondered at when the generality of tradesmen universally begrudge, if not their money, the requisite space for architectural design. So long as the greatest surface of window is made a *sine quâ non*, it is hopeless to look for propriety of architectural character, either as regards front of house, or architectural decoration in shop front. The whole of the lower part of the elevation becomes in appearance a mere gap, without piers, or any visible support to the mass above, which produces an effect as if the glass sustained the whole weight. In some instances the door jambs are not seen, and at the return of a corner the window is continued without any interruption of a support of any kind at the angles. There is nothing susceptible of decoration, except the bressummer or horizontal lintel above the window, which, if treated architecturally, like an entablature, occasions another offensive solecism and palpable defect, there being nothing for its support as before mentioned, but the mahogany or metal bars between the several sheets of plate-glass.

Neither is the effect very much more satisfactory where Grecian Doric columns or pilasters are used, as at present, viz., one on each side the door, and one at either extremity of front, as in many cases the openings are many feet wider than the length of the columns; and according to the indication of the style, there would necessarily be three or four other columns between, as every tyro in architecture well knows, agreeably with that order: the columns were seldom more than a diameter-and-a-half apart, and sometimes not so much. Of course such a close intercolumniation, or any approximation to it, would be utterly impracticable in a shop-front, but then why should a style be employed merely for the purpose of being mangled.

Something might be attempted, if only experimentally, and the successful instances would be so much pure gain, were they only as hints for something still better. G. J. R.

New Books.

A Descriptive Atlas of Astronomy and of Physical and Political Geography, embracing the latest Information and most recent Discoveries in Astronomical and Geographical Science; with descriptive Letter-press. By the Rev. THOMAS MILNER, M.A. London: Wm. S. Orr and Co. 1848.

THE design of this work, as the author announces, "is to furnish the student and general reader with a book of reference in geographical and astronomical science, conveying information, copious and trustworthy, both as respects the maps of the terrestrial and the celestial world, and the explanatory text by which they are accompanied." And certainly the great and rapid progress which these sciences have recently made does justify the production of a work in which the knowledge accumulated by members of our learned societies, and by public as well as private expeditions, appears to be excellently well arranged, condensed, and popularised, for behoof of the general reader. Each monthly part contains three very fine quarto coloured and other maps, selected from the physical, political, and astronomical series, with eight pages of descriptive letter-press, full of illustrative cuts of a superior order, at a price (1s.) which we really would have conceived to be less than "the lowest consistent with correctness and elegance of engraving." The letter-press, like all else about this much desiderated compendium, is unobjectionable. One circumstance, however, within the compass of the four parts now issued, we regret to observe in connection with one of the most recent,

and by far the most splendid of recent astronomical discoveries, namely, that the name of our countryman Adams is studiously omitted from all association with the discovery of the great centrifugal planet Neptune. Surely it was not for nothing that Government honoured him with its more physically-substantial notice in the shape of an annuity. The brevity of a compendium can scarcely be pleaded: for even Sir John Herschel's poetical allusion to its probable advent, finds a place where Adams's more laborious and erudite calculations, therefore, ought to have at least been also recognised. One more remark our limits may allow us briefly to make, not by way of objection, but as strikingly illustrative of the singular fact, that astronomy,—the science of the solar system at least,—one of the most perfect, it was thought, and most matured, of sciences, is only yet in the midst of the most rapid progress towards a more complete maturity: the remark referred to is that although every new discovery appears to be in process of incorporation into this work down to 1848, a further discovery (if not two) must hereafter be intercalated with the account, already incorporated, of the successive discoveries of the asteroids, a new one (if not two) having even since been added to the number that were really discovered down *to* 1848. Both author and publisher, we repeat, have great credit in the getting up of the present useful and interesting compendium and conjunction of our general knowledge, physically and architecturally speaking, both of heaven and earth.

Correspondence.

PERMANENT COLOUR FOR DAMP WALLS.

SIR,—You will oblige several of your readers if you can learn for them what is the best preparation to use for the purpose of colouring cement walls, where there may be some damp still remaining. The building in question is a tennis-court, the interior walls of which must be *black*, and the colour should *be fast*, otherwise the white balls are dirtied and spoilt. Several coats of oil paint were applied last summer, but they never dried properly, and in damp weather the paint comes off. If you can suggest any mode by which the walls can be effectually blackened in spite of some damp, you will confer a favour on several gentlemen interested. PAUMIER.

Pall Mall, July 25.

Miscellanea.

COKE IS CRYSTLETULAR DIAMOND.—Mr. James Nasmyth, of Bridgewater Foundry, Patricroft, near Manchester, has tested, as it were, and proved the fact, of the identity of diamond and coke, by the discovery that the minute laminated crystals, or crystlets of coke, are capable of cutting glass with the true diamond clearness of cut, or without merely scratching. No other *setting* too is necessary to prove this fact, than the crumbling consistency of the coke itself in mass, so that a fragment of coke, switched at random across a pane of glass in the sunshine, is sufficient to exhibit not only the depth of the clear cuts, but the prismatic colours in all their purity and beauty. Ground to impalpable powder, Mr. Nasmyth, as intimated in the *Mining Journal*, has found that coke constitutes what we may call the true "diamond paste," for sharpening razors,—probably, indeed, if we may venture to say so, the only secret of the diamond pastes so largely advertised, if they merit even so worthy a supposition. The adamantine properties of black oxide of manganese, and its peculiar affinities, induced an ingenious chemist to suggest *its* strong analogy to carbon: is it possible that it, too, when in fragments—much more firmly crystalline as it is in mass than coke—may cut glass with *practical* facility?

LINCOLN LUNATIC ASYLUM COMPETITION.—We understand that the architects, to whom the magistrates of Lincoln have awarded the first premium, and entrusted the erection of the County Lunatic Asylum, at Lincoln, are Messrs. Hamilton and Medland. Mr. Nicholson, of Lincoln, obtained the second premium.

THE CHANCELLOR'S CHEESEPARINGS.—Referring to the article under this head, quoted in THE BUILDER, on the withdrawal of the annual grant of 150*l.* to the Newcastle School of Design, the *Hull Advertiser* says,—"It is less the individual case than the principle here proposed to be acted upon that fills us with indignation as we contemplate this miserable attempt at economy. Why should the pruning-knife be first applied to Schools? Why is the pension list spared? The hypocrisy of a saving which looks only to the perpetuation of national ignorance, while it overlooks the enormity of a hereditary pension list, is disgraceful to any Ministry. Nor are the people such dolts as not to perceive this; nor so indifferent to the insult offered to their understanding as not to resent it; and very deeply too. They see that they are mocked instead of being relieved; and the wrong rankles the deeper because they have no means of resenting it. Such mock pretences to national economy as the above will fill the public mind with indignation, and prepare it for the reception of the doctrines of a class of teachers very different from such gentle and soul-inspiring enthusiasts as Mr. W. B. Scott,"—and, carrying out the writer's own idea,—for the institution, he might have aptly continued, of a class of *Schools* of *Design* of a very different order from the innocent and praiseworthy ones they have begun to suppress. That prompt remonstrances have already stirred up 'second thoughts,' however, there is reason to believe, although "to confess that they have erred is hardly to be expected from a Government," as the *Gateshead Observer* remarks. "The reply to the local memorial, however, amounts pretty nearly to such a confession. Parliament, the respondents say, cannot be asked to reverse the decree that has already gone forth, and renew the grant in the present session; but if Newcastle can make out a good case before the annual vote of 1849, perhaps it may be retaken into Government favour. Newcastle should be grateful!"

THE PAROCHIAL CHURCHES OF SIR CHRISTOPHER WREN.—Mr. J. Clayton, architect, has announced a work, in three parts, to contain plans, elevations, and sections of the parish churches built by Wren. The projector remarks justly, that "the architectural works of Sir Christopher Wren, the ornament and the constant boast of our metropolis during nearly two centuries, have been but very partially illustrated by delineation and engraving; those works only which challenge the great monuments of Europe having been laid before the public, with such pains and honour as are so justly due to them. But his minor works, which have been no less the study and the admiration of the professor, and of far greater practical utility to the student and the builder, are catalogued only in the Parentalia, and the treasure of knowledge which they contain has been entirely confined to their portfolios." Such a publication is now imperatively demanded, not only from the deterioration which many of these works are daily suffering from injudicious alterations, but also from the actual removal of several by the enlargement and changes recently made in the city improvements. If efficiently executed, it can scarcely fail to succeed.

VALUE OF MINERAL PROPERTY.—Mineral property on the hills, which, when the Monmouthshire Canal and its tramroads were constructed, was only worth 5*s.* an acre surface rent, soon increased in value to 1,500*l.* an acre, or more, underground. The area of the Monmouthshire coalfield exceeds 89,000 acres, and the various seams of coal that can be profitably worked are said to average 50 feet, which produce a gross yield per acre of nearly 73,000 tons. The total quantity now worked annually is estimated at about 2,200,000 tons; at which rate there is a sufficient supply left for the next 1,500 years. The net quantity available for export has been estimated at about 3,000,000,000 tons! Great Britain now annually consumes from all her collieries about 21 million tons.—*Cliffe's Book of South Wales, second edition.*

THE SUSPENSION-BRIDGE OF PESTH fell on 18th instant. A ring of one of the chains broke, and the chain fell on the bridge, which sank beneath the weight. Several lives are said to have been lost.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 10th inst., for the erection and completion of buildings at Shoreditch workhouse; by 14th, for the erection of a manufactory; by 12th, for the erection of two cottages near Leicester; by 11th, for a supply of 3,000 cubic yards of broken granite, or other hard stone for roads, at Whitehall, &c.; by 9th, for lighting part of Hampstead with naphtha or other spirit lamps, furnishing and repairing York or patent lamps with reflectors and burners, &c.; and by a date not specified, for 500 tons of temporary rails, 30 to 40 lbs. per yard, with chairs, at Liverpool.

A MONTH'S NOTICE TO WORKMEN.—In the railway carriage-spring trade of Sheffield, which, from the "peculiar whims and fancies" of the engineers and Companies giving orders, may be called the fancy spring trade, and in which, from the like whimsical causes, so much irregularity exists, that no stock is worked up, and the workmen are specially engaged on piece-work, with the understanding that they may either get or give the most off-hand notice to quit,—a hand who had been hired on time-work for a year, on its expiring quietly mixed with his piece-work comrades, in place of giving notice of the expiry, and request of the renewal, of his time, as was usual; and having thus inadvertently managed to be recognised as still a workman, but without the ordinary mutual engagement as to piece-work, has been found by a local magistrate to be further entitled to a month's notice, and an equal share of piece-work for a month, along with the comrades amongst whom he so cunningly, but it would appear justifiably, no less than to himself profitably, intermixed. Mr. Henry Wilkinson was the magistrate, John Longley the workman, and Mr. J. Brown, of the Sheaf Works, his employer.

PREPARATION OF TIMBER.—The experiment of Payne's Timber Preserving Company to test the capability of Paynised wood to resist the destructive agency of flame, already mentioned by us, was repeated on Wednesday, at the Company's wharf, Whitehall, in the presence of a number of scientific men. Two wooden structures, the one Paynised, the other built of timber in its natural condition, were exposed to the flame of about 7 lbs. of shavings. The unprepared building was rapidly consumed to the water's edge: the other, after repeated trials, remained unscathed, the charring effectually arresting and suffocating the flame. The importance of this is very obvious.

BLIND BUILDERS.—The following, says one of the competitors, is a list of tenders delivered at Hornton-street Chapel, on Wednesday in last week, for Horbury Chapel, Kensington, Mr. S. Tarring, architect. The quantities were furnished!

Lawrence	£5,870
Trego	4,760
Little	4,382
Bird, Hammersmith	4,319
Haynes	4,220
Holland	3,999
Higgs and Son	3,866
Piper and Sons (accepted)	3,592

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—Several columns of your last two numbers having been devoted to the exposition of experiments upon cements, the manufacture of one house alone, we trust that you will oblige us with space to remove an impression that may naturally arise from them, respecting the strength or value of Roman cement in building works. We do not desire to speak merely on behalf of our own commodity, but to show that the article, when properly manufactured, is capable of widely different result from what your paper has recently exhibited; at the same time we have no wish to detract from a new article which several parties are advertising in your paper, and which ourselves have had repeated and peculiar opportunities of making, under the patent, but which, for reasons that we need not particularise, we have declined to do.

The experiments published on 15th inst., were made on the premises, under personal superintendence, and at the cost and trouble of Mr. Henry Grissell, of Regent's Canal Iron Works, City-road; so also were experiments with ours. They were intended for a very different purpose than mere advertisement, and it is a singular circumstance, that they should have prematurely got into print, although they would doubtless have appeared in your journal another time in a different shape.

Two blocks of cement of equal size having been submitted to a hydraulic press, Portland cement bore 56¼ tons—Roman cement went to atoms at a pressure of 27 tons. Roman cement should not have done so, and therefore we arrive at the conclusion from these experiments that one of the materials was of an inferior description. We take the following from your publication—

	Tons pressure.
Portland Cement, scaled at 22½ tons, was gone at	56¼
Roman Cement (price stated 1s. 3d. per bushel), broken up	27

And we wish to compare it with the authorised statement furnished to us by Mr. Grissell, and which we shall be happy to shew to any one.

	Tons pressure.
Roman Cement, Nine Elms, ordinary quality, cracked	28
Ditto, ditto, crushed	35
Ditto, Nine Elms, first quality, no effect until slightly shelled	45
Ditto, ditto, crushed	47

It is, therefore, not necessary to enter into calculation to shew which is the cheaper material, whilst the consumer knows the relative prices of Portland and Roman cement. We have but one remark to make upon Portland cement: the strength of that material was acquired at the age of thirty days; Roman cement would have stood its same trial probably at the age of thirty hours. Colonel Pasley, in his laborious work on cements, tells us that lime would do the same if it had time enough, but we conceive it to be the great merit of Roman cement that it attains its strength, that is to say, that it *sets rapidly, and should hold fast for ever.*

We fear to trespass too much on your space in one number, but, with your permission, we will, in your next, refer to the second series published on 22nd inst., although we observe, by-the-way, that these experiments are not stated to have been made under inspection of Mr. Grissell, or of what other authority, or if they were merely private.

We are, Sir, your most obedient servants,

CHAS. FRANCIS and SONS.

Nine Elms, 29th July, 1848.

TENDERS

For the new Congregational Church and Class Rooms, Reading; Mr. W. F. Poulton, Architect. Quantities supplied.

	Church.	Class Rooms.
Carter (Reading)	£2,050	£424
J. and R. Wells (Reading)	2,025	435
Samuel Cooper (Reading)	2,032	420
Cooper and Sons (Maidenhead)—accepted	1,903	378

For addition to the Camberwell Workhouse; Mr. T. W. Plum, Architect.

Monday	£2,930
Cooper	2,814
Stephenson	2,759
Vote	2,730
Burtenshaw	2,695
Thompson	2,691
Simmonds	2,678
Willis	2,674
Rider	2,630
Wells	2,612
Cooper and Davis	2,610
Spikings	2,535
Taylor (Regent's-park)	2,498
Taylor	2,490
Coleman	2,473
Curtis	2,429
Willson (accepted)	2,294

For new house and premises at Milton-street, City, for Messrs. Morrison, Dillon, and Co.; Mr. J. Stevens, Architect.

Laurence	£2,094	0
Piper	2,050	0
Haynes and Son	1,997	0
Glenn	1,992	0
H. Burton	1,935	0
Brass	1,921	0
Waller	1,774	17

TO CORRESPONDENTS.

"*J. C. F.*" (Armagh).—Thanks for good opinion. We shall be happy to look through the MS.

"*Competitor*" (Three of them): "M. M.," "S.," "B. A." will find notice in present number.

"*O. O.*"—If our correspondent will send his name and address we will advise him.

"*G. W. Y.*"—We also have had many inquiries, but do not propose giving any opinion.

"*Clericus*," "*B.*," "*Safety*," "*F. B.*," we cannot advise.

"*J. E.*"—The document sent was known to us, and it is alluded to in our article, though not specified.

"*K.*"—The article on the new Houses of Parliament replied to by us is now stated to be by the Earl of Lovelace. We do not know the fact.

"*G. C. J.*"—We have several times recommended the ventilators named.

"*G. T. J.*" will find that similar remarks have already appeared in our pages.

"*W. C. H.*" has been anticipated.

"*A Subscriber.*"—Apply for information as to laying out grounds, to Mr. Lamond, writer, 29, St. Vincent-place, Glasgow.

"*Architect*" (Sunderland).—Ditto. The Act may be obtained at the Queen's printer's, New-street-square.

"*Received.*"—"M. W.," "J. A.," "W. J., jun.," "H. A." (thanks); "F. G.," "E. A. H.," "R. P. C.," "W. H.," "G. P. A." (we will endeavour to call, but have little time); "F. H. N.," "A Subscriber," "S. P.," "W.," (Hampshire); "Irish Architect," "R. H.," "J. P.," "An Architect," "B. and H.," "G. W."—Outline Views of Beverley Minster," by John Johnson, architect: Day and Co., Gate-street, Lincoln's-inn-fields.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory, the first of its kind ever established, a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are moulded with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

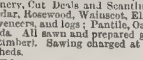
T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MUIRS PATENT  PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle, Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. PINGUEREAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 23, New Broad street to No. 41, GRACECHURCH-STREET, CITY.

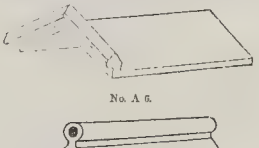
ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Patent Tile Works, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr John Ainslie, will shew the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193a, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Doyle's, Ayr; Mr. Lawrence Hill's, 138, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Peukridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Limavady, County Derry.



No. A 6.



No. 7.

Wings, 6½ to 7 inches.
Rolled in London, 6½d. and at Tunstall, 5½d. per foot.
Rebated in ditto, 6d., and at ditto, 5d. ditto.
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ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English Bedrooms, 3d. per yard; Saxns, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks rarickly cheap. Terms, cash. Established twenty years. W. CROSBY, 32, Lowther Arcade, Charing Cross.

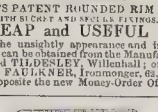
PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so-licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET SECURITY BOLT.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 63, St. Martin's-le-Grand, London, opposite the new Money-Order Office.



T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to these new Rim, Drawback, and Bead Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles.—To be had only of T. PUGH and Co., 11, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass foundry, mortice locks and latches, plain, half rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

TO ARCHITECTS AND BUILDERS

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, and drawing from ten to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

PRO BONO PUBLICO.

CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes, STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 35 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors with ventilating gates, made expressly for a bankers's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabbited frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 10*l.*, each, always on hand at LEADBEATER'S MANUFACTORY, 123, ALDERSGATE-STREET, LONDON.

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TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-le-Grand, and 118, Argyle-street, Glasgow, having proved, by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying imitation. Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

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H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades.

H H H for drawing on wood.	F F light and shading.
H H for architectural use.	F for general use.
H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing	B B B ditto ditto.
	B B B B ditto ditto.
M medium	

Sold by all the principal Stationers in town or country

TO BRICKMAKERS, POTTERS, AND LIMEBURNERS.

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in third the usual time, thereby enabling the Manufacturer, from the great saving of both Fuel and Labour, to supply to the Consumer at a considerably Reduced Price, and realise a larger Profit himself.—Particulars may be obtained by application to Mr. CHARLES J. BAKER, 18, Lower Brook-street, Grosvenor square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe, 4d. per foot run, including fixing.		
2½ ditto	4½d.	ditto ditto.
3 ditto	5d.	ditto ditto.
3-inch eaves gutter,	3½d.	ditto ditto.
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Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5½ to 8d. Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, S. p. site the Fishmongers' Almshouses.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day, as have been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR: of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c. &c. 26, Great Charlotte street, Blackfriars-rd.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 131, CHANCERY-LANE. Patent sealed on the 4th day of February, 1846, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Finishing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the aid of a screw, worm, or any other gear, or any other complicate machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters other iron or wood of any other Makers, whatever their pretensions. The extraordinary demand, arising from the unequalled success of the Patent of BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in all parts of the Kingdom), having induced other parties to attempt the infringement of the same, and a spurious representation of sundry old and discarded inventions as Improvements, B. and C. assure their Friends and the Public that, during their most extensive business, a simple, yet really practical improvement that skill and experience could suggest, A great deal more has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.

The Iron Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. are also sole licensees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, or dwelling floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Planing, Sawing, and other machines, each capable for Builders purposes, which may be seen in plain model, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are five times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the old-fashioned screw worm and wheel, cannot, even by wear, ever liable to run down, and entirely avoids the inconvenience of using the rack and wheel, and is at once simple and thoroughly effective, and is VERY MUCH MORE DURABLE than any plan yet adopted for the purpose; thus rendering the Patent Revolving Shutters the CHEAPEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally either above or below the window or door, and the Brickwork, &c., for which, on account of increased strength of the convex laths renders them peculiarly suitable, and never applied to a doorway, may be seen any day after Four o'clock, at the Britannia Life Assurance Office, corner of Princes-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings, and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, SMALL BOLD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for Warehouses, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate street, City.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimney Smoking from Wind. They will not clog with soot, and are declared by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized, 36s. each; ditto, for cast-iron pots, 7s. 6d. each. Simplex chimney tops at 5s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 51, Great Russell-street, Bloomsbury, where it may be seen and tested.



By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public buildings, and the cure of smoky chimneys, proves their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 13a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of the Nobility, Gentry, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS - NO CURE. NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

FIRE BRICKS.—WARD and HART, Hondurus Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Scotch, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with several other descriptions, made and to be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving Tiles, Moulage Sand, Hearth Stone, red and white, River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, Brick-on-edge Tiles for Flooring, &c. &c. Chimney pots, Drain Pipes, Tiles, &c. &c. to estimate to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now ONE SHILLING PER FOOT SUPER. in 200-feet cases, SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of sheet Glass unrivalled, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.

THOS MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and Consumers generally, that he is supplying Ready-made articles of the best materials and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, &c., and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

E. & W. H. JACKSON beg to call the attention of builders to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding (even in all respectable dwelling-houses) BRITISH and ROUGH PLATE, CROWN, and SHEET GLASS, for WINDOWS. Glass supplied at the lowest terms.—Lists of prices, and every information, on personal application at their warehouse, 314, Oxford-street.

PATENT PLATE GLASS.—CLAUDET and HOUGHTON beg to announce that they have made A VERY LARGE REDUCTION in their prices of Patent Plate Glass. Lists of the reduced prices forwarded free on application.—PLATE, SHEET, CROWN, COLOURED, and ORNAMENTAL WINDOW-GLASS WAREHOUSE, 89, High Holborn.

GREAT REDUCTION IN THE PRICE OF PLATE-GLASS.

THE UNION PLATE-GLASS COMPANY.—Pocket-book, St. Helen's; 39, Hatton-garden, London; No. 13, York-street, Mosley street, Manchester; and 26, North John-street, Liverpool; inform Builders and the public generally, that they supply ordinary glazing purposes Plate glass from 2s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 1d. to 1s. per foot.—RICHARD YATES, Secretary.

PLATE-GLASS DOMES.—R. W. SWINBURNE and CO. beg to inform the Public that they manufacture Domes of rough and obscured Plate Glass, in one piece, forming a very durable, handsome, and inexpensive roof-light, particularly suited for lobbies, passages, &c., and requiring no framing or other fitting. They manufacture also in plate glass pastry and butter slabs, in wooden frames; apothecaries' and colourmen's slabs, of all sizes; milk bowls and pantiles, very strong and durable.—Samples may be seen and prices known at their warehouse, Red Bull Wharf, Upper Thames-street.

HERRING'S PATENT SAFETY WINDOW. No invention ever offered the advantages to builders and the public it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation four different ways, forms a complete ventilator and sunblind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

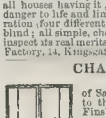
CHAS. WM. WATERLOW, MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Fashionable Frames, always in stock. Glazed goods securely packed for the country. Steam-struck Mouldings of every description. N.B. The Establishment is worth the notice of all engaged in building.

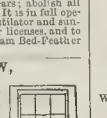




SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK, 1, Amwell street, Clerkenwell, near the New River Head,





Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO BUILDERS AND WHOLESALE PURCHASERS.

A BRIGHT METAL DRAWING-ROOM STOVE, Ormolu Ornaments, two Fires, Five Guineas; a Bright Metal Drawing-Room Stove, with Bronze Ornaments, Four Guineas.—At H. WATSON'S Stove, Range, and Fender Manufactory, 19, Wilson-street, Finsbury-square.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 38, WEST SMITHFIELD.

Register Stoves, 6d. per inch.
Elliptic Stoves, 2½d. per inch.
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3l. 10s.
Drawing-Room Fenders 14s. each, usually sold at 1l. 1s.
All Goods Warranted.

J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dudley. Established 1825.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain-water Pipes, Heads, Shoes, Elbows, &c., Ha round and O. G. Gutters, Socket Pipes for Water or Gas, Plain Pipes, Sash Weights, and other Castings. Iron Work for Bakers' Ovens of every description, fitted complete, or packed in sets or parts.—Prices equal to all competition. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING.

For Railway Companies, Brewers, Distillers, Fire Engines, Ga Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA RUBBER HOSE-PIPES are made to stand hot liquo and acids without injury—do not become hard or stiff in any tem perature that are always perfectly flexible) and as they require n application of oil or dressing, are particularly well adapted fo locomotive engines, railway cranes, fire engines, pumps, gas, bre engines, gardens, and all purposes where a perfectly flexible pipe required. Made all sizes, from 1 inch bore upwards, and of an length. Also, a cheaper kind in fair imitation, more suitable with brass taps, copper rauch and pipes complete, ready to the attache to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Gloucester-mews, Goswell road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints hot water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

BURBIDGE and HEALY, 130, FLEET STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS of large Magnitude, with the most approved principles, and in particular which ensure greater economy and efficiency than hither attained. Also HOT WATER APPARATUS upon improved principles, by which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying, in a friendly expeditious and safe manner. They also fit BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE. Kitchen-range, and Stove-grate Manufactory, 18, Cross street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Register Stoves, Kitchen Ranges, &c. &c.

Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Wrought Bars, 9d. per in. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings complete:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 4s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 3 in., 40s.; 3 ft. 4 in., 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings:—

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000
4d. per set.	3s.	4s.	6s.	7s. 6d.	20d.

Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	9s.	12s. per gross
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage-stamps.

N.B Warehouse closes at Seven o'clock.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his FOUNDRY, begs to inform the Trade, that he can now supply them with Plain and Ornamented Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Wind and Coal Vaults, Tubular Staircase Panels, Iron Stair Cases, Conservatories, Trellis Panelling, Lamp and other Brackets, Cast levers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, &c. &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stove Ranges, &c., always in stock.

IRON FOUNDRY, 168, DRURY-LANE, and CHARLES STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of Gratings for every purpose, Cattle Stanchions, Ornamental Wheel Pinion and Steam-Engine Patterns; Range Stoves and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O. G Guttering, Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, and perfectly secure against accidents.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY, 168, DRURY LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER WIRE CORD for HANGING PICTURES, Clock-houses, Lighting Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and others parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 2, Penshurst-street, E. P. ALLEN, Agent, or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 62, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS.—BUILDINGS SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings, from the effects of the storms. It possesses important advantages over other forms of conductors. Reference can be given where it has been applied for some time past. FURTHER PARTICULARS of BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of France and other countries is the strongest possible EVIDENCE of its EFFICIENCY. &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Casting and Oil Bar for Drawing Rooms, which are much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH 69, Princes-street, Leicester-square, London.

The Builder.

No. CCLXXXVIII.

SATURDAY, AUGUST 12, 1848.

WE were requested some time since by Messrs. Wright and Co., to inspect their quarries at Anston, in Yorkshire, and say whether or not the stone which they are there raising, is the same as that used at the new Houses of Parliament, and we accordingly proceeded there on our way home from Lincoln. Anston (divided locally into Church Anston and Chapel Anston), is about twelve miles from the Masbro' (Rotherham) station on the Midland Railway, and about six miles from Sheffield. Six hours will take you from Euston-square to Masbro', a distance of 172 miles. Going there from Lincoln and not desiring a coach journey, we were forced to come first to Derby, and then back by the Midland line to Masbro', thus traversing two sides of a nearly equilateral triangle. At Derby there are some very interesting buildings, both modern and ancient, and at Rotherham the old church, which is well known, has many points well worthy of notice: when there are fewer archæological matters afloat than is the case just now, we will give a few notes on both these places. Suffice it for the present to say, touching the latter place (and we say it in the hope of leading the attention of the authorities to the fact), that parts of the external stone work of the church are being restored with less care and skill than are desirable. We strongly suspect that no artistical eye overlooks the workmen. It is a common mistake amongst even well-intentioned church-custodians to suppose that for restorations, where the old work can be appealed to, the operative alone is necessary. It is a mistake which is operating most disastrously at this moment in various parts of the country.

The quarries in question adjoin those on the estate of the Duke of Leeds, held by Mr. Grissell: a hedge alone divides the estates; and we at once discharge the duty we undertook by saying distinctly, that the stone is identically the same as that used for the "Palace of Parliament," and the Lincoln's Inn Hall. We may further add, as not useless information, that the stone can be got out in blocks of from 3 ft. to 3 ft. 6 in. in depth, and of such length and width as may be needed; and that it can be brought to the water's side in London at 1s. 10d. per foot cube. In March next a railway will be opened within two miles, by which means, probably, its cost will be lessened in many localities.

Thus far, then, in what may be considered as mainly a personal question,—although it is one to which a reply may be useful to many of our readers. Another, however, and more general inquiry has been opened in connection with this subject, and that is,—is the Anston stone (whether north or south of the hedge), a good and lasting material for building? And in endeavouring to obtain the solution of this, the only party to whom we owe duty is the public. It would seem that few people know anything about stone. Until recently very little *endeavour*, even, was made to select the best,—and the deplorable state of many of our public buildings erected only a few years ago, shows how costly will be the result of this inattention. That we should have a right knowledge of stone which is coming into extensive use is of the utmost importance.

Some of our readers, doubtless, observed, in the *Times*, a fortnight ago, a letter asserting that the Anston stone used in the Lincoln's-inn Hall was fast decaying; and that the stone in the new Houses of Parliament was understood to be so likewise; and remarking, that as the selection was made on the recommendation of an expensive commission, it was necessary, on public grounds, that the matter should be investigated.

This letter, with some similar communications, was first sent to us, but not being able at the moment to inquire personally into the truth of the statement, and knowing that the publication of such an assertion, true or false, was likely to injure (and doubtless will injure) a valuable property, we declined inserting it. It was accordingly sent to the *Times*, the editor of which either did not see the same objection, or took means to satisfy himself upon it.

The commission appointed to inquire with reference to the selection of stone for building the new Houses of Parliament consisted, it will be remembered, of Mr. Barry, Sir Henry De la Beche, Dr. Smith, the geologist, and Mr. C. H. Smith, practical sculptor. To aid them in determining the physical and chemical properties of the various specimens obtained, they called in Professors Daniell and Wheatstone, and we do not hesitate to assert, that if these six gentlemen so associated were not competent for the task, there are no other persons in England who are so.

The report was an interesting and valuable one. It shewed, amongst other things, the same material, whether sandstone or limestone, sound in one building and unsound in another, even of lessage. It pointed out, with respect to the decomposition of stones employed for building purposes, that it is effected according to the chemical and mechanical conditions to which such stones are exposed. "As regards the sandstones that are usually employed for such purposes, and which are either composed of quartz or silicious grains, cemented by silicious, argillaceous, calcareous, or other matter, their decomposition is effected according to the nature of the cementing substance, the grains being comparatively indestructible. With respect to limestones composed of carbonate of lime, or the carbonates of lime and magnesia, either nearly pure or mixed with variable proportions of foreign matter, their decomposition depends, other things being equal, upon the mode in which their component parts are aggregated, those which are most crystalline being found to be the most durable, while those which partake least of that character suffer most from exposure to atmospheric influences."

The varieties of limestones, termed oolites, being composed of oviform bodies, cemented by calcareous matter of a varied character, will, of necessity, suffer unequal decomposition, unless such oviform bodies and the cement be equally coherent and of the same chemical composition. The limestones which are usually termed "shelly," from being formed of either broken or perfect fossil shells, cemented by calcareous matter, suffer decomposition in an unequal manner, in consequence of the shells, which, being for the most part crystalline, offer the greatest amount of resistance to the decomposing effects of the atmosphere.

The report gave a long list of public buildings visited, detailing the time of their erection, the stone of which they are constructed, and their present condition; with tables of analyses, and experiments on various stones.

It was seen that the decomposition of stone proceeded very differently, according as the building may be situated in the town or the country, the state of the atmosphere in populous and smoky towns producing it more rapidly than is the case in an open country.

They said, that if called on to select a *class* of stone for the more immediate object of their inquiry, they should give the preference to the *limestones* on account of their more general uniformity of tint, their comparatively homogeneous structure, and the facility and economy of their conversion to building purposes; and of this class, they said, they would prefer those which are most chrystalline, agreeing with Professor Daniell, who states, that "the nearer the magnesian limestones approach to equivalent proportions of carbonate of lime and carbonate of magnesia, the more crystalline and better they are in every respect."

The commissioners closed their report by recommending, on the ground of crystalline character, combined with a close approach to the equivalent proportions of carbonate of lime and carbonate of magnesia—for uniformity in structure—facility and economy in conversion, and for advantage of colour, the magnesian limestone of Bolsover Moor and its neighbourhood, as the most fit and proper material to be employed in the new Houses.

The structure on which they chiefly founded their opinion of its durability was Southwell Minster, Nottingham, of the eleventh or beginning of the twelfth century (not the tenth as stated in the commissioners' tables), which we saw a few days ago, as noticed elsewhere, and found it certainly in a good state of preservation.

The constituents of the Bolsover stone were shewn to be—

Silica	3·6
Carbonate of lime	51·1
Carbonate of magnesia	40·2
Iron, alumina	1·8
Water and loss	3·3

The Anston stone (not Anstone stone, we may as well remark, by-the-way), which was ultimately adopted, instead of the Bolsover, is part of the same formation.* The magnesian limestone borders, and partly overlaps, the east side of the coal formation, and extends north and south, in the shape of a narrow strip, with partial interruption, from Nottingham at one end to North Shields at the other. It is hardly necessary to say that it is not all good alike: great difference is to be found even in the same quarry, and discrimination must be exercised in its selection. There is in fact no stone which can be used without discrimination,—even granite quarries have defective places which are avoided by competent judges. Surface stone generally is not good, and it is quite possible that at the time when the call for the Anston stone was the greatest, some of the top bed was sent to London, and may serve to account for the appearance presented by parts of the new hall in Lincoln's-Inn Fields, which is certainly very unsatisfactory,—as, for example, the whole of the cornice of the hall, council room, &c., on both sides.

That the *good* part of Anston stone is good, would seem beyond a doubt.

* The places are about eight miles apart.

ON THE GEOMETRICAL PERIOD OF ENGLISH CHURCH ARCHITECTURE. A.D. 1245 A.D. 1315.

Section I.—*Present Nomenclature and Classification of Pointed Style.*—We have been so long accustomed to speak of our national architecture in the terms and according to the classsification bequeathed to us by Mr. Rickman, and those terms and that classification are so well understood, and have been so universally adopted, that any proposal to supersede the one or to modify the other requires somewhat more than a mere apology. To disturb a nomenclature of long standing, to set aside terms in familiar use, and to set up others in their place, which are strange, and therefore at first unintelligible, involves an interruption of that facility with which we are accustomed to communicate with one another on any given subject, that is only to be justified by reasons of a cogent and satisfactory nature.

The sufficiency of Mr. Rickman's nomenclature and divisions, and their suitableness at the time, and for the purpose, for which they were made, are best evidenced by the fact, that although the attempts to supersede them have been both numerous and persevering, they have remained for nearly half a century the principal guide to the architectural student, and Mr. Rickman's Attempt to discriminate the styles of architecture in England, is still the text-book from which the greater part of the popular works of the present day have been compiled.

On referring, however, to these attempts to supersede Mr. Rickman's system, it is proper to remark that one observation applies to the whole of them: although they propose to change the nomenclature of his different styles or to subdivide them, his main division of English architecture into four great periods or styles is adopted by all, and still r ains undisturbed. No point, therefore, has been hitherto proposed to be gained by these alterations, beyond a change of name; and this may be taken as a sufficient reason why none of these attempts have been successful: men are not willing to unlearn a term with which they are familiar, however inappropiate, in order to learn another, which after all means the same thing.

Although, however, Mr. Rickman's simple division of church architecture into four periods or styles may perhaps have been the one best suited to his time, and to the elementary state of the knowledge of the subject possessed by the best informed archæologists of his day, it may with propriety be questioned how far such a division is suited to the exigencies of writers of the present day, or to the present advanced state of knowledge on the subject.

It is now beginning to be generally admitted that church architecture from the earliest periods down to the seventeenth century, was in a state of regular and constant progress or transition; any division of it, therefore, into any given number of styles or periods, must be looked upon necessarily as an arbitrary one.

That Mr. Rickman was aware of this there can be little doubt, and in determining to adopt a simple division and four styles, rather than a complicated one and a greater number, he has no doubt succeeded in rendering the subject attractive and intelligible to very many who might otherwise have been deterred from engaging in it.

This is a recommendation, however, which can hardly be said to hold good at the present day: it behoves us to consider well, perhaps more especially at the present moment,—so great an impulse having been recently given to the study of church architecture,—whether Mr. Rickman's system fulfils all the conditions essential to one calculated for popular and universal use, and whether we should therefore seek to confirm, and to perpetuate it, or whether the time has not arrived for the adoption of a more detailed and accurate division, of the long and noble series of buildings which contain the history of our national architecture from the Heptarchy to the Reformation.

An inquiry of this kind forms the subject of a little work which is now in the press, in which I have ventured to recommend a nomenclature and a classification differing somewhat from that of Mr. Rickman, and a division of church architecture into *seven* periods instead of *four*. The object of the present paper is more particularly to describe and to illustrate one of those periods, which, for reasons that will be obvious to many of my readers, and which can be made, I think, intelligible to all, I propose to call the Geometrical Period of English Church Architecture; and I have selected this for present consideration, because I conceive that no county possesses, in greater abundance, the materials necessary to illustrate and define it than Lincoln; and that no building in the kingdom contains a nobler example of it than Lincoln Cathedral.

Section II.—*Proposed Alteration of Nomenclature and Classification.*—In Mr. Rickman's simple classification, his Norman style comprises the whole of those buildings in which the circular arch was used, whilst those in which the pointed arch was employed were divided into three styles or classes—namely, the early English, the decorated, and the perpendicular. The titles of the two last-mentioned, namely, the decorated and the perpendicular, Mr. Rickman professed to derive from the character of their windows, conceiving, no doubt justly, that no part of a building exhibits peculiarities of style in so prominent and characteristic a manner as its windows. In strict accordance with this rule, which may be assumed to be a correct and valuable one, I propose to shew that had Mr. Rickman gone a step further, and classed the whole of the buildings of pointed architecture according to the forms of their windows, under four heads instead of three, he would have obtained a classification equally simple, but more intelligible and convenient,—he would have obviated much that is confused and indefinite, and therefore perplexing to the architectural student, in his description of buildings, such as those we are about to refer to,—and would have enabled us to compare the buildings of our own country with those of corresponding character and nearly contemporaneous date on the Continent, in a manner that would have established an analogy between them, which, according to the present classification, has no apparent existence.

Every one who is acquainted with Mr. Rickman's descriptions of the buildings of the early English style is aware that he did not limit the buildings of that period to those in which the lancet window only appears, but included many others in which windows occur of many lights, containing heads filled with tracery, consisting of foliated circles, and other simple geometrical figures. In thus admitting traceried windows, of whatever kind, within the category of early English work, he appears to have had some difficulty occasionally in his descriptions, and to have been at a loss, in fact, to know where to draw the line between early English and decorated work. Thus, in speaking of the presbytery of Lincoln Cathedral, he describes it as a "sort of transition to the decorated style," and of many other similar buildings, which may be ranked as amongst the finest in the kingdom, as belonging to the same class.

Again, no one who has paid much attention to the buildings of the decorated style, or who has consulted the descriptions of such buildings given in Mr. Rickman's Appendix, can fail to have observed that the windows of this style are divisible into two classes,—one in which the leading lines of the tracery are of simple *geometrical*, and the other in which they are of *flowing* character. Nor is this distinction the only one which exists between these two classes of windows. We shall find, if we examine further, that they differ also materially in other respects—in their mouldings and plan, as well as in their sculpture and ornaments. We shall find, in fact, whether we consider their general design or their detail, that the points of difference which distinguish perpendicular windows from decorated windows are not greater than those which separate these two classes of decorated windows from one another. We have only to carry our inquiries a step further in order to satisfy ourselves that these points of difference are not confined to the windows alone, but extend also to the buildings to which those windows respectively belong; and having arrived at this point, we shall not be long in coming to the conclusion that there exists a large and important class of buildings, characterised by the geometrical forms of their window tracery, which has hitherto been treated as belonging partly to the early English, and partly to the decorated styles, but which is in reality distinct from both, and pre-eminently entitled, from the number and beauty of its examples, to separate classification.

To this class of buildings, then, I propose to assign a period embracing the latter portion of Mr. Rickman's early English period, and the earlier part of his decorated period, commencing at the point where tracery properly so called began to be used, and terminating at the point where the leading lines of that tracery began to be no longer circular, but flowing. Supposing this period to be adopted as that of a distinct style, we then have the buildings of pointed architecture, divided into four classes, which are characterised by their windows, and therefore easily distinguished. We have, first, those in which the lancet window only appears; secondly, those which contain windows having simple geometrical tracery; thirdly, those which have windows of flowing tracery; and, fourthly, those in which the leading lines of the window tracery are vertical and horizontal.

To designate any of these periods, except the last, by any of the terms hitherto in use, appears to be objectionable, as tending probably to cause confusion and misapprehension; and to retain the last, if the others be abandoned, and a better and more appropriate term can be found, appears to be still less desirable. At the same time it is much to be preferred that the terms we use should not be altogether strange, and if possible self-explanatory. These two conditions are such as to render it difficult to find terms such as to be in all respects perfectly satisfactory, and perhaps no system of nomenclature could be found so perfect as to be entirely free from objection. Until, however, a better be suggested, I propose to denominate these four periods as follows: — 1. The Lancet Period. 2. The Geometrical Period. 3. The Curvilinear Period. 4. The Rectilinear Period.

In thus adopting the term *geometrical*, I should wish to be understood as using it in the conventional sense in which it has been applied by Mr. Rickman and his followers, and understood by all archæologists of the present day; and the term *curvilinear*, as conveying more satisfactorily perhaps than any other word, the undulating form both of the tracery and mouldings of this period, in which the curve of contrary flexure, or the ogee, as it is commonly called, is the characteristic feature. It remains still for me to fix the limits in point of time to be assigned to each of the periods.

Mr. Rickman commenced his early English period with the year of our Lord 1189, and ended it in the year 1307; whilst his decorated period commences A. D. 1307, and terminates A. D. 1377; or, in other words, he made his early English style coincident with the reigns of Richard I., John, Henry III., and Edward I., and his decorated style with those of Edward II. and Edward III. It is clear that an objection may be taken to this mode of making the duration of a style coincident with the life of a monarch,—the death of the one having not the remotest connection with the close of the other. Their dates, therefore, are not to be looked upon as precisely and historically fixed by any particular architectural fact, but as indicating simply the time about which the style became changed. A preferable course appears to be to fix the commencement of a style by one or more examples of sufficient importance, and of well-authenticated date; or where this is impossible, to fix it by the collective testimony afforded by buildings of authentic date, somewhat earlier and somewhat later than that of the supposed change.

In this manner, and upon evidence of this kind, I propose to fix the commencement of the lancet period at or about the year of our lord 1190; that of the geometrical period at or about the year 1245; that of the curvilinear period at or about the year 1315; and that of the rectilinear period at or about the year 1360.

Section III.—*Duration of the Geometrical Period.*—It will be seen that I assume a period of 70 years to be the duration of the geometrical style, whilst to the lancet I assign

period of 55 years; and to the curvilinear, a period of only 45 years.

My principal task, then, is to name to you some of the principal buildings of this geometrical period; to point out to you those peculiarities which entitle them to separate classification, and to explain those points of resemblance and contrast which, on the one hand, assimilate them to, and on the other, distinguish them from, those of the preceding and following styles.

The leading and most characteristic feature of the buildings of this period, as already stated, is the form of the tracery of their windows, to which, as consisting generally of the simplest geometrical figures, the term *geometrical* has been given. It is distinguished in this respect, therefore, from the *lancet* period, in which tracery was never employed, as well as from the *curvilinear*, in which the forms of the tracery are almost invariably of a flowing or undulating character.

Taking this rule, then, as our principal guide in determining the duration of the geometrical period, we have first to find out, if possible, the precise time when tracery of whatever kind began to be used; and, secondly, the precise time when flowing tracery began to be practised: the interval will be the proper measure of the duration of what we have ventured to call the geometrical style.

There appears to be little doubt that the first important building of authentic date in which tracery, properly so called, began to be practised, was the Abbey Church of St. Peter at Westminster, the foundation-stone of which was laid with great pomp and ceremony by King Henry the Third, in the year of our Lord 1245. The choir and transepts were constructed within a few years of this date, and exhibit throughout the whole of their details a strong assimilation in their forms to those of the lancet period. In their windows, however, a remarkable difference is to be noticed: in the greater part of them the plain lancet head has vanished, and in its place is to be seen, in the lowest and highest windows, a foliated circle carried by two trefoiled lancets, and in the middle, or triforium stage, a foliated circle inclosed within a spherical triangle; the whole of the window-head being, in all cases, pierced through to the plane of the glass, so as to leave no solid space or surface in the spandrels, thus fulfilling all the conditions of a traceried window.

In this, the first building in which tracery appeared, and in which, in most of its other details, little advance or departure from the usual forms of lancet work is to be seen, it will not be a matter of surprise that we should find some of the windows still exhibiting the early form. This is the case in the transept ends, in which two rows of plain, lancet-headed windows appear, the doors below them, and the windows on each side of them, in the east and west walls, exhibiting, nevertheless, the new fashion of geometrical tracery.

In the chapter-house of the same building, which was commenced A.D. 1250, the new style entirely predominates, and the windows are large, and fine examples of geometrical tracery, of simple but striking pattern. They are engraved in the last part of M. Van Voorst's "Decorated Windows."

It is on the authority which this building affords, therefore, that I have adopted the year 1245 as that of the commencement of the geometrical period; and although it is possible that some little time may have elapsed before the example thus set in this noble metropolitan church was universally or even generally adopted, and although it is probable that a building or two containing lancet windows may be proved to have been built subsequently to this date, yet I think that it cannot be denied that Westminster Abbey furnishes us with sufficient authority for assuming that the appearance of geometrical tracery was one of the earliest indications of the impending change of style, and, therefore, one of the fittest marks by which to characterize the new period; or that the commencement of this period may be stated to be at least as early as the year 1245.

With respect to the termination of this period and the introduction of flowing tracery, evidence of the same precise nature does not exist: we have, however, sufficient testimony of that negative character before referred to, to enable us to conclude, that it was not in use before the year 1310, and yet in full perfection in the year 1320. We have numerous examples, constructed, according to historical record, during the first ten years of the fourteenth century, which display in their windows the formal outline of geometrical work; such as the chapter-house of Wells Cathedral, built by William de la Mardie, who ruled from 1293 to 1302; Queen Eleanor's crosses, built soon after the year 1300; the south aisle of Gloucester Cathedral, built by Abbot Thokey, about 1308; the gateway of St. Augustine's Abbey at Canterbury, built in the year 1309; the tomb of Crouchback in Westminster Abbey, built 1307; the choir-screen of Canterbury Cathedral, built by Prior Henry D'Estria in 1304: at the same time that we have Prior Crandens's Chapel at Ely, and the lantern of the cathedral, commenced at or about the year 1321, containing windows of excellent flowing tracery. If we are to trust the Chronicle, which states that the reconstruction of Hingham Church, in Norfolk, which contains a series of fine curvilinear windows, with here and there a lingering geometrical form, was commenced by its rector, Remigius de Hethersete, and its patron, John-le-Marshall, in the year of our Lord 1316, we have almost the very example of which we are in search. On the conjoint testimony, however, of various buildings, rather than upon the evidence of this single example, I am disposed to take the year 1315, the mean, in fact, between 1310 and 1320, as that of the commencement of the curvilinear period, premising, however, as before, that it is quite possible that a few windows of geometrical outline may be found in buildings constructed after this date.

The interval, then, between their limits,—that is to say, the period of seventy years intervening between the years 1245 and 1315,—I propose to call the geometrical period of English church architecture.*

E. Sharpe.

* The remainder next week.

REVIEW OF THE COMPETITION DESIGNS FOR THE BUILDINGS IN SPICER-STREET, SPITALFIELDS.

The competition alluded to last week in connection with a subject to which we have long directed public attention, possessed considerable interest, and exhibited some novel arrangements, although the number of competitors was small, and features of resemblance might be discovered in details of the designs, which might have been suggested by the plans issued by the "Metropolitan Association" some years ago, to which the name of Mr. Charles Peirce, architect, was appended, or by the model lodging-house of the Society for the Improvement of the Labouring Classes, described in a former number of our journal. No particular instructions, as we were informed, were given to the competitors, except that dormitories for 300 single men were to be provided, and that economy was to be observed, but verbal information was given to such as applied for it. The ground in Spicer-street is of rather an inconvenient shape, and we can best liken it to a quadrilateral figure with one of the angles cut off. Considerable difference in the plans and the accommodation afforded, resulted from the different amount of space given to the general living-room and kitchen department of the lodging-house and to the baths and washhouses, respecting which it appeared that the committee had allowed the competitors to form their own judgments. On Mr. Beck's plan the lodging-house occupied a large portion of the area, by reason of a careful provision for these portions of the scheme and the general comfort of the inmates; and the residences for families were consequently a little reduced in number. We are not sure, also, the whole plan being considered, that as much was made of the ground as in some other instances; but in the general attention to convenience which the design exhibited, there was sufficient reason for the decision of the Committee. Drainage and ventilation had been well considered. The objects sought to be attained, may be comprised under three general divisions. One part of the ground was devoted to a lodging-house, another to residences for families, and a third to baths and wash-houses. The lodging-house was arranged in the form of three sides of a square, the internal space in the ground floor being occupied by a large coffee-room, lighted from above. The entrance and staircase were in the centre of the building, and on one side was the superintendent's residence, and on the other the cook's shop, furnished with hot plates, and having a bar looking into the coffee-room. In line with the cook's shop, and only separated from it by a screen, was the kitchen, in which were seven or eight tables, two fireplaces, and a considerable number of hot plates. The coffee-room, as we may already have indicated, was placed opposite the entrance, having the kitchen on one side, and a reading-room, to which a small library was attached, on the other. Amongst other arrangements on this floor, were lavatories, a pay counter at the left of the entrance, and a lobby, at the angle of the building, communicating from the exterior with the cook's shop, for the families occupying residences in the other portion of the ground to procure provisions. At the side of the lodging-house, baths and wash-houses were provided, with an entrance from the lodging-house, and one for the families, and separate doorways for egress. There were waiting lobbies, a pay-office, over which was the cold water tank, baths—these perhaps fewer in number than desirable—washing-rooms, drying-rooms, and a laundry. At this part of the ground were other conveniences, for which the drainage from the wash-house was made available; and for the rain-water, tanks were provided in different parts of the ground. The upper floors had compartments for beds, arranged on each side a centre passage, and a sick ward had not been omitted. In the basement were cellars for the lodgers' property, a boiler-house, places for coals, and contrivances for the ventilation. This was intended to be managed by a large shaft, drawing the foul air along air drains in the basement and through the furnace.—The residences were in a building placed at the end of the ground, at right angles to the lodging-house, and were arranged with staircases communicating with several distinct residences, and not differing materially from the principle developed by others of the competitors.

Notwithstanding the good principle upon which this plan had been arranged, and the valuable hints it contained, we do not think that the area occupied by the coffee-room, reading-room, &c., could be at all requisite for 300 lodgers, half of whom, at least, it is only fair to calculate, would be at any time out of doors, or in other parts of the building. It is very desirable that all the advantages which Mr. Beck has so carefully provided should be considered, and we are amongst those who look for the most beneficial results from attending a little to the household comfort of the working man; but something less than the ample area of the Reform Club may, we think, be tolerated by one of the "industrious classes," and had Mr. Beck raised his building to gain the requisite number of beds, he might, perhaps, have found room on the ground for a greater number of residences for families, an object equally important in the locality.

In this part of the scheme Mr. Daukes's designs have advantages, and we are rather surprised that he is the only competitor who has availed himself of the external gallery system, so often proposed—we think, even in the plans of the "Metropolitan Association," already referred to—but hardly attempted for several distinct residences, a court leading out of Rathbone-place, where the galleries are of wood, and very ill constructed, being the only instance that we can at present call to mind.

Mr. Daukes arranged his buildings on the ground in the following manner:—The residences formed three sides of a square, which was open on the fourth side to the street, excepting an enclosing railing with entrance gates. The lodging-house fronted to the same street, and was—in two, at least, of Mr. Daukes's three designs—attached to the block of residences. The lodging-house formed an inverted T in plan, and occupied less ground than in Mr. Beck's design. The block containing the residences, in one of the designs, had each compartment or subdivision arranged so as to provide one residence on the ground-floor, with entrance door from the square, another residence above it on the one-pair floor, to

which access was gained by a staircase from the same entrance, and above these, four floors—two to each residence. The lower floors of these residences were gained by external galleries—there being, of course, two in number—and to them the ascent was by large staircases, one on each side next the street, surmounted by open loggias. The galleries were constructed with iron columns and arched girders borne upon the front wall of the ground and one-pair story, the upper gallery being covered by the roof of the building, in which there were skylights. The front wall of the houses reached by these galleries, was supported upon iron girders, bearing upon the cross-walls. The roof of the building was of iron, and contained a large extracting shaft for ventilation: the floors were of timber. The residences on the ground and one-pair story contained a living-room, with fireplace, one bed-room, a pantry, scullery, water-closet, place for coals, and sink. The other residences had a living-room and the other conveniences on one floor, and bed-rooms above. Each residence was provided with flues for the admission and escape of air, and a shaft for refuse ran through the whole height of the building, with which each residence had a communication by means of an aperture in the floor of the water-closet. Another design, by Mr. Daukes, differed mainly in having one staircase to the galleries, in the centre of the building farthest from the street. In a third design, the external gallery system was dispensed with, and the buildings formed three detached blocks. There were general staircases of access to two residences on each floor; some the houses having one, and some two bedrooms. In the lodging-house, Mr. Daukes provided, on the ground-floor, two coffee-rooms, a residence for the manager, lavatories, clothes stores, &c., devoting the basement to the kitchen, scullery, cook's room, laundry, and drying closets, and to stores, water-closets and the heating apparatus. There was also a larder, with compartments, each lighted and ventilated, and separate staircases for the lodgers and the officers of the establishment. In the upper part of the building were five stories of dormitories, ventilated by shafts communicating with each floor.

Whilst the two successful designs display ingenuity in arrangement, the attention given in each of them mainly to one of the *desiderata* of the general plan, perhaps allows the object of the scheme to be best provided for in one of those yet to be mentioned. Mr. Grellier has arranged buildings in five distinct blocks, having a court in the centre. Two of these are at the front end of the ground, with the entrance gate between, and contain sixteen dwellings each; two are one on each side the ground, and have twenty-four dwellings each; and the lodging-house of irregular plan to suit the canting of the ground, occupies the other end. Mr. Grellier has given many different arrangements for the residences in the four blocks, and they have the advantage of economy in the number of staircases, combined with one of some importance, that of easily altering, according to varying requirements. The lodging-house contained on the ground-floor, besides entrance hall and superintendent's residence, a general sitting room, a dining room, a library and smoking room *en suite*, a kitchen, and a pantry. The basement is appropriated to baths and washhouses and to work rooms, of which there are a considerable number. Here are also urinals and other conveniences. Three floors above form dormitories, in which the beds are arranged with a centre row, to which there are many objections. Mr. Grellier has also provided a sick ward, and a good number of lavatories. On the roof of the building the plan shows a large water tank.

Mr. Ricardo, who, we may say in passing, has produced a beautiful set of drawings, has given a design having some peculiarities. The lodging-house at the front end of the ground occupies a considerable portion of the area, and takes the exact form of the letter E, having in the middle, at the junction of the short perpendicular and horizontal portions of the letter, a lofty [illegible] the building, has each floor appropriated to [illegible] the ceiling. The divisions are of slate, of which we fear the cost would be found too great for the committee to contemplate. In the inner part of the letter E forming the plan, there are in the ground floor, besides the large space occupied by the shaft and chimney within it, a kitchen, scullery, larder, boiler-room, washhouse, laundry, and dining rooms. On the floors above are dormitories, and there are also an eating-room and living-room. A sufficient number of water-closets are provided, which we are not certain is the case in all the designs contributed, and is an omission which we have in another instance, found it necessary to remark upon. Lifts are shewn communicating with the different floors, and air-shafts for ventilation. The residences are arranged much in the same manner as in other cases, each landing giving access to two dwellings, each containing a living-room and two bedrooms, with scullery, closets, and shaft for refuse. A portion of the ground is suggested as applicable for baths and washhouses, or as a playground for children.—In the departments of ventilation, lighting, and supply of water, this design deserves more particular notice. In the lodging-house, fresh air is admitted from close to the ground, which however may be considered objectionable, and is warmed in the basement, whence it ascends and passes along a trough immediately under the floor of the passage, and is admitted into each room by apertures above the level of the skirting. The vitiated air, it is supposed, will escape by apertures below the ceiling, perhaps too far below, and which communicate with the vitiated air trough placed beneath that for fresh air just mentioned. The motive power is expected to be given by the furnace at the bottom of the vitiated air-shaft. Other means of ventilation appear to be provided by apertures in the walls closed by slides. One gas-light suffices for two sleeping-rooms and a part of the corridor, and is properly ventilated. The supply of water is from an iron tank in the roof, and a basin is provided for each room. In the residences the fireplaces are arranged angularly, and so that a semicircular cavity in the line of division between one residence and the next, is left between two fireplaces, and in this would be a cluster of pipes for the conveyance of smoke. An Arnott's valve above each chimney-opening communicates with the cavity, and it is supposed that if the fire be lighted in any one of the rooms, the heat of the smoke-pipe would be sufficient to rarify the air and ventilate every room in the height of the building.

Mr. Barnett's plan is not undeserving of notice did space permit; the area, however, appeared to be injudiciously crowded, from the desire to obtain a considerable number of residences. The baths and washhouses were in the basement. The compartments of the dormitory were divided by partitions, the upper part of which was of lattice-work.

Of the decorative character of the designs, we have said nothing, as obviously it could hardly have biassed the Committee, but as we have lost no opportunity of urging, that there is no reason why every building should not be arranged on good principles of taste, and that cheapness in no degree necessitates deformity, we trust the opportunity will not be lost sight of, to exert the beneficial influence of art, even in Spitalfields. Mr. Ricardo has perhaps paid the greatest attention to external features, and his design has some originality. In the lodging-house are circular headed arches, rusticated in the ground story and subdivided into two lights in the ground story and first floor, and a range of small arched windows in the third story, the building being surmounted by a cornice of considerable projection. The walls are of white, and the dressings of red brick. From the centre rises the tower, ornamented with arch-headed panels, and with a pyramidal capping and [illegible]. The windows have the extrados pointed in the Florentine manner. The building containing the residences, is more of the ordinary Italian character: it has arch-headed windows, and rusticated piers. Mr. Beck's design, shown in red and yellow bricks, has a novel effect, and is not without [illegible]. The circular window which terminates the roof of the coffee-room has a peculiar appearance. Mr. Daukes's designs are Italian. The stair turrets are rusticated at the angles, and have open loggias above. The lodging-house shows nothing more than ranges of two light arch-headed windows, and is the same in all three designs, as we ought to have said it was in plan. Mr. Grellier, who has been most industrious, has a design of yellow brick with red brick dressings, but not content with this, he has sent another set of elevations in sepia of a plainer character of design.

Of Mr. Barnett's elevations we cannot speak favourably. All the details are exceedingly massive, and the design would cost more money than would in any case be spared for an object of this nature. The windows are very close together, as they must almost necessarily be, but this defect is heightened by the decoration. The upper ranges of windows have a most naked look without dressings, whilst the coins are carried up to the very top of the attic, above the cornice.—The difficulties in the observance of the "Buildings Act" could hardly be more considerable than in these buildings; indeed, some special permission would appear to be requisite in several particulars. Mr. Ricardo, however, has entirely omitted to consider the Act, since his cornice, without a parapet, would project over the street; and if the cantalivers are to be wood, as we suppose they must be, would, on that account alone, be objected to. It is right to mention this, if only in justice to Mr. Grellier, and those in whose drawings the same kind of error may not be observable. Obviously, to secure a fair decision, judges of designs should be acquainted with the "Act," to say nothing of other qualifications. We say this, however, only as connected with the general question of the propriety of non-professional judgments in competitions.

OBSERVATIONS ON THE NEW CHURCH OF SOUTH HACKNEY.

SIR,—The particulars given in a late number of your journal induced me to visit this edifice, the largest and most sumptuous church devoted to the Protestant ritual erected within the present century, and I shall be glad if you will allow me to state some objections which occur to me. The situation is advantageous—a road bounding three sides, and an open space on the other: the plan is an apsidal cross. The nave is too broad in proportion to the aisles for a first pointed church, thus destroying, upon first entering from the west, that essential impression, verticality, which is the characteristic of the first pointed style. The pillars supporting the nave arches have a crowded effect; two on each side would have been better omitted: the proportions of the remainder would then be in character with the extent of the church. The arches being elaborate, of two orders, with enriched sculpture upon the chamfers, the label moulding should, on no consideration, have been omitted. The arrangement of the transepts at the intersection of the nave is unreal, indicating a central tower: the arch across the nave is useless. In fact, the arrangements here adopted are the necessary accompaniments of a central tower, and should not be resorted to when this feature is in any other position. The tower and spire are the best proportioned features in the whole composition. The elaborately executed west doorway, with a double entrance, has the effect of being designed for a larger and more magnificent edifice, and, as an afterthought, thrust into its present position, so little do the general proportions harmonise with the edifice. The buttresses of the aisles are crowded; the triangular heads rising above the parapet, with heavy flying buttresses springing therefrom, should never be adopted in a parochial church, unless the roof is of stone: as here placed, they appear of no other use but that of supporting a useless projection supported upon corbels projecting from the exterior of the clerestory walls. The omission of those essential and characteristic features of a parochial church—a north and south porch—is not to be defended.

We now come to a grave structural defect at the intersection of the transepts with the chancel roof, shown in your engraving. A gable wall should have risen from the chancel arch (otherwise, what is the intention of a chancel arch?), and continued through the roof, presenting a gabled exterior, which would

relieve the mean appearance which this portion of the church presents. The chancel walls are carried too high; they should not range level with the transepts, but considerably lower, thus varying the monotonous outline of the roofs. The entrance door of the sacristy, piercing the buttress of the transept, has an inconsistent appearance. The apsidal arrangement of the chancel produces a mean effect in the outlines of the roof, and is but a poor compensation for the elegantly proportioned east window and gable.

I feel convinced, after a minute examination of the principal ecclesiastical edifices in course of erection in the metropolis and suburbs, that, with all our improved mechanical appliances—with all the advantages afforded by excellence of execution, both in wood and stone (for our carvers and sculptors, within the last few years, have so surprisingly perfected themselves in the execution of Gothic details, as to be capable of rivalling, in their several departments, the most admired and boasted productions of the mediæval period), the architects of this age have yet to unravel the mystic geometric rules which guided the secret fraternities in proportioning their edifices. R. P. C.

PAYMENTS OF ARCHITECTS' COMMISSION.

Sir,—I quite agree with your correspondent, "Fides," who alludes to the evil of some architects charging commission to their contractors as well as their employers. The evil of such a practice is indeed incalculable, and most assuredly fraught with nothing short of the annihilation of our calling or profession; if allowed, in horticultural parlance, to "run to seed."

"Fides" says, "the remedy lies with that moral principle which should exist in the breast of every man." But, Sir, in (as there must exist in these cases) the utter absence of this "moral principle" some more vigorous antidote ought, I think, to be created, to defend the building world, and poor architects more particularly, from the evil he so justly complains of. It, with the present villanous system of competition, might be successfully grappled with by the institute, were that body alive to the real interests of the art and of the profession.

What, Mr. Editor, will avail the *honest* pursuit of the art should the evil in question grow prevalent? The present commission, 5 per cent., is really with your *bond-fide* architect *hard earned money*, and yet it is by no means uncommon to hear of architects taking 2 and 3 per cent. for their services. Where architects who *regularly practise* (?) on such terms eke out *their* commission as "A Tradesman" suggests in The Builder of the 8th ult., it must follow that other architects, who ask 5 per cent., and (on the mere ground that it is written, "Thou shalt not steal") intend to take *that only*, will be looked on as extortioners, and go to the wall.

Now, I am confident that very many members of the profession resist this vile temptation, the *heavy sin* of which lies at the door of the tradesman and architect alike, whatever modern social philosophy may say of the exact quantity of honour required from each: and I wish you could stir up the institute to take some steps that might protect these recipients of commission by single entry from their unworthy brethren of the double-entry school, who thus bring obloquy on their profession.*

Methinks I frequently meet in your paper with the phrase "Let the institute look to it;" and I cannot but thank you for the efforts you have lately made to rouse that torpid body to the settlement of the question of professional charges generally. As this and the question of competition now stands, our noble profession is at the mercy of every† Attorney-General and every quack-engendering Committee; and once again I say "Let the institute see to it!" Meantime, Sir, as a more practical remedy than the "moral principle" advocated by "Fides," I suggest that henceforth architects serve their clients *gratis*—drawing (with their employers' cognizance) their 5 per cent., *or as much as they can get*, from the tradesmen alone. This would put an end to the system at once, transforming Sir Architect into the builder's servant; which, an it be not nobler than the client's unfaithful watch-dog, call me no longer your obedient servant,

London, Aug. 2, 1848. An Architect.

* By a rule of the Institute, proof of the fact would subject a member to expulsion.—Ed.

† See The Builder, Vol. 4, page 61, Mair v. Ward.

Sir,—The "Tradesman" who favoured you with a communication some time since on the subject of architects' charges, would have done well had he been more guarded in his assertions. It is an uncharitable and false conclusion to write down every man a thief because you have had your pocket picked. This gentleman has, it appears, in the exercise of his calling, met with unprincipled men, willing to take bribes. Is there any marvel in that? What profession, from divinity to cookery, lacks members who are a disgrace to it? That there is a large class of men, more especially in country places, who, with the most superficial knowledge of the theory and practice of the art, gained chiefly by apprenticeship to divers trades, call themselves architects and surveyors, is not to be denied. These depend on the class to which they belong for support and countenance, and are more often employed by regular builders than by those who build of necessity, or without practical knowledge. Now it is that class who chiefly, if not entirely, bring discredit and contumely on the profession,—first, by their incapacity, which is their misfortune, indeed, rather than their fault, and again by giving their services for a low remuneration, trusting to make up the deficiency by the "commission at the other end." This admits of proof; nor is it strange that it should be so. The sympathies of that class are naturally with the tradesman originally; they feel with and for him, and there has been no ordeal for them to pass through whereby to free themselves from their class prejudices and connections. With the regularly-educated architect the case is totally different; and if he be an honourable man, he will never give any tradesman the slightest chance of insulting him by offering a douceur. I well remember the answer of a gentleman who stands now very high in the profession, though then in the midst of early struggles, to a builder who offered him money to "make it right for him;" it was this: "Do you think I am as great a rogue as yourself?"

I am, Sir, &c.,

An Architect.

RAILWAY JOTTINGS.

A difference of rather a critical nature has arisen between the engine-drivers and firemen on the southern division of that leviathan Company the North Western, and their new superintendent, backed by the directors, who support him in carrying out a certain new regulation, offensive to the drivers and firemen. The regulation objected to consists in a classification of the drivers and firemen into different ranks, according to the will or decision of the superintendent, practically operative in reducing the class and wages of the workman, in place of fining him, in cases of negligence, and in raising both in cases of merit. The men, however, while they express themselves quite satisfied with their present rate of wages and advancement, dependent on the length of time for which their employers may have found it their interest to keep them on, are determined not to accept of a regulation which they conceive will place them at the mercy, or caprice, or personal prejudice of any one man, such as the superintendent, who reserves to himself the power to raise or degrade them, independently altogether of the length of their services. Besides all this, too, the men allege that reductions of the wages of the operatives being the order of the day with their directors, they have no doubt that the classification scheme is designed to reduce their wages also. They deny the counter-assertion that they have combined to resist the new regulation; but admit that all, with scarcely an exception, sent up their notices to quit at one and the same time, and by one and the same train, to head quarters,—rather a remarkable instance of unanimity without combination. Meantime, at a recent meeting amongst themselves, some startling assertions and details were made, which, if correct, reveal a temporary state of things utterly inconsistent with the public safety. One driver, for instance, declared that, on being desired by Mr. M'Connel, the new chief of the locomotive department, to take five or six men with him on the engine, in order to teach them how to drive—he candidly told him, that with so many on the small foot-plate of the engine he could not do justice to his own duties, and was forthwith displaced by one of the very men whom he was to teach, and who ran the train into an embankment, though preceded by a pilot-engine. Another, referring to the same case, said that at Wolverton the boiler was so short of water that he was quite alarmed lest it should explode ere water could be introduced, and that the foreman there would not himself go on the engine along with the new driver, who was staggering with drink at Rugby on the same occasion. That the drivers have themselves compelled the directors to employ the police to be on the out-look, and to compel them to do their duty till the fortnight's notice expires, can be gathered even from their own endeavours to ring the alarum on the subject of the public safety, which they have also done in a communication to the Railway Commissioners, who, on that ground alone, have felt themselves compelled to interfere by opening a correspondence with the directors, so that it is to be hoped that, in one way or other, the public safety will be insured, if not the unfortunate difference amicably settled.——In a sheriff's court case at Swansea lately, the sum of 685*l.* odds was assessed as damages, due by the South Wales Company to a Mr. E. John, lessee of property taken by them, and for which he claimed 5,000*l.*, while the Company offered 150*l.*!——The South Wales Railway bridge across the Usk is in rapid course of re-erection. In the first construction there were six trusses to each arch: there will now be but five, placed so as to make the bridge, it is thought, lighter and stronger. The danger of fire is, it is said, entirely removed. The centre arch will be of iron. The work will be finished in about six months. The great tunnel, at the back of Newport, is completed throughout, with the exception of the masonry at the entrances.

ELECTRO-TELEGRAPHIC.

The charge for the transmission of messages has been reduced:—"Between the hours of half-past five o'clock p.m. and seven p.m. a uniform maximum rate of 5s. will be charged for messages under twenty words; 2s. 6d. extra will be charged for every additional words or fractions of twenty words. Orders for carriages, horses, beds, and other messages for the accommodation of travellers, 2s. 6d. each."——The American Southern Telegraph Company, whose line extends from New York through Philadelphia and Baltimore, to Washington, a distance of about 250 miles, has declared their first annual dividend of 6 per cent.

Masonry *v.* Brickwork.—At a dinner recently given in Birkenhead to the workmen, on the occasion of completing some villas, Mr. Hay, the architect, took occasion to impress upon the workmen, more especially the masons, the need of making themselves thoroughly acquainted with not only the practical part of their work, but the theoretical. He stated that he had travelled over a great portion of the kingdom, and he believed it to be an indisputable fact, that nowhere could mason-work be done cheaper than in Liverpool, and yet for one stone house they had whole streets of mean looking brick-work. Who was to blame he would not inquire. They had an abundant supply of stone, readily excavated, and at a smaller cost than in any place where he had been; and, from the nature of the material, it was worked with great facility, so much so, as to reduce its ultimate cost to a level with any of the other places, notwithstanding the disparity of wages, which in many instances are 30 per cent. less than in this neighbourhood. They were sadly deficient in good workmen, which was one cause of there being less masonry than there otherwise would; and it was well worthy of those present to take a deeper interest in acquiring a knowledge of their business, not only for the benefit of themselves, but of their fellow workmen, and the trade at large.

VIEW OF THE NEW LONDON FEVER HOSPITAL.

MR. CHARLES FOWLER, ARCHITECT.



PLAN OF THE NEW LONDON FEVER HOSPITAL.

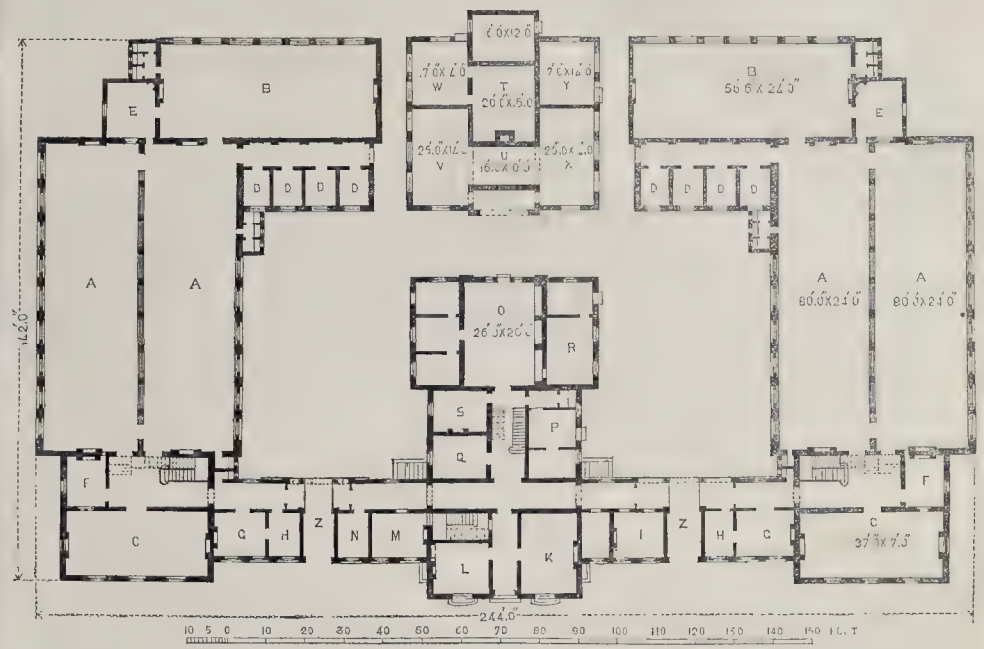
REFERENCES.

A Fever wards.
B Acute wards not fever.
C Superior class wards.
D Noisy wards.
E Head nurses' rooms.
F Under nurses' rooms.
G Bath and Examination rooms.
H Patients' clothes.
I Matrons' room.
K Committee room.
L Medical officer's room.
M Dispensary.
N Office.



REFERENCES.

O Kitchen.
P Hall.
Q Linen room.
R Scullery.
S Servants' room.
T Engine and boiler house.
U Drying room.
V Washhouse.
W Foul washhouse.
X Laundry.
Y Mattrass store.
Z Gateways.



THE NEW LONDON FEVER HOSPITAL.

The erection of the New London Fever Hospital (illustrated by the accompanying engravings) has been occasioned by the Direct Northern Railway Company taking the site of the present structure, together with the Small-pox Hospital, for the purpose of forming their intended terminus near King's Cross. The site of the New Fever Hospital is in the Liverpool-road, Islington, at a higher level, and much more spacious and suitable than the present one. The building is also upon an enlarged scale, calculated for the reception of 200 patients, the present hospital being for 120 patients only; and the accommodation is proposed to embrace the various improvements resulting from science and experience in sanitary matters. All the wards for fever patients are on the ground-floor, with upper wards for the convalescents; so that the greater part of the hospital is only of one story. Particular provision is made for simultaneous supervision by the head nurses, as well as for a ready inspection of the whole establishment. The means of warming and ventilating are also provided for in the construction. The building is to be of a plain but substantial character; the rusticated work and architectural dressings in front to be of Caen stone, on a granite plinth; the remainder of the facing to be of red brick.

The first stone was laid by the president, the Earl of Devon, on the 29th of June, assisted by the Earl of Eldon and several other trustees and members of the committee and friends of the institution. The building is advancing rapidly, and is to be completed by the 31st of March, 1849. Messrs. T. and W. Piper have undertaken the contract at the sum of 12,312*l.*, which is inclusive of lodges, boundary walls, and several other contingent works, required to render the plan complete.

The architect is Mr. Charles Fowler, and the design was selected in a competition, concerning which a correspondence appeared in our pages some time since.

THE ARCHÆOLOGICAL INSTITUTE AT LINCOLN.

The excursion to Newark Church and Castle, Southwell Minster, and Wollaton Hall, proved the most interesting of any made during the week. The rush for tickets at the railway station on that occasion was great, and served to shew how little considered the arrangement of the pay-place there had been, since those who had fought their way up to it, and obtained tickets, were compelled to fight back again through the waiting crowd. However, no one was disposed to grumble, and all got places at last. Two ladies, who were in the same carriage with us, afforded striking evidence of the extraordinary spread of knowledge concerning mediæval architecture. Their talk, and charmingly they did it, was not confined to generalities, to the difference between early pointed and late pointed, or even the superior beauties of the middle period—but about *subdivisions* of these periods, and "orders of mouldings," and peculiarities of cusping. When they saw a new church their "attempt to discriminate" went much farther than Rickman's, and they would tell the architect's name a good half a mile off. It was a new phase of the female mind, and led us to consider that architects may presently find some of their clients awkward customers to deal with.

The tower and spire of Newark Church,—Early English and Decorated,—are exceedingly elegant, and the whole church, though curiously mixed, very interesting. There are carved stalls, and a perpendicular screen across the chancel arch, and at the back of the stalls, north and south; but the latter is disfigured by some barbarous decorations under the organ, and is *painted white*. Between each window in the chancel aisles is a niche with a curiously-sculptured pedestal, varying in all. A very large brass, in memory of Alan Fleming, 1373, is affixed at the back of the altar-screen. A large picture by Hilton is on the face of this, "The Raising of Lazarus." It was the gift of the artist, out of respect for the memory of the birth-place of his father, and has some fine parts, if it be open to criticism in others. The date of some of the beautifyings here is shewn to be 1713, by a tablet in honour of a "Lord Middleton," for the same.

On our way to the castle, we passed a new corn-exchange (there is a run upon corn-exchanges just now), from designs by Mr. Duesbury. It shows three large recessed doorways as principal features, with entablature, and has a turret, on either side of which are to be sculptured figures by Mr. John Bell, now in progress of execution. These are of Anston stone: the building itself is of Coxbench stone, Derbyshire.

The walls of Newark Castle are Norman, but the windows which have been inserted are perpendicular, and give the ruin a later appearance than really belongs to it. The rubble vaulting to the circular stairs is worth noting. The gate-house is Norman, and under the hall is a Norman crypt, the vault supported by a row of central columns.

Southwell Minster, the well-known cruciform

Norman structure, with its Norman north porch, and later additions, was the great feature of the day. It is of very large size (according to Mr. Pettit, who read a very full description of it at one of the evening meetings, 307 feet long), and is full of interest. The circular windows in the Norman clerestory; a *cable* moulding of enormous size round the main arches at the intersection of the cross, and some of the windows in the transept; the general boldness of the nave, and the peculiar zig-zag decoration which fills the gables of the transept externally, are particularly curious. The chancel is a fine specimen of Early English, thoroughly restored a few years since, and forms a striking contrast with the Norman work of the nave,—the first light and elegant, with every support divided to the utmost, and all pointing upwards, the latter massive and grand.

The chapter-house is approached by a short cloister, and the double archway which opens into it from the latter is one of the most exquisite productions of mediæval skill existing. The foliage which adorns it is all natural rather than conventional, and, crisp and beautiful, looks, excepting in some few places where it has entirely disappeared, as if that moment gathered. The Purbeck shafts are for the most part much decayed.

In the ruins of the archbishop's palace, a mediæval *necessarium* (?) a series of seats in niches around a central column, was looked at with curiosity.

From Southwell the members went to *Wollaton Hall*, the seat of Lord Middleton, one of those noble mansions which the Elizabethan and Jacobean periods left as their mark and legacy to England. The entrance to the park is about two miles from Nottingham, and the drive through the park to the house perhaps half a mile more. The appearance of the hall at a short distance from it, with its varied outline, produced by the large central tower, and four square towers, one at each angle, is very fine. The details are not so good; and internally, with the exception of the hall, which is a noble apartment, and has one of the last of the open roofs, there is little which calls for comment; unless it be the curious fact, shewn by a plan of the timbers in the principal floor in the possession of his lordship, that there is not one thorough-beam,—or beam running from wall to wall: they are all framed one into another.

Wollaton Hall is the work of Robert and Huntingdon Smithson, father and son. Dalloway states that the epitaph of Robert Smithson, who is said to have died in 1614, aged 79, is in Wollaton Church, and styles him, "Architector or surveyor unto the most worthy house of Wollaton, with divers others of great account." In Bolsover Church, according to the same writer, there is this memorial of the son, "Huntingdon Smithson, architect, ob. 1648." There is a plan and a slight elevation of Wollaton in the volume of designs by John Thorpe, now in the Soane museum, which has led to the belief that Thorpe was consulted upon it, or was in some other way connected with the building. An inscription on the entrance front says:—*Inchoatæ*, 1580—1588.

At a meeting of the architectural section on the following morning, Saturday, a paper by Mr. Lewin, of Boston, on

HECKINGTON CHURCH.

celebrated for the "sepulchre" it contains, was read. We give the following portion of it:—"From the days of Gough and Rickman, Heckington Church has been celebrated amongst archæologists as an edifice whose noble proportions, admirable architecture, and curious and scarce monuments, render it one of the most worthy and interesting of our village churches. There is a tradition connected with this church, that the foundations were laid in the year 1101, and the whole of the edifice completed by the end of the year 1104, and that the total cost of the same was 433*l.* 9s. 7d.; but it is quite certain that such tradition cannot have been connected with the present structure, as the architecture sufficiently proves it not to have been erected until two centuries after, Heckington being a complete and perfect specimen of decorated Gothic. The church consists of a spire steeple at the west end, a south porch, a nave with north and south aisles, north and south transepts, and a chancel. The paper entered into an elaborate description of the exterior, the whole of the stone-work of which was stated to be in very good condition, the sharpness and definition of the carved work being still preserved, with all the beauty of design and boldness of execution of the original hand of the sculptor, after a lapse of full 500 years. The interior effect of the church, notwithstanding the loss of its ancient wood-work, is still very imposing; its handsome nave, with its pointed arches and fine clerestory—its capacious aisles, with their array of three-lighted windows—its lofty transepts, whose side lights deceive the judgment—and its imposing chancel, full of sculptural decorations—still amply repay the visit of the archæologist.

The holy sepulchre has celebrated Heckington throughout the kingdom, and caused this secluded village to be noticed and mentioned in every work relating to this section of archæology. It is situated in the north wall of the chancel, and is in some parts much mutilated. In height it is about 10 feet, in breadth about 4 feet 6 inches, and is one mass of sculpture. The elevation of it is divided into two heights by a ledge or cornice; the lower division is divided by pentagonal buttresses into four divisions, the centre buttress finishing in a corbel head under the ledge; each of these compartments have trefoiled pediments springing from corbel heads, with crockets and finials: the spandrels between the pediments and pinnacles are embossed with foliated sculpture. Under each of these pediments are figures of soldiers reclining in a sleeping attitude; under the ledge is an enriched cornice, and above it the sepulchre is divided by the buttresses into three divisions,—the principal or centre division containing the tomb part of the sepulchre. This is a hollow space; the plan of it, from the face of the sepulchre, is about 2 feet 8 inches square, with a pyramidal head to the front; on each side of this are angels watching. Above, the opening is ornamented with a moulded pediment, in which is carved the ball-flower, with crockets finishing in a boldly-carved finial, which serves as a bracket for the figure of Christ rising from the tomb. This figure has been a splendid example of ancient sculpture. On each side, carved in the spandrels, are angels with censors looking up and worshipping: above these figures, springing from corbel heads, is another canopy highly ornamented. On each side, and supporting this centre compartment of the sepulchre, are trefoiled pediments with labels crocketed and finialed; under these are angels with the figures of the Marys carrying spices for embalming the body; above the pediments are representations of flying buttresses supporting the centre division. These buttresses are ornamented with a parapet springing from corbel heads; and the cornice is enriched with the ball-flower. Above are pinnacles finishing with enriched pediments and crocketed heads; the ground of the sepulchre, between the pinnacles, is covered with embossed foliage, and the top is crowned with a handsome cornice, containing figures with musical instruments. The whole of the decorations of this interesting monument are most worthy of the attention of the archæologist, the foliage and figures being beautifully and correctly sculptured. It has, however, suffered exceedingly from mutilations."

At the evening meeting on the same day, after several interesting papers had been read, particularly one by the Rev. F. C. Massingberd, on the names of some places in the city, especially "the Grecian Stairs," and for which we may hereafter find room, Lord Northampton introduced Mr. Britton to the meeting.

Mr. Britton said, to use his own words,—I come before you on the present occasion under some degree of embarrassment—I come before you as an antiquary who has devoted more than half a century in illustrating, and I hope describing faithfully and putting in a new point of view, the architectural antiquities of our famous and wonderful island. I come before you also at the express desire of the committee and secretaries of this respectable institution to show you that although old and worn out in the cause of literature and art, I have some feeling remaining—a great deal of love—a great deal of veneration for cathedral architecture—for literature—for every branch of archæological research; and so long as I live I hope to be enabled to prosecute the same studies—to impart to the rising generations some of the feelings which have prompted me in the pursuits in which I have been engaged more than half a century. And when I tell you that while thus engaged I have derived an incessant and progressive amount of gratification—of delight—I hope that the younger portion of the audience will give me credit, and believe that in those pursuits, if by accident they should be led to follow in my footsteps—to engage in the same pursuits—they will, like myself, derive an endless amount of amusement wherever they go. Had I not been devoted to those pursuits myself in the early part of my life, I should never have had the pleasure—the profit—the self-satisfaction which I now enjoy in my old age. And I cannot give you a more satisfactory proof of the influence and effect of those pursuits, and the gratification which I feel in my old age, than by telling you that during the last few months, when on a sick bed, I felt more delight in looking round my room and seeing drawings of the various archæological beauties of the country—I felt more delight in that than almost anything; and when my faculties were sufficiently restored I resorted to my library, and there the reminiscences of self-satisfaction on a sick-bed were so delightful that I felt—so long as the faculties of mind and eye should last—that I should never know what the world call *ennui*. I came here with the intention of saying something about the various castles which have been erected in this country, first for protection and afterwards for domestic purposes—I thought and believed that the subject was calculated to afford a good deal of amusement and information to the young student; but I am sorry to tell you that I gave the little paper which I had prepared on the subject to a friend, who undertook to read it for me, and who has not yet returned from the pleasant excursion of the day. I cannot but revert with gratification to my visit to this interesting and extraordinary city on the present occasion. My last visit here was between forty and fifty years ago, when such a science as archæology—the very name itself—was totally unknown; now, however, it is understood, the science is pursued with avidity, and must have a highly beneficial effect upon the country. I cannot forget that, during my first visit here, I was introduced to my estimable and learned friend Mr. Willson: when I first saw him he was working in the cathedral, and from that time to the present we have kept up a literary intercourse, particularly as regards architectural antiquities.

Mr. Britton then paid some well-deserved compliments to Professor Willis, and said it gratified him to find his own opinion, expressed long ago, that Lincoln Minster stood pre-eminent amongst the cathedrals of our isle, was confirmed by Mr. Willis.

Lord Northampton afterwards made a very interesting address, in the absence of the paper; and when the member to whom the paper had been confided rushed into the hall about 10 o'clock at night, full of confusion, he heard with no small amount of satisfaction that the evening had been passed as pleasantly without the paper as if it had been duly forthcoming.

The trip which had detained all the members so late, included Tattershall Castle and Church; Kirkstead Chapel, and Boston Church; but we cannot now devote more space to this subject, and must therefore postpone our remarks.

A supplementary excursion to Temple Bruer,* complimentary votes to those gen-

* A local work says of Temple Bruer:—"Temple Brewer, or Temple Bruern, is an extra-parochial district, situated at the distance of six miles northward from Sleaford. Here is the site of a preceptory, founded previous to the year 1185; and it was first occupied by the Knights Templars, and afterward s by the Hospitallers. The church is said to have been built after the model of that of St. Sepulchre, at Jerusalem. 'There be great and waste buildinges,' says Leland, 'but rude at this place, and the eate end of the temple is made *opere circulari de more*.' At present only a few vaults and the tower of the church are left. The latter is a massive quadrangular building, and is accessible to the top by a winding stone staircase. The lower part, used by the occupier of an adjacent farm-house, is nearly entire; it has a window with a double-pointed arch, and the entrance is by a receding circular-headed doorway. The ground is considerably raised or mounded for about 15 yards from this door. In digging the foundation for a stable, east of the town, a few years since, several basement stones for pillars, and one with a shaft of a round indented column, were discovered. West of the town is a hollow, supposed to have

tlemen who had aided the institute, and a discussion as to the next place of meeting, which ended in the selection of *Salisbury*, closed a very pleasant week in the ancient city of Lincoln.

NOTES IN THE PROVINCES.

The foundation stone of the new church of St. John the Evangelist, to be erected by subscription at Penge, near Sydenham, was laid on Tuesday, 1st inst., in presence of a large assemblage of subscribers and others. A bottle containing coins was placed in a cavity worked in the stone, and covered with a brass plate engraved with a record of the ceremony, over which was poured melted wax, to prevent corrosion. The church is to be erected at a small cost, and is, therefore, of plain design and economical proportions. The architects are Mr. Edwin Nash and Mr. John Nash Round. All piers, arches, jambs, and angles, internally as well as externally, are to be built in dressed freestone, instead of in brickwork stuccoed over in imitation of stone. The church will provide accommodation for 500 upon the floor, and no galleries will be erected. There will be a tower and spire 140 feet high. ——The foundation stone of the parochial schools of Christ Church, Ramsgate, was laid on the 4th inst., by the Rev. Edward Hoare, A.M., the incumbent, in presence of a large number of friends. The schools are to be erected from the design of Mr. W. E. Smith, of Ramsgate, and to be in the Early English style. The exterior of the front will be of Kentish rag, random dressed, with all the dressings of Caen stone: the gables coped throughout with each stone laid in drip. The bell turret will be on the crown of the gable, and carried up from the surface of the ground to the height of 53 feet. The roof will be open inside, with all the timbers framed in panels, and plastered between the timbers. There will be sufficient accommodation for 450 children. The cost of the whole undertaking will be about 1,750*l.*, including the purchase of the house for the master, and the site. ——The new Infantry barracks at Portsea, are far advanced towards completion. The main building is ready for the asphalte roof. The flooring in the building for the common soldiers will be of asphalte, on iron-girders. Messrs. Locke and Nesham are the successors to Messrs. Burton, in the completion of this work. The officers, in a regiment of 1,000 (about 36 it is said), will here have ample accommodation, besides a suit of apartments for the commandant.——The Southsea esplanade was to be opened to the public on Tuesday. The road at the end of Jubilee-terrace, has been considerably widened, and the sharp turning sloped off gradually, and the road otherwise improved.——The Southampton Improvement Commissioners have announced their intention to elect a surveyor by 16th inst., with a salary of 120*l.*, in place of two as heretofore, with salaries of 80*l.* and 100*l.*—— The new Roman Chapel at Salisbury, will be opened, it is expected, in course of a week or two. —— The Church of England Cemetery, at Birmingham, was to be consecrated on Tuesday. The church is in the perpendicular style, with a tower and spire, a nave and chancel. The nave will be formed by the introduction of an ornamental open stone screen at the entrance, which, while separating that portion of the building destined for the burial service from that which will be constantly open to the people, will be kept so low as not to interfere with the proportions of the interior. The nave has an open roof of dark stained wood, with the spaces between the rafters painted of a deep ultramarine blue. Ranges of carved seats are placed on each side for those who attend the burial service, and in the centre of the nave will be an ornamental stand for the bier, which, by means of Bramah's hydraulic machine, the coffins will be let down to the vaults below, and by a subterranean passage conveyed to the circular catacombs. The chancel is of ample dimensions, with an east window of three lights, to be filled with stained glass, presented by Messrs. Chance, Brothers, and to be executed at their works. The floor is to be laid with encaustic tiles, while that of the nave will be in plain chequered squares. The tower is formed at the base by three massive archways, intended as a porch for the hearses. The cloisters are entirely cut off from the body of the chapel, and will be 150 feet in length, with a long range of windows in the western front, and blank recesses for the reception of monuments on the other. The windows are to be filled in their entire length with memorials in stained glass. The double circular range of catacombs in front, yet to be erected, originated in the architects seizing on one of the chief blemishes of the site, once a large sand-pit; forming the pit into a regular circle, and constructing two ranges of catacombs in the banks, faced with rough battlemented stonework. These, when seen from a distance, will form, as it were, a basement to the main building, crowning the summit of the hill.

VENTILATING BILLIARD-ROOMS.

Sir,—If your correspondent has his billiard-room to build, he will ventilate it most effectually by carrying up the flue from the fire-place in a 9 inch metal tube, commencing at the level of the ceiling, and encasing this with brickwork, taking care to leave between the tube and the brickwork a sectional area of about 200 inches to form the air or ventilating flue.

This air-flue should open into a space above the ceiling of the room, which should be provided with apertures round the cornice, or from rosets, at least equivalent to the area of the flue. The products from the combustion of the gas should likewise be conducted into this flue, which should also be surmounted by a windguard, of any form, adapted to take advantage of the movement of the external air, to assist the upward current. The smoke-flue should pass through and surmount this windguard.

To supply the place of the air taken out through the ventilating-flue, a chamber should be formed at the back of the grate, into which the external air should be conducted, and emitted through perforations in the front. A current of pure air of a modified temperature will by this means be drawn into the apartment, which will be found sufficient for winter ventilation. If artificial ventilation is required for summer, an "Arnot," or other slow burning stove, should be placed in the recess in lieu of the open grate. This, if lighted in the morning, would keep alight, and rarify the shaft throughout the day.

A pair of folding or sliding doors should be provided, to close the opening, to prevent the stove from heating the apartment.

The pure air should be admitted into the room through the top and under part of the skirting, properly arranged for that purpose,—care being taken to make the internal openings many times larger than the external aperture, in order to decrease the rapidity of the current of air entering the apartment.

Wm. Jeakes, Jun.

Great Russell-street.

Sanitary Reform in Southwark.—A meeting has been held in the Parochial School-house, Borough-road, chiefly of gentlemen connected with the medical profession, to protest against the general evil (notwithstanding the professional good) arising from the opening of gully holes in the midst of densely populated districts; when a series of details was entered into, which would certainly have astonished the old lady who derived so much benefit from the genial breezes emanating from a gully hole opposite her dwelling. Resolutions in accordance with the disinterested objects of the meeting were passed with a single dissentient, a *young* gentleman, probably a relative of the *old* lady aforesaid, in which resolutions, while directing attention to a substitute for gully holes already suggested in The Builder, namely, columns in the streets to carry up the effluvia above the level of the chimneys—the medical men and others present merely protested against the continuance of old gully holes, or the opening of new, and requested that the Metropolitan Sewers Commission would put a stop to the nuisance.

New Books.

The Book of South Wales, the Bristol Channel, Monmouthshire, &c.: a Companion and Guide to the Southern Division of the Principality. By Chas. Frederick Cliffe. Second edition.—Hamilton and Co., Paternoster-row.

As many of our readers will be in Swansea this week, attending the meeting of the British Association for the advancement of science, and may feel disposed to see something of Wales before returning to their several homes, we cannot do better than point their attention to Mr. Cliffe's very nice little book, which has just reached a second edition. This is a very great advance on the majority of local guide-books; it is pleasing and attractive, as well as correct, and is adorned with maps and numerous wood engravings. Mr. Cliffe has paid considerable attention to the antiquities of the places named, and is always ready with a remark tending to induce their preservation. The following notes of *Merthyr* will be found interesting, and will serve as a specimen of the author's style.

"The town, which mainly consists of workmen's houses, is of an irregular form, and lies in the midst of a group of bleak mountains: Dowlais occupies the upper part, near the edge of a table-land, and is approached by a long street stretching, for considerably more than a mile, up a steep ascent beyond the Pen-y-darren works. This narrow valley is blocked up to a great extent by enormous black banks of cinders, &c., compared with which the largest railway embankments are mere pigmies. Additions are of course constantly being made to these banks, and it appears to a looker-on a hazardous operation to bring a horse and tram close to the edge of the lofty ends or 'tips' for the purpose of shooting the contents over the precipice. As the 'tips' in progress are formed of hot cinders, they are on fire from nearly top to bottom—glow like lava. Rivulets of *hot* water wash the bases of these gloomy banks. The scene is strange and impressive in broad day-light, but when viewed at night it is wild beyond conception. Darkness is palpable. The mind aids the reality—gives vastness and sublimity to a picture lighted up by a thousand fires. The vivid glow and roaring of the blast furnaces near at hand—the lurid light of distant works—the clanking of hammers and rolling mills, the confused din of massive machinery—the burning headlands—the coke hearths, now, if the night be stormy, bursting into sheets of flame, now wrapt in vast and impenetrable clouds of smoke—the wild figures of the workmen, the actors in this apparently infernal scene—all combine to impress the mind of the spectator very powerfully.

"A sketch of the processes carried on in the works would involve much dry technical detail. Merthyr is one of the great seats of the *bar iron* trade; and so extensive are the rolling mills, of late years almost exclusively occupied in the production of railway bars, that it has been found necessary to import a quantity of pig iron, chiefly from Scotland, to supply the demand, as well as large quantities of iron ore of various qualities. The exports at Cardiff afford an idea of the extent of the iron trade; but the quantity of iron produced is of course much larger. The chief firms sometimes accumulate large stocks, which they work up when times are very prosperous. The make of blast furnaces varies greatly according to circumstances, and according to the quality of iron produced. Thus a furnace that will make 120 tons of forge iron, is not capable of producing more than 65 tons of foundry iron. The average make of pigs at Dowlais (where no foundery is made), amounts, we believe, to between 80,000 and 87,000 tons of pig iron per annum: the average make of pigs at Cyfarthfa and Hirwain somewhat exceeds 60,000 tons. 'The strata of coal are of excellent quality, accompanied by parallel veins of argillaceous iron ore, which penetrate the mountains to a great depth, and yield upon an average about thirty-five parts of metal out of 100: the mines are worked by levels.' There is no *black band* here.

"In the spring of 1847, the rate of wages was nearly 40 per cent. higher than it was two years previously, owing to the advance in the

been the most perfect, in which were found, some years ago, three church bells and some bars of iron. A well, still in use, is a great curiosity, on account of its vast diameter." Some fresh discoveries have recently been made here.

value of iron; yet the workmen were dissatisfied, and there were many mutterings about a strike. The variation of wages in the mineral districts is very great. An average is struck every five or six years, at periods when wages are at the lowest; but it is so difficult to arrive at accurate conclusions, that we shall only give the highest rates. Colliers have earned from 3*l.* to 5*l.* 10s. per month, averaging about 1*l.* per week. Miners about 18s. per week. Furnace men at the blast furnaces, 20s. to 30s. Finers and pudlers, from 25s. to 35s. Ballers from 20s. to 45s., averaging 30s. Rollers, from 25s. to, in a few cases, *five pounds*, averaging about 50s. per week. The average earnings are considerably reduced through the 'hill country' of Glamorgan and Monmouth by intemperance, which leads to much loss of time."

Miscellanea.

PROJECTED WORKS.—Advertisements have been issued for tenders by 21st inst. for the execution of the several works for the completion of the superstruction of the West Derby Lunatic Asylum, Sutton; by 29th, for repairing, widening, &c., the county-bridge at Yalding town, Kent; by 14th, for the erection of a station at Lichfield; by 23rd, for building a sewer of 180 yards and making six gully shoots, at Birmingham; and by 21st, for a supply of nearly 20 miles in length of cast-iron pipes and appendages, of various sizes, for the Derby water-works.

COMPETITIONS, &c.—A premium of 100 guineas, or the usual commission, is offered to the 'architect or artist' who shall offer, by 18th proximo, the best designs for a public cemetery at Leicester; any other design to be purchasable by the committee for not more than 20 guineas.——A premium of 10 guineas will be given for the most approved plan of a savings' bank at Newbury, to stand on an arcade, and to cost not more than 1,400*l.*—— Surveys, maps, and valuations for the parish of Tutbury are wanted; tenders to be lodged by 24th inst.

STATE OF THE BOROUGH SEWERS.—We have received a copy of the report of the Surveyors of the Metropolitan Commission of Sewers, upon an inspection of sewers in the Surrey and Kent divisions, which, if all be true, shews a fearful state of things in that densely populated district. In many places the 'high levels' are mere open ditches running at the backs of the houses, the walls of which frequently form the sides of the ditch; while, not more than from 7 to 12 feet above, bed-room windows not only open right over the foul deposits, but themselves afford a common route of egress for the offal and refuse which are in constant course of being pitched into the 'high levels.' These, in other places, are actually covered by the cracked and open flooring of the rooms, through which the committee had no difficulty in espying the inmates from below. Innumerable privies, of the most sickening description, open directly into these ditches, and they constitute the main dust bins of the residents. As for the 'low levels,' into which the fluid contents of the 'high levels' are precipitated, it appears to be a fact that their falls are frequently from, in place of to, the outfall, so that they are more like elongated cesspools than sewers, and even where the fall is to the outfall, the inclinations appear to be of small amount, and the sewers are filled for many hours at high-tide with the 'back water' to a considerable distance from the outfall: at these times, of course, a constant deposit is choking up the outfall and the 'level.' And the worst of it is, that even though the 'low levels' had all good outfalls, scouring through the 'high levels' with a strong force of water, would undermine the houses and the ditches themselves; and besides, the accumulation of solid rubbish, ashes, &c., cannot be prevented unless the negligence and refusal of the dustmen to remove them be determinedly put a stop to. Pumping, as in cleansing cesspools, the officers think *might* be available, with a powerful apparatus, in the removal of the most offensive portion of the contents of the ditches into the low level, which otherwise they often do not reach at all. We wish to think that the surveyors have over-coloured their statement.

EXPLOSION AND DAMAGE IN REGENT'S PARK.—An extraordinary amount of injury to houses, windows, &c., occurred on Monday last, from an explosion at No. 60, Albany-street, originating, it is said, notwithstanding assertions to the contrary, in the mere leakage of a gas pipe for a short interval, after shutting the Berlin wool shop in which it took place. Mr. Loten, the brother of the occupier, and a Miss Bird, were blown through the parlour window, and another female was thrown to the opposite side of the street and killed, while the entire front of the premises was blown out, and for more than a quarter of a mile in each direction the effects of the shock are seriously exhibited.

THE MARTELLO TOWERS.—Referring to our mention of a Martello tower recently, a correspondent asks for some information concerning this class of structures. About 1804 Mr. Pitt formed the idea of putting the coast in a fit state to repel invasion. The chief object proposed was to prevent the landing of troops at any particular point. The forts not being liable to be attacked by infantry on the land side, it was only necessary to provide the most efficient means of sweeping the coast. The name as well as the form given to these forts is said to be suggested by one of a somewhat similar kind which stood in Martello Bay, Corsica, and which was taken by the British troops with great trouble and loss. The *Liverpool Albion* had recently the following particulars: — "The Martello Towers are all pretty much alike. They are circular, generally about 40 feet in diameter at the base, and the walls battez, or incline inwards to a diameter of about 30 feet at the top. Their height is about 30 feet. They are two stories high, the lower story being divided into chambers for stores, the upper into apartments for an officer and privates. A strong central pillar supports a bomb-proof roof. A high parapet screens the artillerymen. They are built of brick, the thickness of the walls varying from 5 to 12 feet, according to circumstances. The walls on the seaward side are always much thicker than towards the land. To support such an immense mass of brickwork the foundations had to be laid deep and wide, and they were so contrived as to include a reservoir for water. Generally these towers are close by the shore, but in some situations they are placed on a hill or point of land. In such positions they are surrounded by a deep moat faced with brick, and are entered by a swivel bridge. The doorway is always five or six feet from the ground, and where there is not a moat, the entrance is by a ladder that could be drawn up inside." Their ordinary distance apart is somewhat above a quarter of a mile.

BLIND PAINTERS.—A correspondent says: I send you the amounts of the various tenders for painting the outsides of forty-two houses in Royal Crescent, with the enclosure to pleasure-gardens. The difference for so simple a job is so great that it deserves a place in your paper:

Cooper	£386	0	0
Sloper	350	0	0
Cutbush	288	0	0
Woolley (accepted)	258	9	0

BLIND BUILDERS.—The following is a list of tenders delivered for repairs and painting at St. George's Church, in the parish of St. George, Southwark, to be done under Mr. H. Jarvis, architect:—

Burtwell	£925	0	0
Ward	801	0	0
Wilkinson	774	0	0
Rentmore	695	0	0
Hacker	610	0	0
Tombs	583	0	0
Harlands	567	0	0
Knight	555	0	0
Ellison (accepted)	499	0	0

A subscriber requests our insertion of the following estimates, delivered the 3rd August, to the churchwardens of the parish of St. Bartholomew Hyde, for certain repairs to their church:—

Gover and Son	£134	7	0
Brown	120	0	0
Fielder	119	10	0
Macklin	85	0	0
Filer	67	16	0!

A CHINESE FARM HOUSE.—The farm however small, is not so much the estate of an individual proprietor as the home of a family or seat of a clan, many generations of which under one acknowledged head or patriarch, are often congregated in the same dwelling. As the farm-houses in general differ but little from each other, except in size, I will endeavour to give the reader a description of one. In a small island, formed by a moat for the supply of water and the rearing of ducks and geese, well sheltered by bamboos and other trees, and nearly hid from view, stands the house, consisting of one floor only, built, when possible, of stone, in other cases of brick (of so superior a quality as to become an article of commerce with this country, and to find its way to Liverpool), or of wood. In the centre is a large hall, called the "Hall of Ancestors," common to all the family. In it are arranged the household gods (among which are invariably the Taouist divinities presiding over hearing and sight) and relics, such as an ancestral picture, in the most conspicuous part of the wall, on each side of which is an aphorism of Confucius, and in front a table bearing incense burners and fruits, as offerings, and ornamental porcelain vases, &c. The hall also serves for a drying-room for their seeds, and a depository for the smaller implements of husbandry. It is the scene of their entertainments, many of their festivals, and the adoration of the gods, but never used for culinary purposes. This forms the nucleus of the building: around it are the dwelling rooms of the different divisions of the tribe; and as often as a marriage takes place, an apartment is added for the newly-wedded couple, and, in time, the whole presents rather the appearance of a village than a single dwelling-house. — *Lieutenant Forbes' Five Years in China.*

KNOWLEDGE FOR THE WORKING MAN.—Mr. Editor: Allow me, as a friend to the working men of this country, to call your attention to the result of your and other exertions in forwarding their scientific education, as exhibited at the *Pear-street Working Man's Institution* on Monday last. This establishment was founded by Lord Ashley a few weeks back, and now numbers about 100 members. Their first lecture was delivered on Monday to a crowded audience, by Professor Partington, and it was mainly devoted to the phenomena of Electro-magnetism in connection with the new telegraphic arrangements. The lecture-room was filled by the members and their friends, who evidently listened with the deepest attention; and, at the close, a vote of thanks was unanimously passed. I trust, Mr. Editor, that you will be pleased with the result of an experiment which has been intended especially for the benefit of the humblest of the working classes, who pay but a few pence per month for all the advantages of the institution, and your insertion of this announcement may have the effect of insuring the establishment of similar institutions in other crowded neighbourhoods, where the inhabitants are too poor to become members of the regular literary and scientific establishments.—AN ARTISAN.

THE UNITED SERVICE INSTITUTION.—Capt. Siborne's fine model of Waterloo having, by arrangement, been presented to this institution, a new room is to be formed, we understand, in the upper part of the building, in Whitehall-yard, and will be appropriated exclusively to that and other memorials of the event. A lecture theatre is also in contemplation. The number of members is more than 4,000, but this is scarcely sufficient to carry out the views of the council. The institution has well established its claim for even more extended support.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION CONGRESS will commence at Worcester on Monday, the 14th, and terminate on Saturday. Tuesday will be appropriated mainly to the cathedral. On Wednesday there will be an excursion to Sudeley Castle, and on Thursday to Malvern, Pershore, and Eversham. A large number of tickets have already been taken, and everything promises a pleasant and profitable meeting.

NEW CHURCHES.—A Bill, prepared and brought in by Sir G. Grey and Mr. C. Lewis, M.P., continues the Royal Commission for building new churches until the 20th day of July, 1853.

COLOGNE CATHEDRAL.—The 14th, 15th, and 16th of this month are set apart for celebrating the 600th anniversary of laying the foundation-stone of this world-famous building. We understand that the whole body of the cathedral is carried to a sufficient height throughout to receive a provisional roof, above which the work can proceed further without interruption.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—A letter in the advertising columns of your last number, signed "Charles Francis and Sons," having reference to the results of "Experiments on Portland and Roman Cements," recorded in previous numbers of THE BUILDER, requires some remarks from ourselves, as the public would otherwise be greatly misled.

So far from allowing that our Roman cement was of inferior quality, we maintain that it was of the best manufacture, and that an explanation of the apparent difference in strength is to be found in a wholly different cause. Our blocks were tested at the age of thirty days, or one month, while those of Messrs. Francis were allowed to stand two to three months before being experimented upon.

The writers of the letter are pleased to say that in the case of the Portland cement, thirty days of age were essential to the result produced, but that with Roman cement it was unimportant, as that material "would have borne its same trial probably at the age of thirty hours!" We would inquire whether such assertion is grounded on any trial, or a gratuitous conjecture? We must suppose the latter; for we are able to state that a block of Roman cement at that age would hardly more than bear its own weight in lifting, and would crumble to pieces on the application of pressure.

The cement called "Nine Elms first quality" was composed of Sheppey-stone,—a most excellent article, and manufactured nearly exclusively by their house and our own; but the price of this cement, owing to the small quantities in which the stone is obtainable, prevents its use by builders on any other than a limited scale. It is not, then, in the market for ordinary purposes.

The main object in these experiments was to test the value of Portland in comparison with Roman cement for general building purposes, and we find that a block of Portland cement, mixed with three parts sand, bears a pressure of twenty-five tons, while Roman cement, with only two sands, breaks up at three tons, shewing a superiority of eight to one. We submit that this is the practical test, and would ask whether Messrs. Francis are prepared to shew a more advantageous result for their Roman cement, when so weakened with sand.

We have only to add, in conclusion, that the accounts of the experiments were collected by Mr. Grissell and ourselves at the time of testing, and have, of course, been subsequently agreed and compared with that gentleman's documents.

We are, Sir, your most obedient servants,

J. B. WHITE and SONS.

Millbank-street, Westminster,
August 8th, 1848.

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—In our notice of experiments upon cements, which appeared in your last number, we adverted to the very indifferent quality of the Roman cement which had been subjected to comparison with the new cement; we did not, however, for a moment consider that any other than the best articles which the parties could produce had been supplied for the purpose, for it would, indeed, not have been ingenuous had they done otherwise.

We now refer to the series published on the 22nd ultimo, in THE BUILDER, which gives additional evidence of the correctness of our conclusion. The fact is stated, that Roman cement and Kentish ragstone formed a joint that, at twenty-four days' age, required 1,455 lbs. weight to separate; that the same cement, with Portland stone, at the same maturity, was separated by 965 lbs.; but that, in other cases, the Roman cement joints being fifty-six days old, or more than double the first experiments, they separated with materially less weight; and a third experiment, with the same cement, shews that, as it grew older, it was growing weaker. Now, it is a well-known fact to every builder, and it is scarcely worth while to recall it, except in confirmation of our previous remark, that inferior cement is apt to, what is technically called, *give*—that is, after hardening to a certain extent, it relaxes its indurating and adhesive properties, and becomes daily more and more weak, until it frequently crumbles of itself: this may occur after an interval of a few weeks, or it may be a few months, but the difference between good and bad Roman cement is that, whilst one description holds firmly, the other does not; so that the comparison instituted between these different cements cannot, on reflection, by the manufacturers themselves, be deemed of any value in the light in which they wish to place them.

The second series of experiments with Messrs. White's cements were not open, like those invited by Mr. Grissell, to competition, and therefore we are only able to quote in juxta-position what we know to have been done on a previous occasion, and publicly done. The analogous experiments are with Bramley-fall stone and Kentish rag-stone; the latter being a material to which Portland cement, as those gentlemen tell us, will not adhere; and which the account given in your paper describes as "refractory and little absorbent." Sir Charles Pasley, however, records several trials of tearing Kentish rag blocks asunder, of which the joints were made with Roman cement of our manufacture: in one experiment, it required a weight of very nearly four tons to the superficial foot to accomplish it, our cement not having *given*; the age of the joint being forty-five days. Now if Portland cement make a firmer joint with Portland stone than with rag-stone, as the manufacturers of that cement assert, we think it not unfair to say, that as *good* Roman cement is to the new cement when used with Kentish rag, so it is to the new cement when used with Portland stone; and the advantage will be prodigious of using an old and well-known article: at all events, nothing is yet shewn to the contrary of this. Of a joint with Bramley-fall stone and our Roman cement, Sir Charles's experiments result to his mind in the opinion that the cement "is at least as strong as the stone, if not more so." All experience, however, proves that Kentish rag is a very fit material to lay in cement; that its adhesion is fully equal to that with bricks; and therefore, if instead of calling the stone *refractory*, we were to call the Portland cement *capricious*, we should say what is known to be the fact. This cement is, nevertheless, an improvement upon the article called "Frost's Cement," although intrinsically the same, and made of the same ingredients; but experience of the latter material has caused its rejection altogether from the market. But if it be necessary to wait thirty days to attain to the effective strength of Portland cement, of what use would it be in such a work as the Thames Tunnel, where it is known that all sorts of cements were experimented upon? of what use in underpinning at such works as the Custom-house, London? or in the exposed foundations of the Britannia Bridge across the Menai Straits, in a strong current, and where, as it recently happened, the storm pelted pitilessly on the Roman cement when only a few hours' old? or, in any such works, every day required by civil engineers? The comparative experiments to which we have at so much length referred, lead to the inference that their Portland begins to be effective exactly where their Roman cement begins to let go its hold; indeed they prove this. And we have simply related existing evidence that such is not the case when compared with good Roman cement. Further we may add that the experiments made by Sir Charles Pasley, highly satisfactory as they prove, were not made with the article described by us in your last number as our "first quality."

We are, Sir, your obedient servants,

CHARLES FRANCIS AND SONS.

Nine Elms, Aug. 7, 1848.

TENDERS

Delivered on the 27th ult., for additions to Orsett Union Workhouse; Mr. T. Smith, of Hertford, Architect.

J. Coote (Witham)	£2,290 10
Armstrong and Smith	2,166 0
Messrs. Cribb and Davey (Greys)	1,974 4
R. Lamprei	1,898 0
Messrs. Curtis (Stratford), accepted.	1,854 0
Wm. Binder	1,740 0

The quantities were supplied by Mr. Watson, of Camberwell.

For Parsonage House at Sydenham; Mr. Moffatt, Architect.

	In Bath Stone.	If in Caen Stone.
G. Mansfield and Son	£1,330	1,350 0
W. C. Perry	1,320	1,310 0
Lock and Nesham	1,290	1,370 0
Glenn	1,274	1,312 0
T. Howard	1,223	1,243 0
Kelk	1,222	1,244 10
Patrick	1,177	1,192 0
Cooper	1,168	1,250 0
Goodwin	1,049	1,059 0

TO CORRESPONDENTS.

"*Stains from Marble.*"—A correspondent says, "I should be much obliged if you or any of your numerous readers could inform me how to take out the stains of oil from a white statuary marble chimney-piece. The marble was covered, as usual, with soft soap and Fuller's earth, but it is supposed that there must have been oil in the mixture, or the brush with which it was laid on."

"*Received.*"—"E. N.," "W. A.," "J. B. H.," "H. W. G." (shall not be lost sight of); "J. P." (next week); "W. G.," "Architectural Student," "C. C. C." (shall appear); "W. D.," "S."

"Society for the Improvement of the Condition of the Labouring Classes.—Series of Designs for Double Cottages for Labourers' Families." (Exeter Hall).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

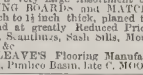
REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory, the first of its kind ever established, a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and has constantly in stock a large and very general assortment of Prepared Floor Boards on I Matched Boarding, lined to a parallel breadth and thickness, and fit for immediate use; also a variety of architraves, mould ings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs: Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



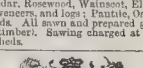
MUIRS PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For sale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad street to No. 11, GRACECHURCH STREET, CITY.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory 18, Aldermanbury-street, Wakworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per in. and upwards.
Bright ditto with Black and Bright Bars, 2 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRONMONGERY WAREHOUSE, 28, WEST SMITHFIELD.

Register Stoves, 6d. per inch.
Elliptic Stoves, 2½d. per inch.
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 7l. 10s.
Drawing-Room Fenders 11s each, usually sold at 1l. 1s.
All Goods Warranted.

J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers at Dudley. Established 1823.

TO BUILDERS, CARPENTERS, &c.

THE undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.	
Cast Butts	11s.	14s.	24s.	per gross.
Cut	4d.	6d.	10d.	20d. } per
Clasp	6d.	8d.	1s. 4d.	1s. 10d. } 1,000.

Nos.	3	4	5	6	
Patent Line	6s. 6d.	7s. 3d.	9s. 10d.	12s.	per gross.

	2	2½	3 Inches.	
Rain Pipe	1s. 1d.	1s. 3d.	1s. 5d.	per yard.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 7d., 8½ per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, Best Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 12s. per cwt.
Best Town Glue 32s. Do. Scotch, 53s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. B. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

N.B Warehouse closes at Seven o'clock.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 0s.	£3 15s.	£3. 16s.	£4.	£4 10s.

Henly's Patent Improved, with cast Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY ROAD. N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.

P. FOUCARD, quai des Abattoirs Caen (propriétaire de Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers. Contracts taken for any quantities.

Orders received by Mr. BASCHET, at 39, Stoney-street, Borough Market. Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE at his Wharf, being prepared by constant arrivals to execute orders to any extent on the most advantageous terms. Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf as above, also at the offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

CAEN and AUBIGNY STONE.— LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, [illegible] durability, ranks amongst the first for [illegible] purposes [illegible] and general [illegible]. L. B. and Co. have [illegible] supplied large quantities to various parts of the continent for public works, light-houses, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained; Office, 18, Southwark-square, Southwark.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

ANSTONE STONE, used in the erection of the NEW HOUSES OF PARLIAMENT.

Mr. GRISSELL has the honour to inform Architects and gentlemen engaged in Building, that in consequence of having nearly completed the above works, he is at liberty to supply the Anstone Stone for [illegible].

The price at which it can be delivered in London does not exceed the price of Portland stone. As to quality and colour, the experience of the past seven years will fully attest its superiority.

It is also preferable for staircases and rubbed landings, for which purposes it can be supplied in any sizes; and as regards cost (with the exception of common paving), it is not more expensive than "York."

In addition to the New Houses of Parliament, Mr. Grissell takes leave to refer to the Museum of Economic Geology, just erected in Piccadilly, [illegible] Office in Fleet-street, and to the New Hall in Lincoln's Inn Fields.

Mr. Grissell desires also to state, that the stone, which he has now the honour for the first time to offer to the public, and which has been [illegible] from the estate of his Grace the Duke of Leeds, and that Mr. Grissell alone possesses the right of [illegible] this stone.

11, New Palace-yard, Westminster.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such a manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from [illegible] upwards.

MONUMENTS and TOMBS in great variety of design.

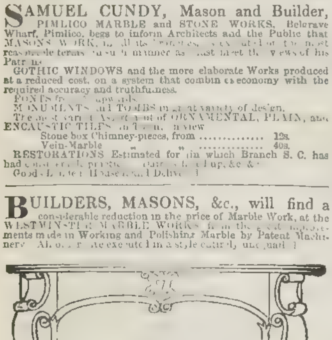
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES on [illegible] view.

Stone box Chimney-pieces, from .... 12s.
Vein-Marble " " .... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice) [illegible], &c. &c.

Goods Lifted, Housed, and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery. Also, [illegible] executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.

Westminster Marble Company, Earl-street, Millbank.

TERRA-COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has recommenced the manufacture of that invaluable material, which has been so successfully employed by the most eminent Architects and others in the adornment of [illegible] nearly 100 years has proved the [illegible] of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

WELSH SLATE SLABS of the Finest Description, and planed both faces, supplied to the Trade at the same prices that rough (self-faced) Slabs are being sold at the principal Slate Wharfs in town. A large discount is also allowed, or, in lieu of discount, parties ordering 150 feet and upwards may, if they prefer it, have the Slabs delivered, carriage free, to any canal or railway point within fifty miles of London.

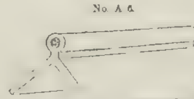
N.B. Works correspondence direct from the Quarries. Enamelled Slate Chimney-pieces, Slabs, Mural Tablets, Baths, Fonts, &c. &c.

Address, Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place.

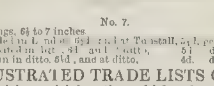
WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavement of the best description, at 1s. 2d. per square foot; "Seconds," at 9½d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere-road, Waterloo-bridge, and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193a, Piccadilly, [illegible] Mr. Robert S[illegible], who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193a, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Limdavady, County Derry.



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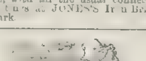


No. 7.

Wings, 6½ to 7 inches.
Rolled in London 6½d., and at Tunstall, 5½d. per foot.
Rebated in ditto, 6d., and at ditto, 5d. ditto.
Plain in ditto, 5½d., and at ditto, 4d. ditto.

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting several and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and despatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and towns of the London or Staffordshire prices are wanted.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sinks and Stable Traps and Gratings, Air Bricks, Coal Plates, &c. Gas and Water Pipes from 1½ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable [illegible], which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner. BURBIDGE and HEALY, [illegible] Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S improved method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, [illegible] in the most economical and efficient manner. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were erected are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved [illegible] may be seen in operation upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of lightning. It possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg to call the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Fastening and Cill Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Floating Pumps,
Patent Wire Sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH, 69, Princes-street, Leicester-square, London.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements. These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the best material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as brick, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufac- tured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years, in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement: it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence that ever the climate is subject to [illegible]. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable [illegible]. Orders received by Messrs. ROBINS, ASPDIN, and Co., at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public, is earnestly solicited to the many advantages offered by the celebrated Materials which, for their appearance, durability, imperviousness, utter [illegible] to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shown by the numerous testimonials received from public bodies and private individuals of the first importance. Prospectuses and particulars may be obtained from the sole agent, PHILIP HAKE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike [illegible] other cements, its hardness is uniform through out its entire thickness.

3. Its surface [illegible] may be made equal to that of the finest marble; NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling [illegible].

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and ornamental [illegible] for which purposes it has been extensively applied by Mr. Thomas Cubitt on the Grosvenor estate, &c.

For the above purposes it possesses great advantages over wood, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 185, DRURY LANE.

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The Builder.

No. CCLXXXIX.

SATURDAY, AUGUST 19, 1848.

ON Monday last the members of the British Archæological Association mustered very strongly in the ancient city of Worcester, the *Wigra-Ceastre* of the Saxons, and were received by the corporation with the greatest consideration. Cromwell made Worcester historical land, and the cathedral has many points of great interest, but with these exceptions the city offers few objects for examination or matters for investigation, so that it may be subject for inquiry to some on what grounds, excepting the kindly offers of co-operation on the part of the authorities, the association selected it so early as a place of meeting. The successful issue of the congress, however, serves to shew that the determination was right, and so stops all cavil.

The old churches have been, for the most part, pulled down and rebuilt, and those few portions of the original buildings which remain have been so sadly disfigured, or are otherwise in so bad a state, as to offer little for the consideration of the architectural antiquary. They were mostly constructed of the treacherous red sandstone, one of the worst of the stones used for building purposes by the mediæval architects, and gradually fell to pieces. Desire to assimilate in colour, when parts of the old work remain, is the only excuse which can be made for those who restore buildings with the same unsound material.

The only ancient church remaining in Worcester which has picturesque features, or may serve to suggest an arrangement, is that of St. John, Bedwardine, which lies on the other side of the Severn, a little out of the city. Of this we give an engraving in our present number.* It has the peculiarity of exhibiting no less than eleven gables, and has a very broad square tower of the late Perpendicular period, with panelled battlements, pinnacles at the four angles, and a fifth pinnacle from the apex of the roof which covers it. The south porch seen in the view was added about eight years ago, when various alterations were made inside. The church is an early foundation: some Norman columns and arches remain on the north side of the nave, but the latter have been cut away and altered into pointed arches, to enable the occupiers of the gallery formed in the low aisle to see into the body of the church.†

Near St. John's is a melancholy specimen of a compo Norman church, called St. Clement's, put up in 1823.

The view of the town from the bridge which you cross to reach St. John's, is very good, and the cathedral, placed on elevated ground, sloping down to the river, tells well,—the mutilations to which it has been subjected, the variety in the styles, and the stone used, not being observable. The high tapering spire of St. Andrew's, built in 1814, also aids the effect here, although we cannot say much for it when looked at nearer. According to "Deighton's Guide to the City," the tower of St. Andrew's, is 90 feet high, "and spire 55 feet 6 inches: it is 20 feet in diameter at the base, and 6¾ inches at the top."

We did not observe any new buildings in progress, with the exception of *two* Corn Exchanges. We said last week there was a run upon Corn Exchanges just now, and here we have a fresh illustration of the fact. One of them, which is in Broad-street, has a recessed porch, with four attenuated Doric columns within it, two on each side of the doorway, without *entasis*, the absence of which, with their disproportioned height, gives them a miserably pinched-in appearance. The columns carry a hybrid entablature and attic surmounted by a real plough, with compo sheaves of corn on the face of dies in the attic. Ranging with the attic on each side is a balustrade. It would be unfair, perhaps, to deduce an opinion on the state of architectural knowledge in Worcester from this one curious specimen of the art. The second Exchange (in the corn market), is not sufficiently advanced to justify comment, further than saying this is perhaps fortunate for the architect.

At the opening meeting in the Guildhall, on Monday evening, the mayor, in robes of office, introduced the president, Lord Albert Conyngham, with expressions of the pleasure afforded to the city by the visit. The president, who, with his nice lady, has exerted himself greatly to ensure the success of the meeting, said, in the course of his address,—

"The study of antiquities has engaged the attention of mankind from the earliest period of history. With the scientific or literary inquirer, the 'Past' must always have excited the warmest attention; the universal tendency of the imagination when cultivated and refined being to invest with importance every relic drifted down from an ancient world;—thus we find it recorded in the history of the fine arts, that the first rudimental attempts of sculpture, blocks of wood or stone, hewn into the rudest likeness of the human form, were preserved in the Grecian cities with the utmost consideration; but we find that not only a general love for the monuments and arts of the past existed at a very early period, but that there existed regular professed antiquaries,—there was a profession of men instituted in the principal Greek cities, whose business it was to point out to all inquirers the peculiar wonders of their locality, to explain ancient inscriptions, and to exhibit relics. Herodotus, who breathed the genuine spirit of antiquity, and who effected with grace and ease in narrative the difficult and delicate transition from the Mythic to the Historical, is full of allusions to the relics of the past. In Egypt, from the days of Menes or the Shepherd Kings, the love of antiquities was cultivated with a species of veneration bordering upon idolatry, and Plato informs us that to such an extent did this love of the past proceed, that both Egyptian sculptors and painters were by law forbidden to change or modify in any respect the forms of the ancient statues and paintings,—nay, that in his day there were works in the temples ten thousand years old. The same feeling was predominant in ancient Rome, and, there can be no doubt, that at an early period Antiquarian Societies in some form or other were constituted, though under the empire the reigning monarch watched every association with a jealous eye. Of the formation of Antiquarian Societies we have no certain data previous to the sixteenth century; that many existed earlier, especially among the ecclesiastics of the day, there can be little doubt, although the superstitious veneration of the supposed relics of saints must have been injurious in a high degree to the preservation of whatever was really curious or valuable. We first read of an antiquarian society being founded by Archbishop Parker, in the year 1570; about twenty of the members were accustomed to assemble from time to time in the house of Sir Robert Cotton;—in 1589 the society petitioned Queen Elizabeth for a building and a charter, but with what success we know not; the reputation of the society, however, gradually increased until it excited the fears of James I., who, alarmed lest it should discuss public transactions, dissolved it. At the commencement of the eighteenth century it again revived and grew into such importance, that in 1751 the members obtained a charter of incorporation, the power to constitute statutes, and to act under a common seal. The original object of their inquiries appears to have been British antiquities and history, although the enlarged operations of the society now embrace every subject of ancient and mediæval relics and traditions. From the cultivation and extension of this antiquarian taste has sprung our modern institutions of similar tendencies. Of these, the Archæological Association may boast of the widest range and the loftiest objects. Its peculiar constitution, its open meetings, its utter rejection of any spirit of exclusion, the zeal and promptitude with which at all times its members are ready to assist every inquiry, and to aid, as far as lies in their power, the prosecution of every laudable design for the discovery and preservation of the relics of mediæval or ancient times,—cannot fail to render it one of the most useful societies of the present age. Its annual congress, whilst offering variety and amusement, cannot fail to increase and enlarge the field of its utility, by bringing various minds into contact, and by associating together persons of intelligence, who might otherwise have never met. It will then, upon the return of the members to their own localities, spread a love of whatever is curious or interesting that has been preserved to us from the ravages of time. The historian is deeply indebted to the antiquary, and to those most curious and interesting analogies by which genius and research frequently throw new lights upon the characters and motives of the distinguished actors of the past. The beautiful architectural remains, the exquisite specimens of the Cameo and Intaglio, the artistic skill displayed in the cutting of gems, the graceful designs and formal beauty of some of the antique pottery, the sharpness of outline, correctness of drawing, and, above all, the beautiful imagery upon the reverses of coins, which have descended to our times, can only be thoroughly appreciated and valued by those whose taste has been refined, and understanding cultivated, by antiquarian research. Of the encaustic paintings of the ancients we know little; their mosaics, however, have survived, and many specimens, after the lapse of twenty centuries, remain as fresh and fair as when they were first laid down. It is indeed delightful to wander back to that mysterious past, and to retrace the way to those lands of song and art, by the vestiges of such beautiful relics as these, until we can appreciate the feelings of him who said 'There could be no more divine pleasure on earth to the man of genius and cultivated understanding, than to hear the dramas of Sophocles recited by the side of the Apollo or the Laocoon.' It has been prettily said in the preface to 'Brandt's Popular Antiquaries,' — 'Rugged and narrow as this walk of study may appear to many, yet, fancy opens from hence to prospects enriched with the choicest views of her magic creation;' but whilst pleased with this conceit, we must remember that 'truth,' as Dr. Johnson tells us, 'is the intellectual gold which nothing can destroy.' Yet truth like gold may exist in alloy, in combination with foreign substances; and as it is the office of the chemist to separate and refine the ore, so it is the province of the archæologist to investigate and restore the other to its natural purity and beauty, free from all imperfections, uncorrupted by any alloy."

After a letter from Mr. Ledsam, the high-sheriff, had been read, and some brief observations offered on the principal objects exhibited in the temporary museum of the association, Mr. Fairholt, F.S.A., read a paper "On early Monumental Effigies previous to the time of King John, as illustrative of that Monarch's in Worcester Cathedral," which we give in full elsewhere.

Mr. Roach Smith remarked, at the close of the paper, that no wonder could be expressed

* See p. 402.

† Bishop Lyng, on the 17th of February, 1371, ordered that the church of Wyke should be taken down, and that the church of St. John, in Bedwardine, till then a chapel of ease to Wyke, should for the future be the parochial church.

at finding ancient remains being destroyed or made away with in obscure buildings, when it was known that the monument of Ann, Queen of Denmark, had been removed from Westminster Abbey within a very few years and sold. It was surely time that Government should take some steps to ensure the preservation of our ancient monuments.

Mr. Thomas Wright, M.A., afterwards read a paper "On the Romantic Materials of History; illustrated by the Autobiography of Egwin Bishop of Worcester;" but following the plan we have pursued on other occasions, we must confine ourselves principally to notices of some of those papers which relate to architectural antiquities, the arts, and the general question of the preservation and study of our ancient monuments.

The illustration of the cathedral was undertaken, under some disadvantages, by Mr. Ashpitel, F.S.A. (Mr. Cresy, who had on previous occasions performed this duty, being unable to attend), and the association owe him thanks for much painstaking. Tuesday morning was given to this matter.

The salient features offered by the cathedral are a curious crypt under the choir (presenting a semicircular east end, small columns, with cushion capitals exactly like those in the crypt of Gloucester Cathedral, and rubble vaultings, at the east end very curiously groined), a very fine Early English choir, with eastern transepts of the same character; the western, or main transepts, Norman, much cut about and altered; and a nave of the Decorated period, but presenting, at the extreme west-end two compartments on either side, and the front wall, though sadly mutilated, of semi-Norman work. Most of the window-openings are filled in with perpendicular tracery, and the modern architects employed from time to time deserve but little credit for their work. Externally, this cathedral was notable, in old times, for very lofty spirets on turrets flanking the ends of the transepts and elsewhere, in addition to the central tower, but most of these have given place to pinnacles of a very different appearance.*

Spite of these disfigurements, it has many beauties and well deserves better terms, as Mr. Ashpitel very properly remarked, than have been applied to it by some who have written about it.

Its reputed history may be briefly outlined thus:—Bishop Oswald, in Saxon times, 983, built a cathedral, which, in 1041, was burnt, with part of the town, by the soldiers of Hardicanute. In 1084 Bishop Wolstan began a new cathedral "from the foundation," either to the south of Oswald's church, as is stated, or on the site of it, and finished it in 1096. It was partially burnt in 1113, also in 1202, between which periods the great tower fell, and it was newly dedicated in 1218. In 1224 Bishop Blois commenced the rebuilding of a part of the cathedral; in 1317 the vaulting of the north aisle of the nave was done, and in 1374 the present tower was built. The first questions that arise are, did Wolstan build on the site of Oswald's church? and, if so, is the present crypt part of the latter, and, therefore, Saxon work?—the old story.

Mr. Ashpitel made a fair fight for the Saxons, premising, though, that he was rather saying what might be advanced in favour of the early date than giving his own opinion. For our own parts we see no reason whatever for believing that any of Oswald's church remains. The crypt is doubtless part of Wolstan's church: the transition Norman work, at the west end of the nave, may belong to the rebuilding after the fire of 1113, and the choir to the beginning of the thirteenth century, after the fire of 1202. The nave must belong to the next century, and shows no work which can with reason be ascribed to the date at which Blois is stated to have begun it.

An examination of the cathedral and the adjoining buildings disclosed many points of interest, to which we will refer next week, when we can write less hurriedly than we are now doing, amidst the bustle of "the Star and the Garter," the "looking in" of friends, and the general excitement which prevails. In the evening of Tuesday, at the Guildhall, Mr. J. M. Gutch, F.S.A., read an account of Queen Elizabeth's visit to Worcester (August 13th, 1575). Mr. J. R. Planchè, F.S.A., read an amusing paper "on certain peculiarities in the ladies' head-dresses of the fourteenth century," illustrated by a series of sketches, in part from tombs in the cathedral. A paper, by Mr. J. O. Halliwell, "on the custom of Catherning, as formerly practised in Worcestershire;" and an account of "Early Remains in the Channel Islands and in Wales," by Dr. Lukis, were also read.

The excursion, on Wednesday, to Sudeley Castle, the seat of the Messrs. John and William Dent, was very numerously attended, and its hospitable owners afterwards entertained the whole of the visiters, numbering from 170 to 200, in a princely manner, expressing the pleasure with which they received the association—with a hearty English feeling and a good appreciation of its purpose.

The Dean of Worcester, in responding to a toast, stated his belief that the visit of the association, and their remarks on the cathedral, would raise the estimation of that structure in the minds of its custodians, and lead them more carefully to preserve and renew it. Lord Ellenborough, Lord Albert Conyngham, the High Sheriff of the county, Colonel Bell, Sir Henry Dillon, and others addressed the guests.

Sudeley Castle, commenced about 1442 by Sir Ralph de Boteler, and continued through the following century, was a fine castellated mansion, with two spacious quadrangular courts, embattled towers, and a chapel. Fuller says that it was, "of subjects' castles the most handsome habitation, and of subjects' habitations the strongest castle," a description which, something analagous to a modern and less flattering expression which terms a contemporary, "an architect amongst antiquaries and an antiquary amongst architects," shews it was built more for peace than war.

It was here that Katherine Parr, widow of King Henry VIII., and afterwards wife of Sir Thomas Seymour, died, and was buried. In 1644, the Parliamentary troops, who were then pursuing the king to Worcester, destroyed the building, and the poet was able to sing,—

> "Thy sun is set, thy battlements are fallen,
> And sunk to ruin thy baronial hall,
> Once far-famed Sudeley!"

The present proprietors became possessed of it in 1837; and with the aid of Mr. Eginton, the architect, have restored and fitted up for habitation a considerable portion of the structure, and are gradually getting together a number of curious things, in the shape of pictures and carved furniture.

The chapel, which is a late specimen of Perpendicular work, has a square turret, almost tower, growing out of the gable of the west wall, and forming a remarkably picturesque feature.

A meeting was held in the evening at Worcester to read papers,—but of this we must speak hereafter.

* The view of the exterior, in Mr. Britton's excellent volume on this cathedral, shews these spirets.

ON EARLY MONUMENTAL EFFIGIES

PREVIOUS TO THE TIME OF KING JOHN, AS ILLUSTRATIVE OF THAT MONARCH'S IN WORCESTER CATHEDRAL.

THE monumental effigies which time and the hands of the spoiler have spared to us, are among the most valuable bequests of our ancestors. They appeal at once to the historian, the genealogist, the antiquary; to those who direct their research to the early state of the arts, and to those who study costume. "In their habit as they lived," faithfully rendered in the minutest point, do we again see the heroes, the sages, the royalty of past times, as vividly represented as the state of the art of sculpture, at so early a period, could enable the artist to execute them. Quaint and grotesque they may appear to the eye educated in observance of classic elegancies, but this is the fault, in many instances, of the age, rather than the ability of their fabricants,—a fault we may the more willingly excuse, as the simple love of truthful delineation, which principally guided the hand of the artist, has preserved to us such faithful counterparts of those "whose actions stirred the nations;"—that, in interest and value, our more modern classic monuments sink into insignificance as counterparts of the men they commemorate, and, in many instances, become ludicrous. The knights of the holy wars—those who secured our liberties at Runnymede, or fought at Cressy and Poictiers—appear as on the battle-field

> "Laid down to rest with corslet laced,
> Pillowed on bucklers cold and hard."

The imagination is not diverted, and common sense offended, as in St. Paul's among the modern tombs, where captains at Waterloo, with naked limbs and Grecian swords, literally die in the arms of stone Victories, designed after Roman bas-reliefs; nor are we called upon to acknowledge such resemblances as the effigy of Dr. Johnson must bear to the real man: the one walking Fleet-street in broad cloth and buckles, the other standing, naked on a pedestal, in humble imitation of the Farnese Hercules. To no such anomalies will I direct your attention, but to the truthful relics of earlier men, one of the most truthful and interesting of which remains in the cathedral of Worcester.

The earliest monumental effigy of an English sovereign in this country is that of King John in Worcester Cathedral. Our earlier kings were either buried in their French dominions, or interred without sculptured effigies, or their tombs have been destroyed. At Fontevraud, in Normandy, existed before the first French revolution the effigies of Henry II., his queen, Eleanor de Guienne, and Isabel d'Angouleme, the queen of John. These effigies, as well as the abbey which enshrined them, were reported to have fallen beneath the devastating hands of the revolutionists. We owe to the zeal and perseverance of a lamented artist, Charles Alfred Stothard, their resuscitation in delineation. He hazarded a journey to Normandy in order to ascertain their fate! "An indiscriminate destruction, which on every side presented itself in a track of 300 miles, left little to hope on arriving at the Abbey of Fontevraud; but still less when this celebrated depository of our early kings was found to be but a ruin. Contrary, however, to such an unpromising appearance, the whole of the effigies were discovered in a cellar of one of the buildings adjoining the abbey. Since this period another effigy of Richard I. has been found in the Cathedral of Rouen to which he had bequeathed his heart, and where it was interred, and over which this effigy was placed. All these figures are more or less mutilated; and though of better execution than that of King John, do not possess so entire and perfect a resemblance as that curious monument."

To point out fully the curiosity and interest of the tomb of King John, it will be necessary to take a brief survey of the history of monumental effigies previous to this period.

The earliest sepulchral monuments in this

country are the stone coffins, covered with ridge-shaped slabs, which were frequently decorated with fanciful ornament; and were common in England and on the continent. It was a custom of considerable antiquity to sculpture them with a cross, and several such stone coffins of an enormous size and weight have been recently discovered in the cemetery of St. Matthias, near the old Roman City of Treves, and which are believed to be coeval with early Christian times. Saxon tombs of this kind are rare in this country, but one of a remarkable and highly enriched character has been discovered, in 1841, at Bakewell, in Derbyshire.

These stone coffins were cut from massive blocks, hollowed to receive the body; they were narrower at the feet than at the head, cut square upon the shoulders, and having a hollowed recess for the head: they were covered with a ridged slab (*en dos d'âne*), which was succeeded by a flat one at a later period. Their introduction is lost in the distance of time; they may be traced from as early a period as the ninth century, and were in general use in the time of Henry III., after which they are of rare occurrence. At an early period (and among the poor until the fifteenth century), the body being swathed in cerecloth, was committed at once to the earth. We are told by Matthew Paris, that the monks of St. Albans, in the Norman times, were all buried without coffins, till Warin, the twentieth Abbot, who died 1195, ordered stone coffins to be used, as more decent.

These coffins were generally placed with the lid even with the pavement of the church, so that they in fact formed a part of it: at other times the entire coffin reposed upon the surface itself, in the manner of that called the tomb of William Rufus, in Winchester Cathedral; the sides being sometimes ornamented with carving. The coped lid, which had been formed on the Roman model, served at once for a cover and memorial of the deceased. The coffin lid of Matilda, queen of William the Conqueror, at Caen, in Normandy, has a long Latin epitaph engraved all round the edges and up the centre. Others are ornamented with crosses, and in some later instances the insignia of the deceased. The sword for the knight, the horn for the hunter, the hatchet for the carpenter, the key for the blacksmith, the shears for the clothier, the knife and colander for the cook, the chalice, crozier, and mitre, for the ecclesiastic,—but these belong generally to the fourteenth century, though they occasionally range from the twelfth to the fifteenth.

The slabs which covered these coffins, when flat, were decorated sometimes with the figure of the person buried within; but we meet with no instances earlier than the twelfth century. The figure was carved in very low relief, in a sunk panel, the figure in the highest part of its surface being only level with the face of the stone, and thus preserving almost the effect upon the spectator of looking into the coffin and viewing the body within. One of the earliest and most curious instances, is in the cloisters of Westminster Abbey, and it covers the remains of one of the early Norman abbots. The figure holds a crozier and chalice, and lies in a recess cut exactly like the interior of stone coffins of the period, with a circular recess for the head. An improvement appears in the coffin lid of Roger, Bishop of Salisbury (who died 1139), on which the Bishop appears in full pontificals, in a niche, surrounded by elaborately enwreathed ornaments. But the slab which covered the mortal remains of Jocelyn, also Bishop of Salisbury (who died 1148), and which, with the other must named, is still preserved in Salisbury Cathedral, exhibits the effigy, as it were, emerging still more from the stone, for although the figure is still sculptured in low relief, it is not sunk in panel or niche, but rises from the surface freely.

By the middle of the twelfth century the effigy, although still placed on the coffin lid, and being sculptured with it from one solid piece of stone, began to represent the deceased freely, as if lying on the surface of the tomb. The royal effigies at Fontevraud are so sculptured, and the fine series of military figures in the Temple Church, London, which have been satisfactorily proved, during the recent reparations, to have been placed immediately over and upon the coffins containing the deceased, the edges of which were level with the pavement.

There is one very interesting point in connection with all these early effigies, which is, that they are not only faithful representations of the persons they are intended to commemorate, but they resemble the bodies which lie below, precisely as they appeared when laid in the grave, excepting only those effigies which represent the deceased in armour.

It had been the custom from the earliest period in Britain to bury the dead with the clothes, personal ornaments, arms, or favourite portions of personal property which belonged to them. The Romans burnt the body; the Saxons buried them fully armed and equipped, and often richly dressed, and with much valuable jewellery upon them. The Normans seem to have followed the same course; and an examination of their early sepulchres goes to prove that the dead were dressed in the garments they wore while living, and if holding dignified offices, then in their dresses of state.

Ecclesiastics were buried in full pontificals, with the pastoral staff and chalice, and entire insignia, even to gold rings and other valuables which contributed to their worldly dignity. The abbots of Evesham who died in the twelfth century were found thus interred; and the bishops of Hereford as late as 1516. Monsieur Lenoir has described the contents of the tombs of the abbots Morard and Ingou in the Abbey of St. Germain-des-Prés. Morard died in the year 990, and his skeleton was dressed in a long woollen alb or tunic of a deep purple colour, ornamented with embroidery, over which was a wide and long chasuble, the stuff being a very strong figured satin, which appears to have been of a deep red colour. Abbot Ingou, who died 1025, was also found clothed in a garment of dark violet-coloured taffety, similar to the habit of the Benedictine monks, edged with a broad border of worked cloth, the ground of which was of gold. The mitre was covered with silk; the gloves upon the hands were well preserved, and were formed of silk tissue, open worked. A ring was upon the finger, being set with a turquoise. The stockings which covered the leg were of dark violet-coloured silk, ornamented all over with a variety of elegant designs, in polygonal shapes, upon which were worked greyhounds and birds in gold: and which are believed to have been the sumptuous and highly valued work of the eastern manufactures.

In the same manner were the bodies of our early kings consigned to the earth. Matthew Paris tells us that when Henry II. was taken to Fontevraud to be buried, "he was arrayed in the royal vestments, having a golden crown on the head, and gloves on the hands, boots wrought with gold on the feet, and spurs; a great ring on the finger, and a sceptre in the hand, and girt with a sword." Stothard, who has drawn and engraved this effigy, remarks, that when we examine it, we cannot fail to remark that it is already described by this account of a contemporary and eye witness of the body as prepared for the grave; the only variation being in the sword, which is not girt, but lies on the bier, on the left side, with the belt twisted round it. "It therefore appears," he adds, "that the tomb was literally a representation of the deceased king, as if he still lay in state. Nor can we, without supposing such was the custom, otherwise account for the singular coincidences between the effigy of King John, on the lid of his coffin, and the body within it, when discovered a few years since."

In the monumental effigy of King John, the city of Worcester possesses at once the earliest regal effigy in the kingdom,—a true and undoubted authority for Royal costume, a perfect representation of the body as buried beneath, the best example of the progress of the art of sculpture at that early period, and a historic momento of one of our most remarkable rulers. The effigy is carved in grey marble, and was originally the lid of the stone coffin which covered his remains. In his last moments, he appears to have taken hurried steps for his "soul's health," and repentance for his manifold misdeeds and mal-administration. He speaks in his will of having no time for particular arrangements. He appoints certain noblemen and dignified ecclesiastics his successors: directs them, in general terms, by donations to religious houses and alms to the poor, to make, for the good of his soul, reparation for injuries done to God and holy church. He annexes the usual anathema against any who shall infringe their disposition of his property. He directs his body to be buried in the church of St. Mary and St. Wulstan, the cathedral of Worcester. John, in his last moments, commended his soul to God and St. Wolstan; and his body, royally attired, was conveyed to Worcester: over his head was placed a monk's cowl, as a sort of cover for all his sins, and a passport to heaven. He was interred between St. Oswald and St. Wolstan, whose graves are in the chapel of the Virgin, at the eastern extremity of the cathedral. His body was removed to its present position, before the high altar, in the reign of Henry VII., and an altar-tomb erected, within which the body was placed, and upon which rests the effigy.

This effigy, formerly the lid of the stone coffin which contained the king's remains, and which, probably, was originally on a level of the floor of the cathedral, represents the king in royal costume, and on each side of his head are two diminutive figures of bishops swinging censers. These are undoubtedly intended for Oswald and Wolstan, between whose remains he, as before mentioned, actually reposed. John wears a dalmatic of crimson lined with green, the neck and cuffs edged with gold and jewelled border; his tunic is yellow, or cloth of gold; he is girt with a belt; on his hands are jewelled gloves; a ring on the middle finger of his right hand, which supports a sceptre, while his left grasps a sword. He wears red hose, black shoes, with golden spurs.

Now mark how singularly the truthfulness of this monumental effigy, as a veritable resemblance of the body within the tomb, has been confirmed. On the 17th of July, 1797, the tomb was opened, and the dress of the corpse exactly corresponded with that of the monumental effigy,—shewing, as in the instance of Henry II.'s effigy at Fontevraud, that they faithfully represented the defunct as he lay in state. There were only two points of dissimilarity: the king had no crown on his head, or gloves on his hands. The latter may have decayed; but the minute accuracy of the old chronicles was proved by the former,—for in place of the regal crown, the head of John was found to be enveloped in the celebrated monk's cowl, in which, as a passport through the regions of purgatory, he is stated to have been buried. This once sacred envelope appeared to have fitted the head very exactly, and had evidently been tied or buckled under the chin by straps, as part of them remained. The body was covered with a robe reaching from the neck nearly to the feet, and some of its embroidery was still visible near its right knee. It appeared to have been made of strong crimson damask, but the injuries of time rendered it difficult to ascertain this exactly: the cuff to the left hand remained. The left arm was bent towards his breast, and the hand had grasped a sword in the same manner as on the tomb: the sword itself was much decomposed, but portions of it were found at intervals down the left side; the scabbard being much more perfect. The covering of the legs, the precise nature of which was not ascertained, was tied round the ancles, and was probably the red hose seen in the effigy. Thus lay royal John, as the immortal dramatiser of his reign has said:

> —But now a king—now thus—
> A clod and nodule of confounded royalty!

Having traced the history of monumental effigies thus far, it may be interesting to briefly allude to their more modern forms. In the twelfth and thirteenth centuries, it was not uncommon to only partially represent the figure: the monument of Joane, Princess of Wales and the daughter of King John, exhibits only the bust of that princess. At Brampton, Derbyshire, is another coffin lid to the memory of a lady apparently cotemporary. Within a quatrefoil, at the upper end of the stone, is the upper part of a female figure, holding a heart in her hands, sculptured in bas-relief; at the other end her feet and the lower part of her drapery appear through a horizontal opening; others of similar con-

struction lie in Silchester Church, Hampshire, one having two busts, apparently those of a a man and his wife, surmounting a cross fleury, a curious combination of two styles (cross and effigy).

Sometimes the monumental effigy was constructed of wood. An early and curious example of the time of Edward I., representing a cross-legged knight and his lady, is in Hildersham Church, Cambridgeshire. Others exist at Danbury, Essex; Salisbury Cathedral, &c.

Stone coffins placed on the ground in the manner of a sarcophagus, originated the altar tomb. Upon these the monumental effigy was laid. At a later period brasses were inserted in place of the effigy.

Brasses first appear in the thirteenth century; the earliest on record is that to Sir John D'Abernoun, who died 1277, in Stoke Dabernoun Church, Surrey. They are imbedded in slight cavities cut to the depth of the brass plate on which they are sculptured, fastened by rivets, and were sometimes ornamented with enamel. They continued in common use until the reign of Charles II., and were occasionally used until the eighteenth century.

A few words on the historic interest and value of these memorials, and I conclude.

Among the various antiquities which England possesses, there are none so immediately illustrative of our history as these national monuments which abound in our cathedrals and churches. Many an exquisite specimen reposes in lonely unfrequented village churches, their beauty hidden by coats of whitewash, and their safety dependant on their utter worthlessness in the eyes of those whose duty it should be to guard them against destruction. Instances are on record where the stone effigies have been wantonly broken up to mend roads, and the brasses sold by dishonest sextons for their value as old metals. The value of these ancient records cannot be too imperatively dwelt on—they are historic data, they are mementoes of the arts of the middle ages; they are the form and semblance of our great forefathers, fashioned by contemporary hands, and bequeathed to us as the last memorial of their mortal state. All who injure them commit not only sacrilege to the church, they dishonour the dead, and act contemptuously to the persons and memory, as far as in them lies, to the ancestry, by whose wisdom and valour the progressive improvement of our country has been obtained, and the wholesome laws and free movements we enjoy battled for and won. The language cannot be too strong that should be used to impress their value on the minds of those who have them in their keeping. May the hands they uplift in prayer speak to man, as they appeal to God, and hinder the wantonness of ignorant destruction, that posterity may have the privilege we have ourselves, of gazing on the figures of the good and great, preserved by the same pious feeling in which the old poet Spenser apostrophizes them as—

> "Old monuments, which of so famous sprights,
> The honour, yet in ashes, do maintain."

F. W. FAIRHOLT.

ON THE GEOMETRICAL PERIOD OF ENGLISH CHURCH ARCHITECTURE. A.D. 1245—A.D. 1315.*

SECTION IV.—*Principal Buildings of the Geometrical Period.*—To the geometrical period belong some of the most exquisite works, as well as many of the noblest buildings in the kingdom. The choir, transepts, and part of the nave of Westminster Abbey Church, as well as its chapter-house and cloisters;—the chapter-house and cloisters of Salisbury Cathedral:—the nave of Lichfield Cathedral;—the transepts of Hereford Cathedral;—the Lady Chapel and Choir of Exeter Cathedral;—the eastern portion of the choir of Ripon Cathedral;—the greater part of the nave of York Minster and its chapter-house;—the chapter-house of Wells Cathedral;—the presbytery and cloisters of Lincoln Cathedral;——the south aisle of Gloucester Cathedral;—the Lady Chapel of Chichester Cathedral, as well as detached parts in Chester, Carlisle, and some of the other cathedrals;—the remains of Bridlington Priory, and those of Newstead and Guisborough Abbey Churches;—the whole of Tintern and the greater part of Netley Abbey Churches;—the nave and transepts of Howden Collegiate Church;—the eastern portions of St. Alban's and Romsey Abbey Churches; the central towers of Salisbury, Hereford, and Lincoln Cathedrals;—the gateway of St. Augustine's, at Canterbury;—and Queen Eleanor's crosses, together with numerous fine examples amongst the parish churches, constitute a splendid series of buildings, which may be said to surpass that of any other period of our national architecture; and beside which, the buildings of the so-called decorated period, reduced to those of true curvilinear character, become almost insignificant; Ely and Carlisle being the only cathedrals which exhibit even any considerable detached portions of work in this style; its principal representatives being the fine parish churches, of which so large a number and such beautiful examples exist in this country.

If we turn for a moment from the buildings of our own country to those of the continent, we shall at once see that what has been said with reference to the necessity of acknowledging this geometrical style in England, applies with much greater force to foreign buildings. Here we have two distinct and well-defined periods, preceding and following that in which circular tracery prevailed:—abroad, the transition from plain Romanesque to pure Gothic architecture was so rapid that lancet windows hardly appear at all; and no sooner was the circle abandoned in the composition of traceried windows, than flamboyant outlines almost at once superseded all other description of curvilinear tracery. During the reign of the circle, however, what a noble series of buildings sprung up in the centre of Europe! Amiens, Beauvais, Abbeville, Tours, Orleans, the choirs of Notre Dame and St. Denis, Metz, Rheims, Strasburg, and, to crown all, matchless Cologne, owe all their glories to this geometrical period.

SECTION V.—*The Geometrical Period illustrated.*—For the purpose of comparative analysis, no view appears to be so convenient and instructive as that which presents similar portions of different buildings to our consideration, so as to exhibit parallel instances of the manner in which the *same feature* was treated by the builders of *different periods*.

The nave of Lincoln Cathedral is one of the noblest examples of lancet work in the kingdom.

The presbytery of Lincoln Cathedral is the most beautiful example of the most beautiful period, and may with safety be said to be the finest building in the kingdom. Had the proportions of Westminster Abbey been united with the work of the presbytery of Lincoln Cathedral, that building would have been the Cologne of England.

This noble building having thus supplied us with excellent examples of two out of our three periods, it is too much to expect that it should furnish us with a third; nor is there in this county or neighbourhood a church which, in point of size, furnishes us with a satisfactory parallel of the curvilinear period; in the adjoining county, however, the presbytery of Ely Cathedral supplies us with an admirable example of the nature we require.

Of these three buildings the first belongs to the early part of the thirteenth century; the second was built in the latter part of the same century; and the third by Alan de Walsingham, about the year 1321. They were all constructed of the best materials and in the most approved manner, and evidently without reference to cost, and may, therefore, be considered as fair types of the periods to which they respectively belong.

The first point that strikes us in comparing them is the character of the windows.

In the nave of Lincoln they are lancets, of plain form, their heads having a very acute arch. They are, like all the windows in the earlier part of this period, single and separate; in the latter part of the period we find them often combined in clusters of three, five, and even seven, the centre ones rising above the others,—as in Salisbury Cathedral, the presbytery of Ely, and the Temple Church, which all shew an elegant combination in their clerestory and side aisles of three lancets, the centre one rising considerably above the others. It was this fashion of combination which contributed more, perhaps, than any other circumstance to the introduction of tracery. The windows of the south transept of York Minster, of the choir and transepts of Beverly, and the choir of Southwell Minsters, and of Whitby, Rievault, and Hexham Abbey churches, are of the same character as those of the nave of Lincoln.

On turning to the presbytery of Lincoln, we find the acute arch and the plain window-head exchanged for the broader arch and the traceried window-head of the following period. The contrast is here so striking as scarcely to require pointing out. The lower windows are of three lights, and the clerestory windows of four; and the tracery is of that simplest geometrical form which consists of foliated circles. The east window, of eight lights, is the noblest example of this description of window in the kingdom, and may be as truly said to be the queen of geometrical windows, as the east window of Carlisle Cathedral is usually considered the queen of curvilinear windows.

The parish church at Grantham, in this county, has some very fine windows of this character in the south aisle, particularly one at the west end, of six lights. The abbey churches of St. Mary, at York, and those of Tintern, Netley, Newstead, and Guisborough, the side aisle of Lichfield Cathedral, and the transepts of Hereford, and the chapter-houses of Salisbury and Westminster, all contain windows of this character. I think it will scarcely be questioned that these peculiarities are such as entitle us to separate these windows from those of the nave; it remains for me to point out those characteristics which distinguish them from the windows of the proposed curvilinear period.

On referring to the choir of Ely Cathedral, we find the side aisles, the triforium, and the clerestory lighted by large four-light windows, of rich and elaborate tracery, of a design totally different, both in its general outline and its detail, from that of the last example. One of the principal causes of this difference is the different nature of the curves that are employed in the construction of the design.

In the geometrical period, the only curves used to complete any figure are almost invariably circles, or segments of circles. In the curvilinear period, the returned curve (of contrary flexure), or the ogee, as it is commonly called, is the one generally, although not exclusively, employed. There are very few windows, in fact, of this period, which do not shew this feature in some part of their design; it is found not only in the principal outline of the tracery, but also in the subordinate parts. The manner in which these elemental principles affect the whole design may be very readily perceived.

In the geometrical example the arched head of this light is usually formed by two curved lines, which are the segments of a circle. These segments often being one-sixth of the whole circle—that is to say, the third part of a semicircle—they form what is commonly called an equilateral arch.

In the curvilinear example, the head of the light is generally formed by two curved lines of complex form, each of which is formed by the union of the segments of two circles struck from the opposite sides of the same straight line, which touch, but do not cut each other. This is the figure called the *ogee*. As to the foliation,—in the one case we have a plain pointed, or circular-headed trefoil; and in the other, an ogee trefoil.

Two of these lights, in all respects equal and similar, placed side by side, are included under one arch, which, in the one case, is a plain equilateral arch, and in the other, an ogee arch; and the intervening space is filled in the one case, by a circle, and in the other by a figure of pointed form. The foliation of these two figures, again, bears the impress of their elemental principles. All the foils of the earlier one are circular, whilst the upper and lower ones of the later example are ogee.

The large space which still intervenes between the two principal arches remains to be filled; and the treatment of this space, to which I have given, in Mr. Van Voorst's "Decorated Windows," the title of centre piece, is again strongly characteristic of the genius of the two periods.

* See p. 386, *ante*.

With very few exceptions this space is filled in the geometrical period with a large circle, which in the smaller examples is simply foliated with four, but oftener with five, six, or eight foils, and in the larger ones, as in the Grantham six-light, and the east window of Lincoln Cathedral, filled with a group of smaller circles. In the curvilinear period this space is generally occupied with a figure of pointed oval form, the lower part of which, by being accommodated to the sides of the two main arches, assumes an ogee shape. When this centre piece contains, as in the larger geometrical windows, a group of smaller subordinate figures, the form and the foliation of these partake of the character of the rest of the work, and exhibit more or less of the ogee.

To return, however, to the Lincoln and Ely Cathedrals; the windows in both the geometrical and the curvilinear building are designed in accordance with the types we have been considering: in the former the foliated circle, supported by simple pointed arches, is the principal ornament of the window-head; in the latter the wavy form of the ogee prevails, and the mullions are no longer adorned with the small shafts and capitals which are so conspicuous an ornament of the earlier example, but the mouldings of the tracery bars are continued down to the sill.

Before we leave this part of the subject I must again notice the noble east window, which, although imperfect as it perhaps may be in the arrangement of some of its details, is still so remarkable a feature of this work. Its design appears to have been formed on the simplest principle, namely, that of a circle carried by two arches. The key to the whole design is, therefore, given in the first pair of lights, as in the example already described.

I fear that I may appear to have dwelt too long on this most interesting and essential feature of the two periods, and will hasten now to consider the other points of the exterior of the three buildings in question.

The buttresses are the next important features: in the lancet example they are broad and bulky, but of equal projection from top to bottom, and are finished with a large sharp-pointed pediment: they are relieved on the face with a chamfer at each corner, and string courses. Each of these lower buttresses carries two flying buttresses, one under and the other above the roof of the side aisles.

In the curvilinear example the buttress is plain below, and its width is much reduced in comparison with its depth, which is also considerably reduced as it rises by successive stages of set-offs: its upper part is faced with an elegant canopied panel; and it carries instead of the heavy pediment, a square panelled pinnacle, ornamented with crockets, and a finial of curvilinear foliage.

The geometrical buttress lies midway between these two designs; its breadth is somewhat reduced, but it preserves the same projection from top to bottom: it is panelled and ornamented with figures, with pedestals, and canopies. It also retains the pedimental top, on the angles of which appears, for the first time, a stiff crocket, and on the top a finial of rich and advanced foliage.

The cornice and parapet do not present very striking points of contrast: in the lancet one a few deep mouldings form the cornice. The parapet and coping are, as is usual, perfectly plain in the geometrical one: the lower parapet has simply the addition of trefoiled corbel table. The upper one is more characteristic: it has good mouldings and a deep hollow, in which are placed large leaves of good foliage for its cornile, and a singular incised quatrefoil on its parapet.

The curvilinear example shews a broad hollow in the cornice, filled with a large broad flat leaf and a plain parapet.

We will now turn to the interiors. Here the characteristic features are much more strongly marked. We have, in the background, the plain lancets in the nave as before, improved in the clerestory by the tall banded shafts which come down in front of the passage to the top of the triforium. We have also the same tracery in the curvilinear example; but in the presbytery of Lincoln we find a second plane of rich geometrical tracery in front of the clerestory window, of extreme beauty and excellent proportion, with clustered shafts of rich foliaged capitals, and a deeply moulded arch. In the curvilinear example, in place of this tracery, a series of small foliated arches is carried round this inner arch.

In the piers, the geometrical example corresponds with the lancet one, in having its shafts banded, in which respect they both differ from the curvilinear example, which is, as is usual in the style, plain. The plan of these piers deserves attention. The shafts in a lancet pier are usually arranged in a circle, round the central mass, whilst those of a curvilinear pier are more frequently arranged in the form of a diamond.

In the geometrical example, however, a form is taken which may certainly be said to be midway between the two. The centres of the shafts lie in the sides of a spherical square, set diamond-wise. By a spherical square, I mean a square the sides of which are curved slightly outwards.

There are three other points of slight difference between them: in the lancet example, the shafts are all pointed with a fillet; in the geometrical this fillet is altered into an elegant rounded point, which, although to be found in lancet work, is much more common and characteristic of the following period: the curvilinear pier has no such projection. It consists of four large shafts, with mouldings in the intervals, and has the ogee profile amongst them.

The pier arches of the lancet and geometrical have, in elevation, no strong marks of distinction: in the curvilinear the large flat leaf again appears in two orders of the arch.

The spandrels over the pier arch are plain in the lancet example, marked with a trefoil in the geometrical one, and entirely occupied in the curvilinear example by what may be termed, according to Professor Willis, a trifoliated trefoil.

There is, perhaps, no feature in the interior of a building which exhibits, in a more characteristic manner, the period to which the building belongs, than the triforium. This remark particularly applies to the three examples before us, and, although it is true, that a prominent triforium is rarely found in the curvilinear period, and that its importance was greatly diminished even before the close of the geometrical period, and, although, in the case of Ely choir, we owe this beautiful example to the accidental circumstance, that the portion of the building in which it occurs was a curvilinear adaptation to an earlier building, still this does not lessen the value of the example before us, or its usefulness in enabling us to judge of the manner in which such a subject would be treated in curvilinear times. The history of architecture through their three periods is written, in fact, in their three triforia. We have first the three plain lancets combined under one arch, with the solid spandrel above, pierced only by three quatrefoils. We next have the double geometrical arch, containing a quatrefoliated circle, carried by two trifoliated arches, the whole of the spandrels pierced entirely through, and the entire space thus converted into a traceried opening. We, lastly, have in the succeeding period this opening treated in true curvilinear style, and fitted with a most elegant panel of elaborate flowing tracery.

Having ascended to the triforium, and having already viewed the clerestory, we will take our last rapid survey of the building from this point, and a more instructive point of view in most buildings, is seldom to be found, although it is not often visited.

At the first glance, the spirit of the three periods is plainly apparent: in the lancet example we have acuteness, loftiness, verticality, if I may be allowed the term, in the pitch of the roof, in the vaulting, in the shape of the windows and arcades; and on the outside in a still more striking manner; in the pediments of the buttresses, and in every feature, we see this piercing form.

In the geometrical example a great change appears: here the circle, the simplest of all geometrical figures, appears predominant; in the clerestory, the triforium, the side aisles, and the arcades it is the ruling feature; its repetition in each of their situations is, indeed, striking; it may certainly be said to be the characteristic feature of the design.

Again, in the curvilinear example, in the very same positions where we had, in the first instance, lancet, and in the second circular forms, we have the undulating outline of the ogee.

The contrast is perfect and undeniable, and the characteristics of the three styles, even at the first glance in their three examples, distinct and unmistakable: if we were to examine the details, the foliage, the sculpture, the profiles of the mouldings, and other minutiæ, which are not such evident, but not less certain, indications of style and character, we should find the marks of distinction as clear and definite as in the more palpable parts of the design of these buildings.

E. SHARPE.

AWARDS OF OFFICIAL REFEREES.

DIVISION OF BUILDINGS.

IN the case of Mr. Billiter, the owner of a second-rate dwelling-house, No. 9, Robert-street, and a third-rate warehouse, situated in Thomas-street, and adjoining northwards to the said dwelling-house, and connected and occupied with the last, both in the district of *St. George, Hanover-square*, the owner desired to stop up the whole of the openings now existing in the wall dividing the said buildings (originally two distinct houses), so as that such two buildings shall cease to be united, —the district surveyor objected to this being done, on the ground that the wall in the two lowermost stories was not of the full thickness prescribed by the statute for party-walls of buildings of the second-rate of the first-class. The owner also desired to alter the situation of the area belonging to the said warehouse, and to form an area in the centre of the said warehouse, instead of the present area on the south side of it, and to use such warehouse as a dwelling-house; and to this the said district surveyor also objected, on the ground that the area would be an area to an underground room or cellar of a dwelling-house, and ought to be built in accordance with the rules of schedule K of the first-mentioned Act.

The referees awarded—"First. As to the wall between the said two buildings.—That inasmuch as the said two buildings were built as separate and distinct buildings, each having a separate entrance and staircase, and the said wall was built before the 1st day of January, 1845, as a party-wall between two buildings, and was carried up as such above the roofs adjoining thereto, it will not be contrary to the Metropolitan Buildings Act to stop up the openings which have been made in the said wall with brickwork of the full thickness of the wall (such brickwork being set in cement, and bonded to the old work by drawing the bricks in the jambs of the said openings, to the satisfaction of the district surveyor), and thereupon to occupy such two buildings as two separate buildings. Secondly, as to any area to the said warehouse building, that unless it be intended to use any underground room or cellar of the said warehouse building as a separate building, it will not be necessary to make the area thereof 3 feet in width and otherwise, as prescribed by the said Act for the areas or underground rooms or cellars so to be used."

Costs to be paid by the owner!

PROJECTIONS BEFORE THE LINE OF FRONTS.

Mr. Freeth, builder, had commenced the erection of a projecting building on the forecourt of one of a row of eight houses, known as St. John's Wood Terrace, in the district of Marylebone. Messrs. Fry, the owners of two detached houses, separated from this row by Edward-street, objected to the projection as injurious to them and contrary to the Act, and brought the matter before the referees.

The district surveyor considered that, as it was proposed to add like projected buildings to all the other (eight) houses, such general building would constitute a new line of front, and therefore that the building in dispute would not be contrary to the Act.

The builder (Freeth) took the following exceptions to the jurisdiction of the official referees upon the said requisition:—

First, that there is no case of doubt, difference, or dissatisfaction, in respect of the matter mentioned in the requisition, between any parties concerned, or between any party and the surveyor of the district,—the said William Robert Fry and George William Fry not being parties concerned within the mean-



St John's Church, Worcester.

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[See p. 397, in present number.]

ing of the Act, and not being owners or occupiers of the building adjoining to the projection in question, on any side thereof.

Secondly, that the statute having directed that the general line of fronts may be determined by the district surveyor, and the district surveyor having determined the general line, in accordance with which determination the said projection is being built, the official referees have no power to alter or vary the line so determined.

It was further contended, amongst other points, that the projections were not and would not be in any manner injurious to the said Messrs. Fry, for that a street intervened, and the premises of the said Messrs. Fry were totally detached from all other buildings.

The referees awarded, "first, that in cases of doubt, difference, or dissatisfaction, between any parties concerned, or between any party and any surveyor, the determination, by the district surveyor, of a general line of fronts, is subject to the determination of the official referees upon a reference of the matter in question, under the provisions of the said Act first herein mentioned.

Secondly, that the said William Robert Fry and George William Fry, as owners and occupiers of the adjacent premises, are parties concerned in the determination of the general line of fronts in the place above-mentioned, and in the erection of the said projection complained of in the said requisition.

Thirdly, that the general line of fronts within the meaning of the said Act first herein mentioned of the houses in the said St. John's Wood-terrace, at the place where the said house No. 101, in the said terrace is situate, is the line of the original fronts of the said nine houses.

Fourthly, that inasmuch as the said projection to the said house No. 101, St. John's Wood-terrace, will, if built, and added to the front wall of the said house, as set forth in the said requisition, extend beyond the general line of fronts of the houses as hereby determined, the same will be contrary to the provisions of the said Act first herein mentioned.

Fifthly, that the erection of similar projections to all the said nine houses, will not constitute a new general line of fronts within the meaning of the said Act, in advance of the general line hereby fixed, so as to legalise the erection of the said projection complained of in the said requisition."

ARCHITECTURAL EDUCATION.

Sir,—All, or a great many of the communications with which you have been favoured on the subject of the payment of architects by commission from the builders, and the evils resulting therefrom, appear to agree in one material point—viz., that such evils are, in a great measure, to be attributed to the fact of a class of men styling themselves architects, and practising as such, at a much lower remuneration than the proper professional charge, who have no more pretension to the name than a contractor's labourer, who helps to make a railroad by working with his spade, has to that of an engineer. Now, there can be little doubt that the major part of the evil, if not the whole, rests with this class; and in the present state of things, a man who, after receiving a college education, pays his 500*l.* for an architectural one, is on the same footing, in the eyes of the public, with one who has been apprenticed to a carpenter, has superintended the erection of a cow-house or some such building, and has the impudence to call himself an architect. How is this to be remedied? One of your correspondents says, "Let the Institute look to it;" but he does not point out *how* it is to look to it, a matter absolutely requisite in the present dormouse-like state of that body.

The plan I would suggest is, that an application should be made to Parliament by the Institute for an Act to grant licences to men wishing to practise the profession of an architect, and that without such license no one should be allowed to style himself or practise as an architect. The three learned professions (as they are termed) adopt this method, by causing all candidates for admission into their body to pass certain examinations; and why should not that of architecture follow in their steps. In my estimation it is, or ought to be, as learned as any of them. The test for obtaining a license (whether by examination or by producing certificates from known men, or otherwise), of course, to be determined by the Institute. Some such plan would, I think, be simple and an effectual bar to the profession being compelled to enrol as its members a large number of black sheep. Should this be deemed worthy a place in your columns, it might be the means of obtaining some hints on the subject from your numerous correspondents, who all seem very desirous of remedying this crying calamity.

I am, Sir, &c. A. B.

SCULPTURED STOUP IN THE CATHEDRAL OF SIENNA.

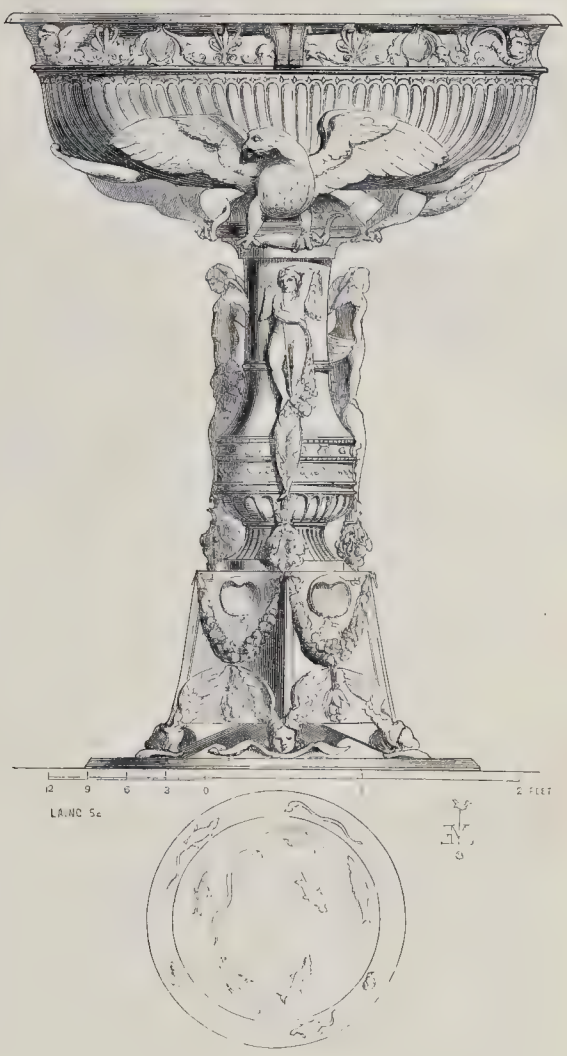
WE recently published an engraving of the font in the cathedral of Sienna, and, in our present number, we give a view of a *benitier*, or holy-water stoup, in the same structure,—the work of Jacomo della Guercia. The sculptor may probably have designed to give the idea that the vase has been brought from above by the three eagles that support it. The interior of the vase, of which we give a plan on a smaller scale, is remarkable for having on it sculptured representations, in relief, of fish and lizards.

The height of the stoup and pedestal is 4 feet 10 inches; and the diameter of the basin, 3 feet 4 inches.

NOTES ON GAS.

AN immense volume of natural gas, sufficient for the supply of a city, it is said, has just been discovered near Detroit, Michigan, while boring a four-inch shaft for water. At a depth of 70 feet a vein or cavity was struck, from which issued a violent current of air, throwing up stones as large as hen's eggs, 10 or 15 feet high, accompanied by a volume of water, rising 10 or 12 feet. On applying a light to the air it burnt furiously, the flames rising 20 feet. It is proposed, says the *New York Sun*, to conduct this gas in pipes to Detroit, and light that city with it.——It may not be known to many of our newer readers, though we have already slightly noticed the fact, that we have enormous jets of natural gas, for ever burning—almost altogether uselessly too—in our own country. There is one between Newcastle and Shields which at night forms one of the most singular and sublime sights we ever witnessed. Some additional information in regard to the projected company already noticed by us, for the conveyance of this apparently inexhaustible fountain of fire and light to Newcastle, &c., together with other particulars, have been communicated in reply to a question about a "Spontaneous Gas Company," erroneously supposed by a correspondent of the *Mining Journal* to exist in the Newcastle coal district:—"Spontaneous gas has been emitted from old colliery workings, midway between Newcastle-upon-Tyne and North Shields, for the last twenty years, to the extent of thousands of gallons every twenty-four hours. The gas is brought up from an old shaft by a tube of from 3 to 4 inches diameter, and has burnt night and day without interruption for the period mentioned. The flame illuminates the whole neighbourhood; and the stormiest weather appears to have no influence to extinguish it. Some years ago some gentlemen had obtained a grant of the gas, with a view to render it applicable for lighting, and had a gasometer made to correct and distribute it. The gas was conveyed to the Wall's End station, and used there for some time; but it was not considered sufficiently pure, as it came from the workings of the mines, for domestic use, and some of the parties dying, the scheme was not persisted in. There is no doubt that this spontaneous gas, by proper management in its purification, might be rendered useful to a large population, and would be remunerative to a company employing capital to introduce it; and, as it is found about midway between Newcastle and Shields, and near to the railway, the distance between these towns (8 miles) is no insuperable barrier to its conveyance to them both." Why, Newcastle might almost supply all its coal customers together, with the ready-made article, from the never-ceasing flow of nature's fountains there, especially since, if we mistake not, this is not the only mammoth jet which flows within the limits of its great coal district, where, at least in one other instance, we rather think the light is so far employed in lighting the works of the pit whence it issues. ——While thus treating of gas on the great scale, and of nature's beneficent, inexhaustible, and perpetual supplies, we may observe that it has been calculated, on the patent mode of preparing it from animal refuse, and for the sake of other products besides the mere gas, that the consumption of butchers' meat in England alone yields 100,000 tons of bones, &c., annually, from which upwards of a million of gas-burners could be fed gratis! and

SCULPTURED STOUP IN THE CATHEDRAL OF SIENNA.



that, of course, the mansions of the nobility and gentry, and the Royal palaces themselves, might be brilliantly illuminated, from ground-floor to attic, with their mere culinary refuse.* ——The "Comptes Rendus," in announcing an improvement, by M. Mallett, on his mode of obtaining the complete purification of gas by a single operation, says, "the improvement consists in the simultaneous employment of a mixture of sulphate and oxide of lead applied to the gratings of the purifiers instead of lime. On the ammoniacal salts coming in contact with the sulphate of lead, a double decomposition takes place; sulphate of ammonia, and carbonate, sulphuret, and cyanoferruret of lead, are formed; and the free hydrosulphuric and carbonic acids combine directly with the oxide of lead. When the gas begins to mark either acetate of lead or litmus paper, the purifier must be replenished in the same manner as when using lime. M. Mallet describes, in his memoir to the academy, a process by means of which he obtains and renews the mixture, and which possesses the advantage of furnishing an unchangeable purifying substance, provided the inevitable loss of matter be replenished with fresh sulphate of lead. One precaution must be taken to enable the sulphate and oxide of lead to retain their purifying properties as long as possible, which is to deprive the gas entirely of tar on reaching the purifiers; this may be easily done by passing it over one or more layers of finely divided substances, such as small coke, sawdust, &c."——Every new week now brings with it, in one quarter or other, some further reduction in the price of gas, in preparation for the ensuing winter's campaign. At Sculcoates, Myton, the Guardian Society have just screwed out of "The British" a further reduction to 5s. 6d. per 1,000 cubic feet. They wished to stipulate for a still further reduction to 5s. from July, 1849. The Gas Company, however, declined pledging themselves unconditionally, but it will probably turn out that they did so virtually, by promising that, "should the consumption materially increase (in consequence of the partial reduction in the meantime) they will gladly do so—at the first opportunity." On the

* It is said that on her Majesty's visit to Holyrood House, at Edinburgh, she expressed no little surprise and regret to find that widowed home of majesty illuminated in a style that far transcended all that her English palaces could boast of. Now, there is no sufficient reason why the metropolitan gas should not be made as pure, and as capable of general use, even in drawing-rooms and bed-rooms, as it is in Edinburgh, where it is prepared of the very coal—Newcastle—which is here so plentifully used.

other hand, the committee of the Guardians very properly declined pledging *themselves* "not to seek a further reduction should they see occasion so to do at a future time." To ask them to do so was somewhat preposterous. The British, however, deserve the credit of a desire (too timidly exercised though it be) both in this and other instances we recollect of, to act upon the principle we have so strenuously and perseveringly recommended. And "there can be no doubt," as the *Hull Packet* remarks, "that if that company will now pursue a liberal policy, and supply a good article, removing all impediments to the extension of gas, they will be rewarded by a largely increased consumption, and will find, as in other towns, that a reduction of price is the precursor to an increase of dividend. It is due to the company to state," adds the *Packet*, "that they have lately improved the quality of the gas. The committee have made application to Mr. Malam for a similar reduction in the town (of Hull), and they will, doubtless, be met in a liberal spirit."——As prices are progressing here and there in the right direction, so are dividends. At Worcester, where, when prices were higher, there used to be an annual alternation of "no dividend,"—"4*l.*,"—"no dividend,"—"5*l.*,"—"no dividend," and so on, we perceive that the fruits of new arrangements and reductions of prices are already—"declared a dividend at the rate of 10*l.* per annum,"—not on the "paid-up" capital alone, we may, we suppose of course, conclude, but upon the full amount of capital fixed by the Company's Acts of Parliament. The whole of the City is now, for the first sime, lighted with gas.——The Darlington Company, we perceive, have just declared a similar goodly dividend.——The town council of Newport, Isle of Wight, have determined to charge their gas company 5*l.* annual rent for permission to lay their pipes in the streets. One of the council, Mr. Pring, protested against this determination, on the ground of its meanness, and assured his colleagues that the gas company (of whom he appears himself to be one) would serve them out for it, one how or other. Doubtless they will not serve them out much gas for it gratis. But the company seem to have excited a bad feeling against themselves, and the chairman thought it was quite right they should pay, as they were hard to deal with, and very independent. Mr. Pring threatened to "put it on to the lights," and, "riding a high horse," as one of the council remarked, defied them to get another gas company.——At Winchester, too, where the Gas Company, like their own gas, have excited no very aromatic odour in the nostrils of their constituents, the authorities, by way of retort courteous, have determined to have a share of the gas profits in the not very eligible shape of a rate imposed upon the property of the company: it is a pity that the greedy grasping of a mistaken self-interest should excite so kindred a feeling on the part of those who ought to be friendly constituents, not hostile antagonists.——The Marylebone parochial committee having resolved to recommend the vestry to admit the pipes of the Western Gas Company into the parish on the most liberal terms, not exceeding those of the contract with the Imperial, the vestry have referred the recommendation to the gas committee.

METHOD OF WELDING IRON, STEEL, AND SHEET IRON.—In an earthen vessel melt borax, and add to it one-tenth of sal-ammoniac. When these ingredients are properly fused and mixed, pour them out upon an iron plate, and let them cool. There is thus obtained a glassy matter, to which is to be added an equal quantity of quick lime. The iron and steel which are to be soldered, are heated to redness: then this compound, first reduced to powder, is laid upon them: the composition melts and runs like sealing wax; the pieces are then replaced in the fire, taking care to heat them at a temperature far below that usually employed in welding: they are then withdrawn and hammered, and the surfaces will be found to be thus perfectly united. It is asserted that this process, which may be applied to welding sheet iron tubes, never fails.—*Journal of the Franklin Institute.*

RAILWAY JOTTINGS.

IF it be a fact, as alleged, that the wages and status of the engine-drivers and the firemen on the Birmingham and Gloucester line, as a class, had already been virtually or really reduced by the very same "cleverly-contrived scheme" which has now been brought to bear upon the same highly responsible class of men employed upon the great "North-Western" monopoly, can there be a question of the fact, that in daring to incur so wholesale an increase of risk to the public safety as that induced by the adoption of the very same scheme on the southern portion of the latter, and the consequent withdrawal of no less than 120 experienced engine-drivers, including many of the steadiest, the best, and the oldest in the whole employ,—the very same end is really meditated which has been already carried out upon the Birmingham and Gloucester? It requires, indeed, no such secondary grounds of confirmation as the fact, alleged, that an extensive system of acknowledged reduction is at this very time being otherwise carried out by the North-Western authorities. The great question seems to be, then, whether it be prudent, *either on the ground of public safety or of private interest*, for the North-Western directors to persist in substituting this new scheme for an old one with which the engine-drivers were for so many years completely satisfied. We are much mistaken if the accumulated experience of six to twelve years, which considerably more than one-half of these men have had in taking care of the lives of the public, is to be lightly cast away at a time when there is no competitive superfluity of steady and experienced men yet educated to so onerous an office. And the crisis wears a still graver aspect since there are threats of a resignation of the whole of the engine-driving experience on the northern as well as the southern section of this extensive and powerful company. In short, we should conceive that the question now for consideration is, are we to go through the process of engine-driving education *ab-initio* at all the fearful expense of life which the experience of the past quarter of a century has already entailed upon us? The fact that it has hitherto been a serious consideration whether *higher* salaries and an *elevation* of status were not strongly advisable, affords sufficient evidence of the great inexpediency at least *of lowering* either.——Models have of late been exhibiting at the Polytechnic of a method of uniting the breaks of a train by iron bars, in such a way that either the engine-driver or the guard may bring the whole into action at a moment's notice, so as at once to convert the train into a sort of sledge. The idea is not new, as our readers may recollect, but its practical application has been patented by a Mr. Bishop.——A patent has been taken out by Mr. Barlow, of Derby, C.E., for securing rails in the chairs from contracting in dry weather, by impregnating the chairs with matters insoluble in water, so as nearly to prevent expansion and contraction in wet and dry weather. The materials preferred are proportions of four gallons of creosote to one of naphtha, 24 lbs. of pitch, and half a gallon of boiled linseed oil—one gallon of the mixture to each cubic foot of wood. The keys, after being cut, are dried by steam, and while hot subjected to the saturating process, either by immersion sixteen to twenty-four hours, or by exhaustion and injection.——We learn from a Boston (United States) paper, that the new track of the Stonington line is laid on india-rubber, and the cars are mounted on india-rubber springs.——The calls falling due this month amount to 2,773,773*l.*—of which 99,422*l.* is for foreign companies. These sums exceed by 497,914*l.* the amount in the corresponding month of last year, and they also exceed the monthly average of last year, which was 2,473,000*l.*——It is alleged in *The Times*, by "A Shareholder" of the Great Northern, that the Company have started a newspaper on their own account, with their secretary as the registered proprietor at the Stamp Office. This is a move far ahead of the hotel-keeping absorption of the 'Pigs and Whistles,' and the 'Blue Boars,' of Birmingham. But may not the secretary be the proprietor of a newspaper on his own account, even though he "publish their own reporter's account of their own proceedings?"——Messrs. Nowell and Hattersley, the contractors, have got a verdict at the York Assizes against the Huddersfield and Manchester Company, for 50,000*l.* damages, for an illegal seizure of their plant and works on that line (now belonging to the North-Western), besides 100,000*l.* for work done and materials supplied. The verdict is subject to a reference to Mr. Currie, by whom all matters at issue between the parties are to be decided.——The Pencher and Sunderland branch of the York, Newcastle, and Berwick line will soon be set agoing, and Durham united with Sunderland by a direct route. Upwards of 800 men are employed at the new docks, which are now rapidly approaching completion. The demolition of houses in East Moor-street for the entrances, &c., has been ordered.——Another wooden-bridge has recently been burnt, viz., one of those on the Newcastle and Carlisle line, a little west of Hexham. The fire was caused by the falling of a red-hot cinder from the grate of the engine of a luggage-train. Being coated with pitch, the fire burnt with great rapidity, and every portion of the framework was destroyed, leaving only the stone piers standing. Messrs. Rush and Lawton were called in to reconstruct it: they commenced operations at five o'clock on Friday morning, and opened the bridge for the mail train on Sunday. The bridge consisted of four river arches.——The Caledonian line is now open to Montrose and Arbroath as well as Perth and Dundee. The company is said to have made sweeping reductions in their fares—at least between Edinburgh and Glasgow, the first-class fare being now less than one penny a-mile.——The Dover Company have also reduced their fares.——On the Newmarket and Chesterford the third-class are fitted with plate-glass windows, and handsomely painted: and the second-class are lined with stuffed cushions.——The Holyhead line has been opened through Anglesey.——There are casting at the Coed Talon ironworks, near Chester, some girders nearly fifty-three feet long, and weighing about 11 tons each.——A sad symptom of the state of Ireland has just occurred, in the arrival from Dublin of 360 railway shovels, of no further use at present on the other side the Irish Channel.——The Londoners are about to obtain a fresh and abundant, as well as cheap, supply of fish of the smelt species through the East Lincolnshire, Boston, and Eastern Counties lines, from Great Grimsby and the Lincolnshire coast.——We understand the works of the Tonbridge Wells and Hastings line are now proceeding so rapidly that there is a scarcity of labourers. When so many men are out of employment, this should be generally known.

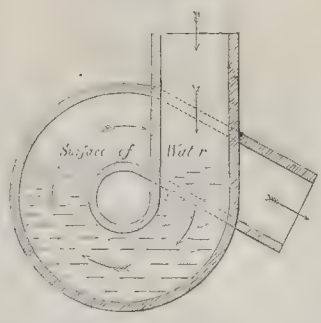
CHURCHES AND CHAPELS.

ANOTHER new stained-glass window, the gift of Mr. Wailes, is now being put up in Ely Cathedral: it depicts the leading traits of the life of the Venerable Bede, "the Bible Saint."—— St. John's Church, Alkmonton, Derbyshire, was consecrated on 27th ult.——An attempt is being made to have the pews in the Wakefield parish church removed, and stalls put in the place of them. This step has been strongly opposed by many of the pew-owners.——Walsden Church, near Todmorden, was consecrated on Monday week. ——The proposed new church at Timperley is to be in the Norman style, with tower and spire, and to occupy the highest ground at Timperley, about a mile from Altrincham. ——A subscription has been opened for the erection of a new church at Bowdon.——The new Roman Catholic Cathedral at Manchester, was opened in great state on the 9th instant. ——An unseemly squabble has arisen at Low Harrogate, on the pastor of the church moving in vestry that a rate of 3d. per pound should be granted as the expenses of the year, to be applied in painting the interior of the edifice, restoring some ironwork, and meeting the expense of a stove already paid for by the pastor. Some discreditable proceedings were closed by a vote of half the requisite sum.——The three largest churches in Leicester are now simultaneously undergoing extensive restorations. The chancel repairs of St. Mary's were undertaken by

the corporation, as lay rectors, but all else has been done by subscriptions raised by the late vicar's exertions. Some old houses, which formed an unsightly encroachment on the west end, have now been removed; and it is intended, if funds be forthcoming, to complete the north aisle, and eventually to build handsome porches at the north and south doors. The removal of the old building has disclosed an exterior arcade in the Early English style, which is to be repaired where necessary, and windows inserted in the original openings. The Elizabethan gateway and building over it are also to be restored.——On Tuesday week, according to the *Bristol Journal*, a newly-built Independent chapel was opened at Marshfield.——The church of St. Michael, Two-mile-hill, St. George's, near Bristol, is ready to be consecrated on 22nd inst.——Trowbridge Old Church, after having been in great part pulled down to the foundations and rebuilt, was re-opened on 27th ult. It has been entirely repewed, and six stained windows have been given by various gentlemen, one of them by Messrs. Manners and Gill, of Bath, the architects.——At "primitive old Hinckley," where "architects and others" are essential as contractors for the important work of repairing the old church spire, the hazardous task of taking down the vane has been accomplished by "Mr. Broadbent:" but, although he is expected to complete his job "in his usual workmanlike style," we rather suspect he is not an architect.——The large bell of the peal of St. Peter's, Dorchester, has lately fallen down: a cross beam saved the organ from demolition. ——The parish church of Moreton, Dorsetshire, has undergone extensive alterations and additions from designs by Mr. H. Barnes, of Dorchester, architect. A new porch has been erected at the west end of the nave; there have also been provided a carved stone altar-screen, with Purbeck marble steps; stone columns with carved foliated capitals; ribbed ceilings with carved bosses and corbells; a font carved, an oak pulpit, reading-desk, and screens. The floors of the chancel, aisles and porches are laid with encaustic tiles. The roof of the chancel and the cinque-foiled recesses for the creed, &c., have been emblazoned in colours and gold. The whole of the windows have been filled with painted glass by Williment, the chancel windows having full-length figures, representing the crucifixion, apostles, &c. ——On Wednesday, the 9th instant, the Church of St. Nicholas, at Hilfield, Dorset, was re-opened, and the chancel and burying ground consecrated by the Lord Bishop of Salisbury. The church has been restored, and a new chancel added, the whole in the geometrical decorated style, and furnished with font, pulpit, lectern, and stalls complete; an open roof to the chancel, and which is also paved with Minton's tiles, a new bell turret over the chancel end, and the roof covered with stone tile, and carved-crested ridge. The architect is Mr. R. I. Withers, of Sherborne. ——Trinity Church, Ryde, has been recently enlarged by the addition of a transept, containing about 140 sittings; the 500 free seats intended for the poor had been chiefly occupied by the rich. The incumbent has, on his own responsibility, incurred the expense of this enlargement, which exceeds 500*l*. It is much to be regretted, as observed by a Hampshire paper, that too many of the wealthy frequenting watering places avail themselves of the free seats intended for the local poor, without considering the circumstances of such district churches. It is to be hoped, however, that an opportunity such as the subscription list for this enlargement affords for settling accounts with the conscience will not be overlooked.

Memorial Window in Whalley Church.—From cartoons drawn by Mr. Pugin, a painted glass-window has been worked out by Messrs. Hardman, of Birmingham, for Mr. Samuel Brooks, and erected to the memory of his father, at the end of the south aisle in St. Mary's Chapel. It is of three lights, with a figure of the Virgin Mary in the centre, and those of St. Anne and St. John at the sides. The artists are said to have here "exerted all their skill and lavished all the resources of their art," in the attempt to disprove the assertion that the art of glass-painting is lost.

NEW SYPHON STENCH TRAP.



The annexed is an engraving of a simple stench trap, on the syphon principle, invented and registered by Mr. John Phillips. It can be applied to water-closet pans, kitchen and all other sinks.

EMBANKMENT OF WASTE LANDS.

HOME COLONIES ON OUR COASTS.

In The Builder of June 17th means are pointed out for the formation of buildings and embankments by a new process. At the present juncture it must appear important to find profitable employment for a population already overflowing, and, according to a recent estimate, increasing at the fearful rate of 1,000 souls daily. We are told that some persons of station have thought it advisable to form an association, in order that numbers of the benevolent may assist in the accomplishment of so useful an object. The new mode of forming foundations in the sea by atmospheric pressure on Dr. Potts's plan, often mentioned by us, would enable houses, schools, piers, quays, and embankments, in fact, home colonies, to be constructed with security, in places otherwise useless.

The enclosure and cultivation of districts of land consequent on the adoption of this process might be made to form, on the coasts of our islands, a source of employment and subsistance for thousands.

It has been computed that the poor-rate all over the kingdom might be reduced to more than one-half by a general enclosure of inland wastes. How much more may be expected from a system which would reclaim from the sea immense districts of land capable of being rendered fertile in a short space of time, by means of the recent scientific improvements in composts and manures economically supplied by health-of-towns committees, and distributed by air-tight tubes and vessels, and water-carriage?

Reference has shewn that the hope of obtaining a small spot of land whereon to rear their progeny will stimulate those who might be otherwise inclined to dissolute habits, to become provident, industrious, and strenuous supporters of order in the state, in which they possess an interest. It is at this moment asserted on the neighbouring Continent, that the proprietors of small freeholds have formed the main chain that has held society together and curbed the power of a population, infuriated because unprovided for.

A System of Wholesale Plunder in the New Forest,—not by any modern "Robin Hood and his merry men," but by some of the subordinate "keepers" themselves of the property in the forest, in connivance with certain timber merchants,—has been exposed in the Commons by Lord Duncan, and admitted by Lord Morpeth to be, he fears, too true a tale. Investigations are in progress, and two "merchants" have been committed for trial. The expenses of *managing* this forest have for many years past nearly equalled—and in some years exceeded—the whole income derived from it.

The Smoke Prohibition Bill of the present session has itself vanished in smoke, being 'discharged' on the order of the day for the second reading.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday, the 10th, Lord Morpeth in the chair.

A voluminous document was laid before the court from the General Purposes Committee, which stated, that having taken into consideration the serious evils and hindrances to the public health which arise from cesspools remaining full of putrescent matter under the public ways and within private premises; and also the improper and expensive methods usually adopted for emptying such cesspools, they have caused a series of regulations to be drawn up for the instruction of their own officers, and also suggestions for facilitating public or private efforts for sanitary purposes.

The report then went into a detailed mode of cleansing, and recommended that a similar system of lime washing and cleansing to that in use at Edinburgh should be adopted, where it appeared, that during the period from September 14 to November 7, the entire cost for cleansing was 42*l*., and was divided as follows:—303 staircases, 898 rooms, 248 closets, 894, making a total of 2,343, and the average expense of each is $4\frac{8}{10}$d. or a fraction above 4¼d. each. This calculation was based on the assumption that a special cleansing corps was retained for that purpose, but, by taking advantage of the services of the ordinary scavengers in the performance of this work, the expense will be greatly reduced. The report concluded by stating, that

"The commissioners do not undertake to recommend any particular purifying liquor; but they understand that investigations made by some competent medical authorities justify the mentioning of the following substances* as some of those which, when diluted, may be used with advantage:—sulphate of iron; the chlorides of sodium, of iron, and of manganese; the nitrates, sulphates, and chlorides of lead,* copper,* zinc,* and tin; pyroligneous acid; the pyrolignites of iron; the mother water arising from the manufacture of any of the above-mentioned substances; coal tar; schistous and bituminous extracts. Of the above, the sulphates and chlorides of iron are said to be the best."

It was resolved, that the recommendations of the General Purposes Committee be adopted by the court, with such modifications and alterations as to minor points as may be necessary from time to time.

On the question that 470 feet of pipe drainage be laid down in Westminster Abbey precinct, on payment of 65*l*., the estimate for the works—

Lord Morpeth drew the attention of the Court to the following notice of a question from Sir De Lacy Evans to Lord Morpeth, which appeared in the votes of Parliament of that day. The noble lord then read the following:—

"In consequence of the cleansing of some cesspools in the precincts of Westminster Abbey, last spring, typhus fever of a virulent character broke out in the cloisters and in the school, many deaths took place from it; the third report of the Sanitary Commissioners states that it seems to be owing to the mistake of emptying these cesspools into a sewer that has no proper fall and sufficient outlet to carry off its contents; it is intended to open and cleanse out the sewer in a few days; this sewer is said by the commissioners to be in a dreadfully impure state, and, if opened at this season, will doubtless emit most pestilential gases, to the danger of the health of the inhabitants of the precincts. And that the Dean of Westminster is of this opinion—is inferred by the inhabitants—from his breaking up the school a week earlier than usual; the question anxiously wished to be asked, on the part of the inhabitants, is to know if the Chief Commissioner of Woods and Forests will give direction that the opening and cleansing of this sewer should not take effect until a colder season of the year, when it will be less dangerous in its probable result."

Mr. Austin said it was not proposed to open the sewer at all, but merely to flush it with water.—Mr. Chadwick said the matter had been carefully considered by those who had the deepest interest in it, namely, the Dean and Chapter of Westminster, who were of opinion that the existing state of things might be diminished, if not entirely removed, by cleansing. The fever cases that had been alluded to arose from the state of the locality. In the future cleansing operations precautions would be used that were perhaps neglected before, so as to remove the dilution in such a manner that there would be no evolution of the smell that now takes place from matter below the earth, but to postpone this measure would only be to increase the danger.—Dr. Southwood Smith bore testimony to the danger of allowing matters to remain as they are. It would be the greatest injury to the locality to postpone the removal of poisonous matter to a future period.—Mr. Chadwick was of opinion that what had given alarm as to fever were most efficient means of destroying it, and the officers who had been examined upon the subject considered an extension of these means the most efficacious in relieving the district, and had given the greatest satisfaction to all by whom they had been tried, and in many cases thanks had been awarded to the commission for their exertions in preventing the accumulation of poisonous matter.

The Hon. F. Byng said he held in his hand a list of 1,000 answers to the operation of their mode of cleansing, in which every individual was well satisfied.

The Metropolitan Sewage Manure Company.—The next business was to consider the steps to be

* As several of the above are poisonous, they must be used with caution.

taken in consequence of a pipe laid without leave by the Metropolitan Sewage Manure Company into the Counters Creek sewer.—Mr. Byng moved that the engineer of the company be summoned to appear before the General Purposes Committee.

Lord Morpeth thought it would be desirable that they should see the officers of the Sewage Company, that the General Purposes Committee should take the whole matter into consideration, and report the result to a future court. He therefore moved a resolution to that effect.—The resolution was seconded by Mr. Broderip, and carried unanimously.

Mr. Byng then moved the following resolution:—"That the engineer of the Metropolitan Sewage Manure Company be summoned to appear before the General Purposes Committee on Thursday next, to show cause why he should not be fined for what has been done, and that the Committee should report to the court what steps they may recommend in this matter."—The resolution was carried.

The Ordnance Survey of the City of London.—Mr. Chadwick said, as satisfactory arrangements had been entered into with the city authorities, who were willing to contribute their quota of the expense of the map of their jurisdiction, he begged to move the following resolution:—"That the City Commissioners of Sewers be invited to name one person who may sit on the Survey Committee on all questions where the survey of the city jurisdiction may be in question, and who may be the channel of communication of general information in relation to the progress of the work."—Carried.

A communication was received from the Board of Health of St. James's parish, Westminster, calling for an efficient drainage.—Mr. Byng said the drainage of this parish was really frightful.

State of the Drainage of Kent and Surrey.—At the request of a commissioner, the clerk read the following extract from the report of the assistant-surveyor, Mr. Lovick, on the state of the drainage of the Kent and Surrey district:—

"At the junction of the Friar-street and the Blackfriars-road sewer the effluvium was exceedingly strong; it was of a peculiar odour, exactly at times like that produced by the decomposition of eggs, strongly impregnated with coal-gas.

"Every part of the exposed surface of the sewer was covered with a white efflorescence: the water in the sewer was covered with air-bubbles; it appeared in some places actually to boil; there was a continual hissing produced by the generation of these bubbles. The sewer was filled to an average depth of two feet two inches with very foul, black, stinking water.

"When we had proceeded to the man-hole, about forty feet from the side entrance opposite No. 12, the safety-lamp with which we were provided went out, the air was so foul as to be incapable of supporting the combustion. We were deterred from again lighting it, as had we made the attempt an explosion must inevitably have occurred. At this point, myself, the superintendent of the flushers, and the man who accompanied us, were seized with a fainting sensation; the superintendent became alarmed, attempted to rush back, and fell, fainting, in the water, at this place upwards of 2 feet in depth. It was some minutes before we recovered him, as we were in total darkness, and ourselves affected by the foul gas. All the silver and copper money, our watches, and almost every article of metal that we had about us, were coated with a peculiar dark, livid tint. The Friar-street sewer is of modern construction; it was built by order of the late Commission of Sewers, in the latter part of last year. It has upright sides and curved inverts. Its invert is some inches below the outlet into the Blackfriars'-road, the connection appearing never to have been perfected; the side of that sewer is left to a height of 1 foot 10 inches,—thus damming up the water in the Friar-street sewer, which immediately behind this barrier is 2 feet 1 inch in depth; at about 3 feet distance it rises 3 inches, making the depth of water at this point 1 foot 10 inches. At about 20 feet distance it again sinks 4 inches—making its depth at this point 2 feet 2 inches. Proceeding towards the head, the fall appears to tend reversely throughout its whole extent, the sewer appearing to be half-filled with dead and stagnant water. It is a vast elongated cesspool, and appears to be a continual generator of the most deadly gases. It is to be apprehended that the introduction of flame may be attended with the most disastrous effects; by the slightest accident this may occur."

Mr. Chadwick said this was an example of the kind of sewers frequently met with, which emitted the foulest odours. This sewer, too, was only built at the end of last year, by order of the late commissioners,—which the present commissioners, without the powers of a new Act of Parliament, could not remedy, and therefore it was highly desirable that their new Bill should be passed into a law. He thought, however, it would be impossible to do what was required for the sanitary condition of the people until the subterranean survey was completed.

The court was then adjourned, for the Tower Hamlets, to the 24th inst.,—the other districts to the 31st.

TRIAL OF THE COMPRESSED AIR LOCOMOTIVE ON A COMMON ROAD.—Baron Von Rathen's invention at the College of Civil Engineers, Putney, recently travelled, it is said, from Putney to Wandsworth, at the rate of eight miles an hour, but there unfortunately burst its wind-pipe from too high pressure. The Baron literally compresses his air into bottles prepared for the purpose. The experiment in question is by no means regarded as a failure by the more sanguine advocates of the Baron's system.

Miscellanea.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 4th September, for the erection of the new Municipal Hall, Chesterfield; by 22nd August, for the erection of Wesleyan Schools at Brockmoor Kingswinford; by 6th September, for the construction of $2\frac{1}{2}$ miles and $3\frac{1}{8}$ miles of the Vale of Neath Railway, and for sinking shafts and driving headings on same (separate tenders); by 21st August, for relaying the permanent way of the Blackwall line, and for altering the gauge of same; by 31st, for the execution of the remaining portions of the Ashford and Hastings, and Tonbridge Wells and Hastings lines, between Rye, Robertsbridge, and Hastings; by 30th, for the construction of a road, 1,200 feet long and 30 feet wide, near Norwood Cemetery; by 20th, for laying about 1,470 feet of 15-inch tubular earthenware glazed pipes at Oxford; by 7th September, for constructing 1,445 feet of sewer in the Holloway-road, and 1,880 feet in the Seven Sisters'-road; and by the 24th, for surveying, mapping, and valuing the parish of Tutbury.

COLOGNE CATHEDRAL.—A correspondent of the *Athenæum* says,—"Workmen swarm like ants inside and outside the building. The stroke of the mallet and trowel, which has sounded for the last few years like the re-animated pulse of the building, is quickened to a feverish speed; and Zwirner, the architect, allows himself so little rest either to body or mind, that his pulse must be pretty much in the same condition. Yet, with all this activity, there remains so much to be done, and so little time to do it in, that to a mere looker-on the work seems more than human hands can accomplish. It is not only that the temporary roof has to be finished above and the pavement laid below, but the light of heaven still pours in on each side through a wide gap between wall and roof; and the greater part of the grand north and south transept windows—especially of the latter—with all their splendid tracery, still lie scattered in the workshops. The King of Bavaria's new painted windows—which were received here the other day with the roar of cannon and strewing of the streets,—are only half-way up; and even when all these essentials shall have been completed, the clearing away of the accumulations of materials and rubbish inside and out, will be itself a herculean task." The writer continues,—The chief subjects of the three whole windows are, "The Adoration of the Three Kings," "The Entombment," and "The Ascension." The Munich glass painters have every gradation of the palette, from the three primary colours to the most tender neutral tints, completely at their disposal. Their yellows especially shew their superiority—we have nothing better than a dirty orange at Westminster. All are of the highest beauty of conception and colour. "The King of Bavaria may well boast that his Munich glass painters are the first in the world. I doubt whether, as artists in any line, the Munich school ever appeared to greater advantage than it does here. The artists chiefly concerned in these windows have been Professor Hess and Herr Ainmüller."

IS A PERPETUAL MOTION AT LAST DISCOVERED?—An intelligent friend, in whom we have confidence, writes to us gravely from Lille, to state that a mechanic there, after thirteen years' effort, has positively obtained *the means of perpetual motion*. Parties have formed themselves into a company to bring the discovery before the public, and on Tuesday in last week a meeting of these, including some engineers connected with mines, was held to witness the machine in operation, and the only objection made, according to our informant was, that it was not applicable to navigation; but this the inventor denies, maintaining its applicability to all purposes. The present machine is of wood, but it is decided to make one of iron. We need scarcely say, that we are not believers in perpetual motion, having the word *friction* floating in our mind, and we have often cautioned correspondents against being led into so dangerous and deceitful a chase; but in this case the circumstances are put before us by so careful a mind, that we are bound to wait rather than to scoff. A belief prevails there that the British Government some time since offered an enormous premium for the discovery of this power, but we are disposed, after inquiry, to consider this belief erroneous.

COMPETITION.—Plans and a specification are wanted for a new Union Workhouse, at Oldham, for 600 inmates, at a cost not exceeding 10,000*l.*, including architect's commission. Plans previously sent in may be sent in again for consideration, with certificate, &c.

THE FIRE-ANNIHILATOR.—A trial of the fire-annihilator and fire-escape, described by us recently, took place in the presence of Sir George Grey, her Majesty's Secretary for the Home Department, at the London Gas-works, Vauxhall, on Tuesday (15th inst.). Besides Sir George, who was accompanied by Lady Grey, were present the Speaker of the House of Commons, Lord and Lady Wharncliffe, and other influential persons. Lord Dudley Coutts Stuart explained the objects of the inventions, and the humane purposes to which they are applicable. A correspondent who was present says,—"The action and evolutions of the fire-escape were new to many of the company, and the quickness with which the men mounted and descended, some even head foremost, and four or five in the most hurried manner, was sufficient to convince all present of the care and ingenuity of its contrivance, which have saved sixty lives, and cannot, so long as the machine is unimpaired, admit of an accident. But the power of the annihilator, its instantaneous extinction of a body of flame from a pool of blazing pitch, 7 feet in diameter, and the smothering of a large and fierce fire of tar barrels in less than a minute, excited the greatest amazement."

THE MEN OF THE OLDEN TIME.—The Egyptian antiquities rebuke us sufficiently in showing us that at that time men were living very much as we do:—without some knowledge that we have gained, but in possession of some arts which we have not. They confound us by their mute exhibitions of their iron tools and steel armour; their great range of manufactures, and their feasts and sports, so like our own. In their kitchens they decanted wine by a syphon, and strewed their cakes with seeds, and pounded their spices in a mortar. In the drawing-room, they lounged on *chaises-longues;* and the ladies knitted and netted as we do, and darned better than we can. In the nursery the girls had dolls; jointed dolls, with bunchy hair and long eyes; and the boys had little wooden crocodiles with snapping jaws. In the country we see the agriculturists taking stock; and in the towns the population divided into castes, subject to laws, and living under a theocracy, long before the supposed time of the Deluge. There is enough here to teach us some humility and patience about the true history of the world.—*Miss Martineau's Eastern Life.*

PEAT CHARCOAL.—A scheme, in aid of Irish interests, but unconnected, it is said, with Irish landlords, has been set on foot for the employment of the Irish peasantry in the manufacture of peat charcoal, for smelting purposes, and for the incidental reclamation of bog lands; the surplus profits to be expended in improving the social condition of the people. Large tracts of land, it is said, have been taken in Mayo and Roscommon for the purpose, and a meeting for the establishment of this Irish Amelioration Society was held in the Hanover-square Rooms, on Wednesday week, at which Mr. Jaspar Rogers developed the scheme.

THE VERNON COLLECTION.—We mentioned a fortnight ago, that the trustees of the National Gallery had determined on clearing out the lower rooms of their building, and hanging Mr. Vernon's fine collection there: and so they had; at least so one of the trustees themselves told us. But it seems they had determined too quickly, for when professional parties were directed to examine these rooms and report on their fitness, the report was so decidedly unfavourable, that the idea, as we understand, has been abandoned, and matters remain in the same unsatisfactory state as before. We are sorry to hear that "the honour of *knighthood*" has been offered to Mr. Vernon in return for his munificent gift and noble example: it was of course declined.

PEDESTRIANISM IN THE BRICKYARD.—A Gloucester paper says: There is a lad in a brickyard who walks, or rather runs, over a space of ground equal to sixty miles daily. Nor is the space travelled by any means the most arduous portion of his task; for he has to

carry, during thirty miles of his journey, a mould or hod, containing wet clay, weighing together more than 12lbs., and for the other thirty miles, he has to carry back the empty mould, weighing 4lbs., and he has to stoop and pick up the mould no less than six thousand times! What is the gathering of a hundred stones in a single hour compared to the unintermitting exertion of this poor over-worked boy, whose labour in running, stooping, and lifting, is continued for eighteen hours in succession, during which time he removes upwards of twenty-four tons of wet clay? Prodigious as all this appears, we have the authority of the boy's employer that the fact is literally as above stated, and further, that it is not a solitary performance, but has been done for five successive days during the present week. The daily earnings by this amount of labour are stated to be *half-a-crown!*

TRINITY COLLEGE CHURCH, EDINBURGH.—In the course of our recent notes in Edinburgh (which, by the way, circumstances have forced us to leave incomplete for the present), we mentioned the proposed destruction of Trinity College Church by the Railway Company, and expressed regret that one more of the very few remnants of old Edinburgh was about to disappear. We are glad now to be able to say that the structure is to be removed stone by stone and rebuilt elsewhere. Every stone of the old building has been numbered on the face of it with distinct characters, and daguerreotypes of the whole have been taken, including, of course, the number of every stone in its place; and with the aid of these daguerreotypes the church is to be re-erected.

SCHOOLS OF DESIGN IN MECHANICS' INSTITUTES.—The Committee of Management of the London Government School of Design have instructed inquiries to be made into the state of the drawing classes of the mechanics' institutes belonging to the Union of Yorkshire Institutes, and to report whether a supply of the Elementary Drawing Book, or other examples of art to a small amount, would be acceptable to them, and to afford them information and advice. This liberal offer was founded on a suggestion in the report of the committee of the Leeds School of Design. The council at Somerset House, with the sanction of members of the Board of Trade, have increased the annual grant for the Leeds School of Design.

THE BRITISH ASSOCIATION AT SWANSEA.—The eighteenth anniversary commenced on Wednesday week, and continued with full attendance and *eclat*, but without the reading of any papers that have hitherto come under our eye as requiring notice in the columns of THE BUILDER. The presidentship, resigned by Sir R. Inglis, was held for the season by the Marquis of Northampton. The mineral treasures of the district of course bore a chief share of the interest of the meeting.

TENDERS

Delivered on the 8th ult. for additions to the workhouse of St. Leonard's, Shoreditch: Mr. Wm. Tress, architect;—

For Vagrant Wards.

Loyd	£1,479
Loynes	1,446
Wood	1,415
Howlett	1,365
Wythe	1,335
Walker and Co.	1,311
Curtis	1,286
Taylor	1,211
Muggridge	1,210
E. Carter (accepted)	1,197
Hughes	1,190
Perry	1,190
Norris	1,179

For Laundry, Drying-rooms, &c.

Wood	3,445
Loynes	3,340
Loyd	3,320
Perry	3,260
Walker and Co.	3,199
Wythe	3,169
Taylor	3,040
Curtis	3,018
Stephenson	2,970
E. Carter (accepted)	2,860
Hughes	2,800

TO CORRESPONDENTS.

Received.—"H. M." (Thanks: it shall be mentioned); "W. P. G." "J. O." "A Constant Reader" (*re* Lodging House, St. Pancras—next week). "A Subscriber," "T. R. M." "Constant Reader" (Hampshire), "J. G." (Guernsey). "R. B. C." "E. C." "W. R." "H. R." "R. H." "E. W." "A. M." "R. H." An "Operative Mason," "C. E. D." "Country Architect," "B. S." "A Young Carver," "H. and Co." "Subscriber from the first," "R. H." Bath, and "A Subscriber" (Town Clerk, Leicester). Wells and Haverson's Portable Copying Machine.

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REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

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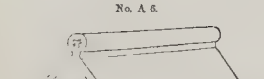
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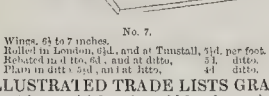
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THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrimgeour, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly, March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Agent, Mr. Lawrence Hills, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pentridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.



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ALL Persons desirous of taking exact Copies of letters, plans, or other documents, are recommended to use the PORTABLE COPYING MACHINE, by which *fac similes* may be readily taken in one minute. The machine may be carried in the coat pocket, without inconvenience, and in case of need may be used as a life protector or special constable's staff. Price 10s. 6d. Sold only at WELLS and HAVERSON'S, Stationers, &c., 41, Gresham-street; and 1, Aldermanbury.

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IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and machinery of all kinds in connection with banking houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price.

Designs furnished and estimates given

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office of the Patentees, 38, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of H. HOWARD and Co., Old-street, HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection is invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great improvement of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to drop down, and thereby avoids the necessity of using the ratchet wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Threadneedle-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Drawings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c. CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate-street, City.

ZINC! ZINC! ZINC!—To BUILDERS and the Trade generally.—2-inch pipe, 4d. per foot run, including fixing.

2½	ditto	5½d.	ditto ditto.
3	ditto	8d.	ditto ditto
3-inch eaves gutter,		4½d.	ditto ditto.
4	ditto	4½d.	ditto ditto.
4½	ditto	5d.	ditto ditto.

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-mouldS, Paterae, &c., &c., 36-inch Centre, Flowers fixed complete, 24s each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 49, Parker-street, Drury-lane.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam GLAZED STONE WARE DRAIN PIPES on hand

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may easily be prepared to imitate any of the varieties of Italian marble, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in the application for which purposes it checks the progress of Fire and the attacks of Vermin.

Potentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos 284 and 285, pages 343 and 355, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purpose of building, the cementing power of Portlan Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not crack, corrode, or turn green; nor is it affected by any atmospheric condition whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable, the Proprietors can give completion Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence they have always shown by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflouese in any degree. The fine quality will recommend it to the most discriminating taste; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystalizing properties, that the least solid, when gilt or bronzed, will not or drawn, may be immediately polished, painted, papered; and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by THOS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S FIRE PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against being imposed upon by the Insoluble Cement which is erroneously said to be of the same description. S. and S. pledge them selves that MARTIN'S CEMENT is entirely unlike in composition and manufacture from every other, and being a neutral form powder, is not only free from chemical agency upon any substance with which it may come in contact, but is capable of resisting the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. Rapid setting and hardening.
2. Unbreakable, fine, smooth, and hard—and uniform throughout its structure.
3. Its surface when it may be made equal to that of the finest marble. NEVER THROWS OFF ANY SALT, and will receive paint in four days, without peeling, when put upon dry work

It is peculiarly adapted to internal decorations, such as cornices, mantlepieces, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and unitorm surface give it an immense advantage over stone, being, at the same time, much more economical in use. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 168 DRURY LANE; Agent for Liverpool and Manchester, Mr. R. PART, 3, Cannon-place, Liverpool

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has had extensive and satisfactory use, under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence, who may be addressed to Mr. TODD, Patentee, 25, Poultry-street, Soho, London.

EMERSON'S PATENT LIQUID CEMENT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT STONE; it can be used as stone on fresh Roman cement or other plastering, and is partly dried previously for country houses, villas, or rate entrances that have become soiled or stained, can be at once beautified in any weather, at a more trifling cost.—Sold in casks of 1 and 2 cwt, at 8s and 15s each

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalt roofs, balconies, roofs, spouts, and gutters, does, stick to, and will preserve all kinds of outdoor work, atmospheric influence and decay—forms a perfect protection, and will form a hard enamel. Price 2s per gallon.

PATENT ASPHALTIC ROOFING FELT, of the best quality, at one penny per square foot, in pieces 29 yards long, and 32 inches wide

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard street.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now 8s. or NINE SHILLINGS PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms. CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. & W. H. JACKSON beg to call the attention of builders to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding Crown in all respectable dwelling houses. BRITISH and ROUGH PLATE, CROWN, SHEET, and ORNAMENTAL GLASS supplied at the lowest terms. Lists of prices, and every information, can be had on application at their warehouse, 315, Oxford-street.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about 15 per cent has been made in the usual glazing sizes Sheet, Crown, and Ornamental Window-Glass Warehouse, 38, Southampton, London

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock in hand, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot. Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.

THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH of fine Oak or Whitestock, 10s; Brunswick, 8s per gallon; White Lead, 27s, and Colours and Brushes; Water Closets complete, 30s; Lifting Pumps and Cocks of every description.

Milk Pans, Preserving Pans, &c, and Cucumber Glasses; Paperhangings from 1s per piece upwards, of very superior description.

CHAS. WM. WATERLOW,

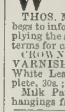
MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, and lowest prices.—Upwards of 100 Sashes and A large variety of Sashes and Frames always on hand. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



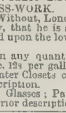
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



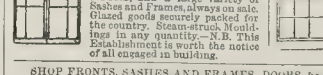
JOHNSON and PASK,

1, Orchard-street, Clerkenwell, near the Sessions House,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.

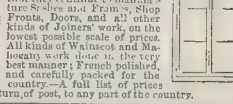


RIDER'S RAILWAY BRIDGE.—To Railway Companies.—A PROSPECTUS of the above newly invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licences granted for its erection, on application to Mr MOULTON, Bradford, Wilts.



BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SPECIFIC LEVERS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common oval key, can be obtained only of the Manufacturers, Messrs CARPENTER and BLISS, 29, Aldersgate-street, or from the sole Agent, Mr JOHN PATERSON, 31, Lower Sackville-street, 28 Martin's-lane, Cannon-street, London, opposite the Lion Tavern Coffee-house



T. PUGH'S REGISTERED RIM LOCK. —T. PUGH and Co. beg to invite the attention of Architects, Builders, and the trade generally, to their new Rim Deadlocks and Latches, in other respects of the ordinary construction, but covered by a metal rim, which, when the key is withdrawn, protects the keyhole from dust, and prevents the entrance of any specific instrument. This simple and inexpensive contrivance will prevent thieves picking the locks, and is equally applicable to the commonest as to the most costly description of locks. T. PUGH and Co. have also registered a new and improved Mortice Latch, which, by the application of a spring, will prevent the door from being forced open. Orders for the above, and for Mortice locks and latches, Plate, Cabinet, and Rim Deadlocks, Porcelain, Glass, Ivory, Brass, and Iron Furniture, and Bells of every description, may be addressed to T. PUGH and Co., Patentees and Manufacturers, Wolverhampton, and 3, Paul's Chain-yard, London.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms largest stock of these articles, of all sizes, made in the best manner, and of the most approved pattern, fitted with CHUBB'S PATENT DETECTOR LOCKS, the wards of which cannot be picked, and which, on actual trial, resist all force. FIRE PROOF SAFES of every size, and Iron Chests, Books and Ledgers for sale. Private Safes, and CHUBB and SON'S Safe Manufactory, 57, St Paul's Church-yard, London.

PRO BONO PUBLICO.

CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. DEBENHAM, STORR, and SONS, manufacture for their own Sale, and for Messrs. CHUBB and SON, LEADBEATER has no respect of any other Fire-proof Doors, Safes, or Chests, than those supplied by him, or IMPROVED DETECTOR LOCKS. Other Establishments using WROUGHT or CAST-IRON FIRE PROOF DOORS, SAFES, and CHESTS, are constructed on principles which cannot resist the FIRE and THIEVES, without the aid of a Composition, which is manufactured and used only by LEADBEATER, and which cannot be employed by any other person. LEADBEATER, 63, Dorset-street, London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks. Price and Sizes of Leadbeater's Safes, Strong Room Doors and Safes have now been put up with the SINGLE DOOR COMPLAINT, and fifteen years' practical experience, during which he has had an extensive and valuable improvement in fire-proof security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought iron fire proof folding doors with ventilating gratings made expressly for bankers' strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabbited frames, as recommended by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 5l. each, always on hand at LEADBEATER'S MANUFACTORY 123, ALDERSGATE-STREET, LONDON.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Ramshaw-street, Birmingham. Lists of prices forwarded upon application.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Markets, Places, Roads, Gardens, and for Liquid Manure. BRICK MAKERS' PUMPS, in Wrought and Cast Iron. HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, Keps for Hire.

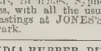
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Sash Cords, Sash Line, Taps and Screwing, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acid without injury—do not become hard or stiff in any temperature; but are always perfectly flexible; and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, on short notice, or to order. Vulcanized India-rubber sheet for lining cisterns, &c., and other purposes. Copper branch and union pipes complete, ready to be attached to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Patentee, 33, Gresham-street, London.

N.B. Vulcanized India-rubber valves. Full sizes for pumps or hot water and steam pipes, and planed sheet rubber any thickness for all kinds of joints, and other purposes



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of ROUGHT IRON TUBES for Locomotive and Marine Engines, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Rain-water Gates, Iron Gates, Balconies, Window Guards, Verandahs, Garden and Staircase Panels, Iron Screens, Tomb Enclosures, Area Railings, Lamp and other Brackets, Cantilevers, Sash Lines, Weights, Water Closet Work, Area Gratings, Tiles and other Sheets, Wheels, Pulleys, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose of the structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot-plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being quite smoke secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and workmanship.

GLOVER'S FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER WIRE CORD for WINDOW SASH LINES, Hoisting, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent has many decided advantages over the hempen cord, and is upon the recommendation of the most eminent engineers employed by the Admiralty, the Ordnance, and other public departments, to be connected with the Wire Cord must be laid which, and specimens may be seen at the office of the Patentee, No 164, Fenchurch-street, W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street; E. PARKES, 146, Fleet-street; T. JONES, 63, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily used for CONDUCTORS for BUILDINGS and other buildings from the effects of which insurance companies, etc., grant insurances over others not conducted. References can be given to many of the principal buildings in London and the principal towns in the kingdom to which they have been conducted, and testimonials to be seen signed by the EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their PATENT PANELLED and REVOLVING IRON SHUTTERS, which are fixed in the Architectural Restoration and Cabinet Work Exhibition, and are much admired for their security, simplicity, cheapness, and efficiency. Offices of Inquiry, &c.

Patent Lifting and Sash Action Door Springs,

Improved Fire-proof Lamps,

Patent Fire Sash Lines, &c., &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall-board Plates, Brass Rail, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH, 69, Princes-street, Leicester-square, London.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington butts.

N.B. Cowley and Fen Bricks of every description, and Kentish Rag Stone direct from the Quarries

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers and others to their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Orders may be left from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving Tiles, Malm Paving Sand, Loose Sand for Land Walls, River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, power on each general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

The Builder.

No. CCXC.

SATURDAY, AUGUST 26, 1848.

STEAMING across the country with architectural and archæological societies, and seeking to give our readers early information of all matters in which they may be supposed to take especial interest, and to discuss the current questions of the day, architectural, constructive, sanitarial, and artistic, as they arise, we have allowed our notices of forthcoming and published books to fall *en arrière*, and must endeavour to remedy the omission. Mr. Weale's advertised "Rudimentary Works for Beginners," embracing civil engineering, architecture, perspective, building, foundations, stone, law of contracts, &c., in tenpenny volumes, if properly done, will be a boon to a large class who are constantly applying to us to know where they can get the information they need, in a cheap form. The price is a low one, and will render a large sale necessary: but if the works are well done, the sale will doubtless be found. "It has been remarked," says the publisher, "that those who are in the ship of science ought to remember that the disciples cannot arrive without the aid of boats." Popular treatises are to science what boats are to large ships; they assist people in getting aboard; but as no one would trust himself to a weak or inefficient boat, so no one ought to begin the study of science with an imperfect guide. It sometimes happens that popular treatises are made to appear easy by the omission of those very details which are most essential to be known: they state results without going through the necessary processes by which those results are gained; they deal largely in facts, and leave principles untouched. Let those to whom the task of drawing up these treatises is confided bear these remarks in mind and act upon them.

A work on the "Rural and Village Architecture of Italy," by Mr. Charles Parker; a third edition of Downing's "Series of Designs for Rural Cottages and Cottage Villas;" and "Specimens of Ancient English Ecclesiastical Architecture," by J. Potter, are amongst the announcements.

The Architectural Publication Society is slowly filling its list of members, and preparing for action. Local secretaries have been appointed in many of the principal towns, who will collect subscriptions in their separate localities, distribute the works of the society, and receive and transmit suggestions to the committee. The desire is to enrol 500 names if possible before commencing publication; and there ought to be no difficulty in doing this, appealing, as the works will, to several large classes. It is by no means desired to confine the operations of the society to architects; we hope to find the builders numbering strongly in the list. And we would suggest to our readers who have not already subscribed their guinea, that they should not delay doing so till the society begins its operations, but join it at once,—not wait till the thing is done, but come forward *and help to do it*.

The committee will require to consider well their first step in publication, as by that they will probably be judged by many. The hope expressed by Mr. Cockerell in 1845,* that "The English architects, taking the dictionary of Quatremère de Quincy† as an example, would produce a perfect book upon the art, one man taking one part, and one another part; so as to render it of the highest authority, of extreme use, and of a character to reflect such dignity and glory on all concerned, that he was anxious to see it commenced;" and the remark of Sir William Chambers, in the preface to his treatise, that "One thing of very great use remains still to be done, at least in our language; which is, to collect into one volume what now is dispersed in a great many, and to select, from mountains of promiscuous materials, a series of sound precepts and good designs,"—are the texts which the committee adopt to work on. To the last, however, they will doubtless have to look first.

Foremost amongst the books now on our table, on account of both size and subject, is the first part of Mr. Clayton's "Illustrations of the Parochial Churches erected by Sir Christopher Wren in the metropolis,"‡ which, like the society just named, seems to owe something to Mr. Cockerell, who, the author remarks in his preface, has always pointed out from the chair of the Royal Academy, that the architectural delineation of Wren's minor churches was a *desideratum*, and further, has aided him by suggestions during the work and contributed measurements and drawings made under his own superintendence.

The work is of very large size; and the present part contains twenty plates, lithographed by the author, illustrating the church of St. Benet Fink, now destroyed; St. Antholin's, Watling-street; St. Stephen's, Walbrook, five plates; St. James's, Garlick-hill; St. Swithin's, Cannon-street; Christ Church, Newgate-street (with sufficient profiles of mouldings at large to stock a modern architect in compo); St. Peter's, Cornhill; St. Michael's, College-hill; St. Nicholas, Cole Abbey, Old Fish-street; and St. Mary's, Abchurch. They pretend to be nothing more than geometrical outline drawings of plans, sections, elevations, and details, and we are bound to confess are but coarsely lithographed, and lend no charm to the buildings they pourtray. It is, nevertheless, a very valuable work, and Mr. Clayton deserves great praise for entering with the energy and spirit here displayed, on so laborious and important an undertaking. Remembering, too, that his object has been to produce a comparatively cheap publication, and make it easy of reference, we are sorry to be obliged to qualify our praise even to the extent of the preceding remark.

The examples in the part before us, make evident Wren's skill in planning; his mastery of the science of vaulting; and the peculiar skill with which he produced spires for Italian architecture, opposed as this feature is to the principles of the style. The fertility of his invention, and the science he exhibited in effecting his purpose are alike beyond praise.

St. Stephen's, Walbrook, is very fully illustrated, and recalls to our mind with pain the still deplorable and disgraceful state of that edifice, which, for harmonious proportions, ingenious arrangement, and constructive skill, is truly admirable. The Corporation of London, and even the Legislature, ought to interfere, if the parish persist in shamefully neglecting their duties.

In respect of relative proportions, the drawings given by Mr. Clayton enable us to observe the curious care taken by Wren. Thus, in the church last named, St. Stephen's, Walbrook, the height to the crown of the cupola inside is exactly the width of the building between the walls. The height of the tower and steeple of St. Benet Fink, up to the cross surmounting it, was exactly five times the width of the tower. The height of the tower of St. Antholin's is four times its width, and, with the spire, exactly eight times: the internal height to the crown of the oval cupola in the same church is exactly the same as the greatest length between the columns which carry it. The height of the tower of St. James's, Garlick-hill, is four times its width, measured to the under side of the arch which terminates it internally, and exactly six times including the steeple,—and the minor divisions are regulated by the same unit. St. Swithin's Church is formed into an octagon, and the height to the crown of the cupola is the same as the width. St. Peter's, Cornhill, has the same width as height, and the length of the part inclosed for service is exactly one and a-half time its width. The height of the tower of St. Nicholas's, Cole Abbey, is four times its width, and with the steeple six times: the length of the body of the church inside is one and a-half time the width, and the height of it is half the length. It is, unnecessary, however, to pursue the inquiry further here.

The superior fitness of the Pointed style of architecture for ecclesiastical structures is so universally admitted in England at this time, that "The Works of Wren" will not serve as models for new *churches;* at all events, for the present generation. In designing other buildings, however, they will be found eminently suggestive; and this publication, therefore, has a value beyond that of being a mere record of the works of one of our greatest men,—the architect of the cathedral church of St. Paul. Truly, indeed, has it been said,—"A variety of knowledge proclaims the universality, a multitude of works the abundance, and St. Paul's the greatness, of Sir Christopher's genius."

Lithography has been used for another series of illustrations recently published, entitled "Outline Views of Beverley Minster," from drawings by Mr. John Johnson, Architect.* A splendid memorial of the skill of the mediæval architects is Beverley Minster, ranging, as it does, from Early English to Perpendicular,—of which latter period the west front is one of the finest examples in the kingdom. The Early English screen in the Lady Chapel, and the Percy shrine—a glorious piece of decorated work—are quite perfect in their way.

Mr. Johnson's work, of folio size, includes views of the west front, east front, Percy shrine, eastern transept, north porch, choir, the ladye chapel, the nave, the transept, and a general view. They are nicely drawn, but might have been better lithographed. There is no gradation of force: thus, for example, the lines of the great east window, in the view of the choir, are as black as those of the stalls in the foreground, so that the effect of distance is lost, and the whole becomes crowded and obscure.

The view of the transept and the view of the nave (both fairly executed) show a proposed

* Urged also in The Builder on more occasions than one.

† "Dictionnaire Historique d'Architecture, comprenant dans son plan les Notions historiques, descriptives, archæologiques, biographiques, théoriques, didactiques et pratiques, de cet Art." Paris, 4to., 1832.

‡ "The works of Sir Christopher Wren. The Dimensions, Plans, Elevations, and Sections of the Parochial Churches of Sir Christopher Wren, erected in the Cities of London and Westminster." By John Clayton, Architect. Longman and Co.; or at the author's residence, 38, Elizabeth-street, Pimlico.

* Published at Messrs. Day's, 17, Gate-street, Lincoln's-Inn Fields.

new choir screen of Early English character, but as there is no letter-press we do not learn whose design this is, or under what circumstances it is proposed to be erected.

We mentioned some time since the unlimited freedom allowed to the public in Beverley Minster, and we advise such of our readers as may find themselves within a reasonable distance of this beautiful building, to pay it a careful visit, and not to forget their sketch book when they do so.

THE ARCHÆOLOGICAL ASSOCIATION AT WORCESTER.

Worcester Cathedral (as may be inferred from what we said last week) presents a very curious admixture of all the styles of architecture which have prevailed in England since the coming of the Normans, and earlier, if the believers in the Saxon origin of the crypt, which we are not, should happen to be right. The whole history of architecture may be illustrated there, and the characteristics of each style pointed out. The crypt aforesaid; a very curious large semi-circular arch in the east wall of the south transept, with rudely sculptured capitals; and the lower part of the chapter-house, with its arcade of semi-circular intersecting arches, will serve to make evident some of the chief features of the Norman period. In the two westermost bays of the nave, where the pointed arch is mixed up with the semi-circular arch and zig-zag adornments, we see the evidence of transition to the first pointed style, of which, in its perfect state, the choir and the easternmost transepts present such beautiful specimens, wherein some of its most prominent characteristics,—the acutely-pointed arch, crisp, sharp, twisting foliage in the capitals and corbels, the dog-tooth moulding, &c., are obvious. The nave shows the change to the decorated style, and many of the window-openings throughout the cathedral, are filled in with tracery of the perpendicular period, distinguishable even by the least initiated, by the tendency of the mullions to continue perpendicularly up from the cill to the arch. Prince Arthur's monumental chapel, between the chancel and its aisle, at the junction of the south transept, affords us an example of the last period of that style, when panelling and sculptured ornament covered every foot of surface, and debasement was coming on.

That the series may be further carried on, there is a screen across this same transept, of *Italian pillars and arches* grotesquely out of place. During the perambulation of the cathedral, which Mr. Ashpitel in continuation of his paper led the association, Mr. Godwin ventured to urge the importance of such an alteration of this screen as should remove the incongruity, and the response was not unsatisfactory. At the same time he briefly pointed attention to the bad, if not dangerous, state of the eastern transepts; and we would here urge more strongly on the excellent dean and chapter the necessity of early remedial measures.

The cloisters, of the fourteenth and fifteenth centuries, with their lavatories, perforated piers between the windows, and the buildings attached, have many points of interest.*

Some of the adjoining buildings which were visited, seemed new, even to the town's-people who were of the party. "*The Guesten Hall*," now divided and cut up by temporary partitions and floors, is a fine apartment, and has an exquisite open roof of the fourteenth century. The restoration of this hall would be an honourable achievement, and should be again attempted. On the end wall, which is exposed, are some very curious paintings fast hastening to decay. They appear to represent the adoration of the wise men. The Virgin Mary, with the Infant Saviour in her arms, is in one compartment, and the wise men in another. Over the first, the exclamation, *Gloria in Excelsis Deo*, in Tudor letters, may be read.†

To return to the business of the meeting: on Wednesday evening, amongst the papers read were some observations on the study of brasses, by Mr. J. G. Waller.

On Thursday a party proceeded on an excursion to Pershore and Evesham, concerning which a professional friend who accompanied them gives us the following notes.

Pershore contains the remains of a fine monastic church; the choir, south transept, and a lofty decorated central tower alone are left. The choir is a beautiful specimen of Early English, and was built after the old one had been burnt in 1224. The south transept is a singular pile; its workmanship is of the rudest character, the walls are threaded by arcades at irregular heights, the lower of which is ornamented by a zigzag, formed apparently by repeated strokes of the point of a pick; the upper ones have very rude caps and plain soffits. The documentary evidence is simple; the church was founded by Egelward in 689, it was burnt in 1002, and again in 1224; nevertheless the old part is pronounced to be Norman. A member present remarked, he supposed the Saxons were, in the opinion of some folks, like the celebrated Mrs. Harris—"they didn't believe there were no sich people." We trust the active exertions now making will shortly develop something more definite on this subject. The party were escorted round the church and park by Mr. Bedford, and then partook of a luncheon provided by the Rev. Mr. Chowne, whose exertions and spirit in the cause of ecclesiastical architecture merit commendation.

From the beautiful town of Pershore, the party proceeded under the Bredon hills to the lovely vale of Evesham. The *coup d'œil* on entering this town is superb. The bright broad river, the ancient bridge, the town divided into two parts, and rising right and left from the rich vale; and last, not least, the unique sight of three splendid towers in one churchyard excited remarks of enthusiastic character. Space will not allow us to enter at length into all the archæological and antiquarian features of the place—suffice it to say, that the curious church of All Saints and the church of St. Lawrence stand in the same churchyard. The latter a short time back was roofless, and dilapidated, the nettles filled the aisles, and the grey moss hung round the pillars; it has lately been restored, under the direction of Mr. Eginton.

So far, "our own correspondent," as contemporaries say. The archæologists then proceeded to the residence of Dr. Beale Cooper, where another collation awaited them; in fact, hospitality was shewn the association everywhere. Of this, however—of Lord and Lady Conyngham's *soirée* on that same evening, when Mr. Buckingham prefaced the opening of the mummy, which was fixed for the next day, by a brief description of Thebes—of the mummy itself, and the able manner in which Mr. Pettigrew illustrated by it the history of embalming, exciting his audience beyond what could have been anticipated—and of the public dinner, whereat Lord Lyttleton presided—we need not speak; nor even of the closing day, when well-deserved votes of thanks were offered to both "town and gown," for their hearty reception. Suffice it to say, that the whole concurred to render this the most gratifying meeting the association has held; and, in respect of the original invitation to the council, fully to justify Worcester in retaining its ancient appellation of the FAITHFUL CITY.

THE PATENT DOMESTIC TELEGRAPH.—Since our notice of the application of the principle of the electric telegraph to domestic purposes by Mr. Reid, of Birmingham, he has made some improvements, and extended the use of the instrument in hotels, taverns, tea-gardens, coffee and chop-houses, public companies, and private houses, and even in mines. The alteration is confined to the dial-plate, on which the specific questions and demands are disposed in due order.

THE SMOKE NUISANCE.

SUGGESTION FOR A REMEDY.

"Breathe not the chaos of eternal smoke
And volatile corruption from the dead,
The dying, sickening, and the living world
Exhal'd, to sully Heaven's transparent dome
With dim mortality.
* * * * * * *
The lungs abhor
To drink the dun fuliginous abyss."

THAT an atmosphere, thickened and polluted by sooty matter, is injurious to health as well as productive of personal discomfort, is a fact sufficiently attested in the evidence of many medical men besides Dr. Armstrong, from whose "Art of Preserving Health" the foregoing passage is taken. In Mr. John Leigh's communication to the Health of Towns' Commissioners, upon the injurious effects of coal smoke, we learn that diseases of the respiratory organs, including phthisis, exist in the great manufacturing districts of Lancashire and Cheshire to a greater extent than in any other part of the kingdom; that phthisis, in most cases, if not always, is the result of a very low degree of inflammation of the pulmonary tissue, amounting to scarcely more than irritation, and that coal smoke, or soot consists of particles capable of irritating the lungs when inhaled, mechanically by the insoluble carbon and chemically by the sulphate of ammonia they contain.

With scientific evidence before us, such as this, in addition to that innate consciousness which every man has, however little acquainted he may be with the physiology and chemical effects of respiration, of the physical injury arising from the inhalation of air surcharged with the palpable products of combustion, none perhaps will venture to deny, that how to prevent the emission of smoke from furnaces is a question of vital importance to the community, and that a legislative enactment enforcing the use of some approved plan, or plans, for that purpose, is much to be desired. The desideratum is, however, some generally practicable mode of effecting this. To require that all furnaces shall consume their own smoke, if no sure preventive to its emission exist, would be an obnoxious measure; and although, as in the Smoke Prohibition Bill recently brought before the House of Lords, and thrown out, there might be introduced a saving clause excluding furnaces used in certain manufactures from the operation of the Act, and allowing any party complained of "to shew that he has adopted and carefully used some well-approved method for the consumption of the smoke issuing from such furnace, and endeavoured, to the best of his power, to abate the nuisance arising from the same," yet the liability of all proprietors of furnaces to be summoned, perhaps repeatedly, and the being compelled to shew not only that they had endeavoured, to the best of their power, to abate the nuisance, but, moreover, that the methods used by them were well-approved ones, might be productive of much useless trouble and expense, and, consequently, of an amount of mental irritation more hurtful, perhaps, than the mechanical or chemical irritation of their neighbours' lungs by the inhalation of the smoke complained of.

In this condition of things, while Parliament is manifesting a desire to enforce the adoption of such sanitary regulations as appear the best calculated to promote the general weal, and is deterred from passing a measure having for its specific object the prevention of the smoke nuisance, merely because of the non-existence of preventive means applicable to furnaces in general, it is incumbent upon all whose occupation or calling is connected with the combustion of coal in large quantities, to give the smoke problem their best consideration, with a view to the discovery of such mechanical or chemical appliances as may be found subservient to the end in view.

While endeavouring to discover what form of mechanism is best adapted to produce a given effect, the engineer is often very materially aided by the casual observation of some natural means, specially adapted to an end analogous to that proposed. So striking, indeed, are the points of resemblance between some of the applications of mechanical science and certain of the innumerable contrivances of nature, that were the study of physiology to form part of the general education of an engineer, there would no doubt occur to him, from the contemplation of the infinite variety of means admirably adapted to certain ends, many useful

* In these cloisters is the tomb-stone inscribed simply MISERRIMUS, which has given rise to some sonnets, and a well-known powerful prose tale under the same title. There is a volume in the inscription itself,—*The most miserable!*

† Quoting the local "Guide," we said last week that St. Andrew's spire is 55 feet 6 inches high. Consideration suggested that this must be wrong, and looking to Valentine Green's "Survey of the City of Worcester," we found it there set down as *one hundred* and fifty-five feet six inches, which seems much more like the truth. In our first paper we accidentally omitted notice of the president's deserved commendation of some specimens of stained glass, by Mr. George Rogers, of Worcester, which were exhibited in the Assembly-room.

suggestions for the better prosecution of his professional labours.

But to discover in nature any mechanical operation which may be suggestive of some effectual method whereby to prevent the emission of smoke from furnaces, needs no previous study, or abstract investigation of things remote from our common experience. For healthful purposes each one of us is provided by nature with an apparatus whose chief office seems to be that of freeing the air we breathe from all palpable impurities therein suspended. To preserve from injury—

"Those tender cells that draw the vital air,"

is perhaps the main utility of the nose. Although physiologists describe it merely as the seat of the sense of smell, its wondrous adaptation to the purpose of which we speak is most obvious. "The extent of the cavities belonging to the nose is much increased by their communicating with various other sinuses or cavities in the neighbouring bones. All those cavities, together with the sinuses with which they communicate, are lined with a sensible and delicate mucous membrane." The air, instead of passing directly into the lungs without impediment, enters the distended nostrils, and being carried onward by the act of inspiration, is made to impinge upon the walls of those crooked passages, which, being lined with an adhesive mucus, firmly retain all particles of soot or dust, and other extraneous matter, thus brought in contact with them. This important agency of the nose is most remarkable in foggy weather, when, if the air be inhaled through the mouth, a painful sense of oppression at the chest will be distinctly felt; but if drawn through the nose, with the mouth closed, the pain and discomfort directly cease, by reason of the cleansing process thence ensuing. Here, then, we have presented to our notice an apparatus, expressly designed by an all-wise Creator to effect a result precisely similar to that which we propose to ourselves—an exact model of the thing of which we are in search—perfect in action and simple in construction. Can it be imitated? We think it can. Between the flue and the chimney of a furnace, let there be interposed some contrivance analogous to the nasal organ, and the emission of smoke will be assuredly prevented by its retention there, if not by its consumption. So far, in a general view, the matter appears quite practicable; the only difficulty lies in the construction of that part of the apparatus representing the lining of the nose. In the living model the secretion of mucus is, at all times, proportionate to the quantity of foreign matter contained in the air, because on that depends the degree of irritation or excitation of the mucous membrane, without which it remains dormant. We may not hope to imitate so perfect a contrivance in all its details, nor may we expect to succeed in producing a machine which, like the nose, shall instinctively detect the presence of unduly large particles of matter, and on the instant dislodge them by a convulsive movement analogous to sneezing. But for the mere interception of soot in its passage from a furnace, such structural refinement and perfect action are unneeded. All that we require for the accomplishment of that object, is a hollow vessel formed in its interior after the fashion of the nasal sinuses, and constructed either of some porous material, or of metal, minutely pierced, so that water, or some other fluid, might constantly enter from an exterior reservoir, in imitation of the mucous secretion.

There is every reason to believe that such an arrangement would be found perfectly efficient in retaining the sooty particles of smoke; moreover the first cost would not be considerable, while the expense of supplying the apparatus with water would be scarcely appreciable, especially where a steam-engine existed, and might be wholly counterbalanced by the sale of the deposited soot, for manuring or other purposes.

The apparatus might be modified by the application of an air pump, to draw the smoke and gases through water, so that the gross particles of soot would become saturated with the fluid, and remain behind, the gases alone escaping into the atmosphere.* The working of the pump would require a very small expenditure of power as will be presently shown. According to Tredgold, "we may state the quantity of air and smoke in round numbers, for coal and coke, at 2,000 cubic feet, for each cubic foot of water converted into steam." Supposing a 14-horse engine to require the evaporation of one quarter of a cubic foot of water per minute,—according to that computation we should require a pump capable of pumping 500 cubic feet of air per minute, that is to say, if working at the rate of 30 revolutions per minute, about 18 inches in diameter, and 5 feet stroke. To draw that quantity of air through water 2 inches deep, would be tantamount to raising 500 cubic feet of water 2 inches high per minute, or 5,208 lbs., one foot high per minute. Allowing the friction of the pump to absorb about the same amount of power, $\frac{5208}{14000}$ = about one-third of a horse power required to overcome the total resistance.

But the utility of such a contrivance as that last described, in preventing the emission of smoke from chimneys, would be little in comparison with its probable value as a means of neutralising the poisonous products evolved in many manufacturing operations. In the second report of the Health of Towns' Commissioners, it is justly said, that "too much importance has hitherto been attached to the mere influence of lofty chimneys in removing to a distance and diluting the noxious fumes which many manufactories evolve. In themselves, they in no way destroy the emanations which are conveyed into them,—these are discharged as much as before into the external atmosphere; and experience has proved that even very lofty chimneys, on which large sums have been expended, do not necessarily insure that amount of admixture with the common air which is essential to prevent the most injurious consequences on their deposition, even at very considerable distances.

By the use of chemical solutions, instead of water, as the fluid medium, it appears to us that an air-pump, so applied, would be found a most efficient substitute for the chimney, as a means of preventing the vitiation of the atmosphere by nauseous, acrid, and other noxious fumes from manufactories. As far as the engineer is enabled to judge, however, such a result is merely conjectural; by suitable structural arrangements and mechanical appliances he may contrive to collect the deleterious gases, rapidly as they are evolved, and force them into one general current, but it is for the chemist to determine whether, by the interposition of any chemical solution or compound between the extremities of that channel, we may hope to fix or destroy the contaminating elements, and thus prevent their escape into the atmosphere.

The subjects to which this paper relates are obviously of very great importance to the community at large, and if the practical utility of the suggestions here made for the prevention of atmospheric contamination should be confirmed by actual experiment, they might prove, perhaps, of material assistance to Government in its earnest endeavours to improve the sanitary condition of the country.

* The Hookah pipe is an exemplification of our meaning.

RESTORATION OF GLOUCESTER CATHEDRAL.—The dean and chapter have made a beginning. The west front of this magnificent cathedral is undergoing restoration, and we heartily hope that the good work thus commenced will steadily go on. Something, too, has been done in the choir. A stone pulpit has been erected on the north side, in the room of the wooden pulpit which occupied the centre; and it is whispered that the unsightly pews are to be swept away and replaced by kneelings fronting the east, in conformity with the style of the choir. The *Gloucester Chronicle* says,—"Some months ago we threw out a suggestion for the removal of the modern screen, which injures the effect of the glorious east window and hides the Lady Chapel, and we sincerely trust that this necessary work will be undertaken sooner or later. Let *the choir*, at all events, be put in perfect condition. The restoration of Gloucester Cathedral would be a vast work; but when we look at what has been achieved in the neighbouring diocese of Hereford—what has been done at Wells—we do not despair."

ON BRICKWORK,

MORE ESPECIALLY WITH REFERENCE TO ITS APPLICABILITY TO MODERN DECORATIVE ARCHITECTURE.*

In all ages and countries—even in a barbarous state—man has had sufficient common sense to satisfy his wants with the materials with which nature has provided him; and enveloped, as he has been, in beauty and its ever-bursting seeds, he has cultivated the soil around, to give vigour and durability to their growth.

Wherever a geological position gave dignity to the building *material*,—where the Pentelican rocks reflected the golden and mellow hues of the Athenian sky,—upon *that* were their ideas of beauty stamped,—their historical chapter of the world's civilization charactered; but, wherever the floods have washed, or the freshening rivers divided the land, and formed alluvial soil, the *brick* structure is seen upon its confines—a monument to man's ingenuity and nature's bounty is mirrored in the waters. It was so in walled Babylon, in buried Pompeii, in Thebes "of the hundred gates;" and do we not see around us sufficient reason for its more general adoption, in decorative architecture, in our own land,—

"This sparkling stone,
Set in a silver sea."

In Rome, where man's genius was made visible in the magnificence of nature, the offspring of Tiber and of earth was made no inferior decoration to the city; and each nation that fell back dismayed before the Roman eagle, and the bright swords o'er which it towered, failed not to gather the art-fruits that blossomed on this natural soil, in the footsteps of the mighty Julius.

The most essential properties of a building material are strength and durability, for without these it is unworthy to enshrine an artist's thought, which, like all intellectual creations—

"Yields proof
That it is born for immortality."

To demonstrate the strength of bricks I quote a few memoranda of experiments conducted at the works of Messrs. Cubitt, and reported in THE BUILDER.

"A place brick, faced with plaster, yielded to 11, and crushed with 16½ tons.

A good stock yielded to 30, and fell to pieces under 34 tons.

A superior washed stock yielded to 36, and was crushed by 44½ tons.

A pressed and kiln burnt stock, made for superior purposes, ground on both sides to get a true bed, *bore a pressure of* 60 *tons* (the limit of the power of the ram used), *and was taken out sound and uninjured*. A similar brick, *not* ground, but faced with plaster, resisted the same pressure without crushing, but was slightly broken at the edges."

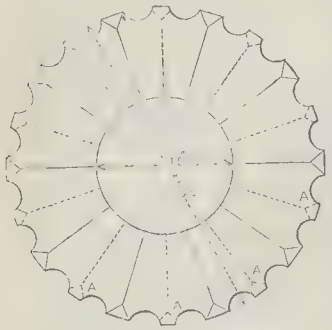
By the result of experiments added in the report, on three pieces of Caen stone of the size of a brick, viz., $9 \times 4\frac{1}{2} \times 3$, we find that the first, which had the bed parallel with the end, and at right angles with the pressing surfaces, was cracked by 30 tons (not in the line of bed) and crushed by 39 tons. The second block, with the bed parallel with the vertical face, and at right angles to the pressing surfaces, stood 42 tons before it crushed; and the third, with the bed parallel with the pressing surfaces, was slightly cracked by 40 tons, but stood 50½ tons before it crushed.

These figures require no comment: they speak plainly, and forcibly declare that it is not on the ground of strength that brick can be objected to. But, it may be said, there is a difference between the strength of a *single* brick and that of a mass where it is used with others in conjunction with mortar or cement: in support of this view, the recent failure at the Euston-square station may be instanced. To this, I would answer that where good cement is used the objection is removed; for we find, that when the separation of a mass of brickwork has been attempted, as in the Babylonian ruins, the *bricks* have often given way, and the cement has remained unimpaired. With respect to the columns mentioned, the bricks in that case neither gave way nor were crushed. The accident was attributed (if I recollect rightly) by Professor Hosking to the

* Read at the Architectural Association, Lyon's-Inn Hall, Strand, July 7, 1848.

unsettled state of the cement and to the inferior bond (for in consequence of the increased duty, if the bricks be expressly moulded, the ordinary sort were used and cut to the *external* shape required, but the necessary *internal* shape, to insure stability, was, in a measure, unheeded). Therefore, a fair estimate of the strength of a brick column, cannot, from this, be formed, nor can thence a substantial objection to their general employment be raised, especially as we have ocular testimony of their success, when well constructed, in buildings erected centuries since. For instance, in a basilica at Pompeii—which may truly be called "the link wanting to connect our perfect acquaintance with the customs of Greece and Rome"—there is a column where every "bond" difficulty is obviated. The whole of the face bricks radiate from the centre, and are about 2 inches thick. There are ten bricks required to each course. To prevent the joints coming in the centre of the fillets (for the column is fluted), small triangular bricks are placed there, but the bond prevents any two of these being placed adjoining, either in a vertical or perpendicular line.

This is clearly shewn in the adjoining sketch. AA are the small bricks referred to.



The dotted lines shew the position of the bricks in the courses above and below.

Neath the shade of

"Those bricky towers,
The whiche on Themmes brode aged backe doe ride,
Where now the studious lawyers have their bowers,"

there is a pair of three-quarter columns, nearly two centuries old, without the slightest appearance of decay. The bricks of this example are so closely set that the joints are scarcely discernible.

A more ancient, and more highly ornamental example of the successful application of the brick column is the Temple of the God Ridiculus, at Rome. We there find the Corinthian order complete with modillions, dentils, and several other enriched members, all executed in brick. Even for the foliated cap no other material is resorted to. I have not seen a plan of this column, so am unable to say if the bond be well preserved; but the sole fact of its *existence* is sufficient to prove the applicability of brickwork to this section of decorative architecture. The bricks should always be expressly moulded to suit the bond. The *first* expense will then very little exceed that of the ordinary brick column, with its coat of compo vainly endeavouring to hide the constructive defects.

While amongst the Roman works I may remark that the brick coins and bonds to walls of rubble-work (as seen there, at Pompeii, and the ruins in our own country) must have contrasted well; it reminds one of the good effect oftentimes obtained in flinty counties by the use of brick dressings to flint walls. We are told Hans Holbein built, in this manner, the gateway opposite the Banquetting-house, Whitehall. Both red and white bricks were used, in conjunction with flint, and the fronts were decorated with busts in circular recesses, surrounded by mouldings of baked clay.

I think a good effect may, at all times, be relied upon, if the dressings be made of a slightly superior material—even, without enrichments.

Another suggestive feature, perceptible in the Roman works, is the thin tiles occasionally introduced, which are well adapted for the smaller mouldings of modern decoration, especially as, the duty being the same as on an ordinary brick, the additional expense is only the trifling amount that results from a few more of them being required to construct the same quantity of brickwork.

A word or two, ere we proceed further, on the durability of brickwork; and for proof, we must wander among the sad remains of Babylonian grandeur, or on the Egyptian pyramids' still slowly crumbling sides, whose silent rhetoric reveals a truer statement than even their undeciphered characters might unfold. We see there, at once, the shackles of an enslaved race, and the durability of a monarch's folly.

I am aware that the wedge-like shape, the absence of vegetation, and the favourable climate, add considerably to its powers of resistance; but, let us not forget the bricks are only sun-dried, and are laid without reference to bond. Yet, there they stand,—the throne of, at least, forty centuries, whose united voices are undeniable.

If further proof of its durability be needed, we have it in the portion of a frieze discovered on the banks of the Nile. It is a curious and suggestive piece of work, formed of brick, in conjunction with stone, and is supposed to be all that remains of a minaret erected in the vicinity.

I do not, for an instant, assume that brick is the most durable of building materials; but, from all that time tells—or rather *conceals*, for he records his opinion of the past only in its decay—it may fairly compete with ordinary stone. We have seen it superior in strength to Caen stone; and we find that it still exists (in addition to the buildings before mentioned) in the walls of St. Botolph's Priory, where intersecting Norman arches on columns are found; in the details of parts of St. Alban's Abbey; in divers churches in Hamburgh, of a date as early as 1135; and in the Byloke, which is now the principal hospital in Ghent. A view of it is given in the "Picturesque Architecture of Paris, Ghent, Antwerp, Rouen, &c." "The architecture," writes Mr. Boys, "affords a beautiful example of carved tracery in brickwork, with which buildings in Flanders are ornamented." At Pisa, it is said, there still exists brickwork in a good state of preservation, and of a texture almost equal to stone.

How many stone buildings have within these periods sunk beneath the noiseless tread of Time! and even in many buildings erected by the later Gothic architects, to touch is to mutilate them.

To the use of brickwork in the new Houses of Parliament, I do not of course, object. The materials are of equal durability (or nearly so), and there has been a considerable pecuniary saving by its adoption. The noble pile may not, in consequence, prove so interesting to the exploring member of a future Otaheitian Archæological Society, who—some satirical folks have prophesied—will stand upon the bridge and contemplate its ruins, but I perceive no other reason that may be urged against its employment there.

I would lay it down as a rule that wherever stone can, with equal facility, be procured, it should be used; but if the expense will not admit of its sole employment, it should form the dressings to brick walls. If the state of the finance prohibit the use of stone altogether, let an artistic spirit be infused into brickwork. As in past times it has been richly carved, and moulded into intricate, often disagreeable, and sometimes unmistakeably ugly shapes, so it is equally susceptible to beautiful impressions if minds so will it.

Normandy abounds largely in ornamental work of this material.

Some short time since, moulded bricks were found at St. Sanson sur Rille. "They were of four shapes," writes Dr. Bromet, "the first were set lozenge-ways, like the *Structura reticulata* of Vitruvius; another resembled a fish-scale, or more properly, a butterfly's wing, since if arranged with others of the same shape, it will produce that kind of ornament called by the French '*papilloné*.' Another form was that of the parallelopiped, having a rectangular projection from the centre of its face." (It may be noted that this latter form would serve for, and might, as Dr. Bromet suggests, have been used as, either a dentil or a fillet.)

Moulded bricks are occasionally to be seen geometrically arranged as ornaments. In a church between Berlin and Spremburg, there is a beautiful example of Norman intersecting arches, executed entirely in moulded bricks; and in two churches at Berlin, the *enriched* window mullions of the towers are of this material.

Turn we now to England,—to the seats of our 16th and 17th century nobles. Their fronts, ruddy with the hue of bricks, look unartificial and healthy. First, Layer Marney House, with its cornices, mullions, pinnacles, corbels, &c., all of white brick, "cast in moulds, in large and thick masses." This affords us a useful lesson, which has proved profitable to the architect of Cossey Hall, Norfolk, where a like good result springs from the same cause.

Another fine pile is seen

"Close by those meads for ever crown'd with flowers,
Where Thames, with pride, surveys his rising towers;
There stands a structure of majestic frame,
Which from the neighbouring Hampton takes its name."

Nearly, if not the whole, of this structure is of red brick, with stone dressings, and the work is admirably executed. The ornamental parts executed in brick are confined almost entirely to the chimney tops, which display workmanship of the finest texture, combined with harmonious and fanciful design. They closely resemble those of a rival work, Eton,—

"Frowning thro' the trees
Her hollow turrets woo the evening breeze."

Notwithstanding their beauty, the placing of high chimney-tops, such as these are, on gate-lodges, like that to the New-square, Lincoln's-Inn, cannot but be reprobated; for is it not evident, that an ornament which appears proportionate at an altitude of 40 or 50 feet must be oppressive when surmounting a poor little place about 8 feet cube?

There is also at Hampton Palace a heraldic shield, with figures formed in moulded clay. Another instance of brick figures is found at East Barsham Hall,—a building, I believe, solely decorated with this material. Oxburgh Hall, says Britton, was also almost entirely constructed of brick,—even the ceilings and floors. The coved ceiling in tower of entrance-gateway (which is covered with ornamental brickwork of various kinds) is composed of ribs and moulded clay: in the opposite tower there is a staircase formed of it; and records tell that it formed the principal feature in the composition of a secret door in the castle.

Wm. Boutcher.*

THE LONDON FEVER HOSPITAL COMPETITION.

ARCHITECTURAL PRACTICE.

Sir,—I beg to address you on the subject of the Fever Hospital, and to request that you will favour this communication with the earliest insertion, and I much regret that circumstances prevented its following the number of your journal in which was illustrated the plans, &c. of the building now in the course of erection.

I most unwillingly open this question again, which has entirely ceased to interest me personally, and nothing would have induced me to do so, but the strong feeling I entertain of its general importance, which thus renders it a duty I owe the profession.

I will briefly give your readers an outline of the case, that they may understand how they are affected by it.

A limited number of architects (three) were applied to, to furnish designs in the competition for this building, and two of the plans were particularly selected, one having the distinguishing feature of wards of a *cruciform* character; the other, of *double wards*. The latter was successful, and was about to be carried into execution, when the interest of the president (Lord Devon) was exerted in favour of his *protégé*, Mr. Fowler, to overthrow the decision of the committee and the avowed best design for the object of the insti-

* Remainder next week.

tution. This was effected by misrepresentation as to the cost, and by a curious plea of the power of the trustees, which last rendered legal redress impossible. However, the plans and working drawings were paid for and delivered to the committee, and the claims of the design were abandoned.

Having thus stated the leading features of the case, I now call attention to the plan exhibited in The Builder of the 12th of August last, with Mr. Fowler's name attached thereto, and it will be found that the abandoned plans are, with slight modifications, being carried out.

A legal right may exist with the committee, but there is an evident want of moral feeling; but this has arisen from the influence of the party above-named, whose actions throughout have borne this character. But what, Sir, is to be said of a member of the profession, one of reputed high standing, who can attach his name to the ideas, and almost the design, of another competitor?

I have previously said, as to personal feeling I care little for this result; but it appears to me that it strikes a fatal blow at the principle of competition, and moreover involves a point of how far any architect has a right to pirate the ideas of another, and attach his name thereto?

As I consider these questions affect the practice of the profession, I have deemed it right to inform its members, by the aid of the wide-spreading circulation of your journal, that they may be known and considered by them, and I feel I shall have fulfilled my duty, and it shall not invite me to trouble you again in the matter (if answered), as I will not allow it to assume the character of a private controversy, but intend to base it on broader grounds.

An exact statement of the case will be laid before the council of the Institute of British Architects, supported by proofs of all I have here alleged; and I shall request that this tribunal will consider the facts and deliberate upon them, not so much for the case itself, as upon the principles involved therein, and I feel, in so doing, I shall have delegated the power to the right authority, to pronounce upon what appears to me to affect each and every individual in the profession.—I am, Sir, &c.

D. Mocatta.

57, Old Broad-street, Aug. 17, 1848.

THE NEW SEWERS BILL.

As this Bill has been read a third time, it may be interesting to our readers to be made acquainted with the extraordinary powers conferred on the Commissioners of Sewers by its provisions. It consists of 146 clauses, but the following will be found an abstract of those of direct interest, a great number being necessarily devoted to details:—

The preamble recites the districts hitherto acting under separate commissions — viz., Tower Hamlets, St. Katharine's, Poplar and Blackwall, Holborn and Finsbury, Westminster and part of Middlesex, Surrey and Kent, and Greenwich; and the first clause declares that, from the passing of this Act, they shall, with all other places in the counties of Middlesex, Surrey, Essex, and Kent, being not more than *twelve miles distant in a straight line from St. Paul's Cathedral*, be subject to and under the jurisdiction of the Metropolitan Commissioners of Sewers.

Clause 2. That the duration of each commission of sewers shall be limited to *two years*.

3. That the commissioners appointed for the purposes of this Act shall be denominated "The Metropolitan Commissioners of Sewers."

4. The Lord Mayor of London, and four persons appointed by the Common Council, for special purposes, to be commissioners under this Act.

6. No commissioner to vote on any question in which he is personally interested, under a penalty of 50*l*.

7, 8, 9, 10, and 11, settle as to the property of sewers, actions not to abate on the expiration of commission, officers to be continued, rates made by former commissioners to be recoverable, and six commissioners to exercise all powers conferred by this act.

12. The Lord Mayor and four persons appointed to vote on all questions affecting the City of London.

13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 regulate the holding of courts, and the appointment and duties of committees.

24 to 30 regulate the appointment and duties of officers.

31. That a map of the jurisdiction of the commissioners shall be made, and a copy open at all seasonable times, to the inspection of owners or occupiers of lands within the commission.

32. Commissioners may agree with officers of the Board of Ordnance, that a survey may be made by surveying officers appointed by them, at such remuneration as may be agreed upon between the parties and the commissioners.

33. Commissioners may separate the drainage districts in such manner as they may deem expedient.

34. Commissioners may sub-divide, unite, extend, contract, or alter the limits or boundaries of the districts from time to time.

35. Commissioners may forbear to exercise jurisdiction if deemed expedient.

36 and 37 refer to the subject of jurisdiction, and for the repair, alteration, and discontinuance of sewers.

38. That for the purpose of carrying off any water or drainage flowing from sewers in this commission, it shall be lawful for the Metropolitan Commissioners of Sewers to require the City Sewers Commissioners to carry sewers into or through the City of London, or the Liberties thereof, or to alter or repair the same.

39, 40, 41, and 42, give the commissioners power, when they shall think fit (failing the City Commission), to alter or improve the city sewers and to divide the cost between the party liable and the district.

43 gives like power in respect of other sewers, &c.

44 gives full power to cover and to cleanse sewers, and dispose of the sewage.

45 declares that no house shall be built or rebuilt without proper drains. If proper drains are not made and continued into a suitable sewer, if within 100 feet, or otherwise a cesspool under certain restrictions, after 28 days' notice, commissioners to form the same, and recover the expense from the owners of the property by distress or sale of goods, or of the then present or any future occupier.

46. That the surveyors under the Buildings' Act shall make a return to the commissioners of all notices of building or rebuilding houses within their respective districts, and such surveyors shall take notice of all contraventions of this Act.

47 to 51 regulate the management of water-closets, drains, cesspools, ditches, streets, &c., any nuisances arising from the same to be removed on notice from the commissioners, and also give powers to cleanse any tenements, streets, passages, places, or walls from any dirt or annoyance whatever.

52. The commissioners to have power to erect public water-closets and other conveniences, and maintain the same out of the district sewers-rates.

53 to 58 regulate the protection of the drainage works, and penalties for improper substances cast therein.

59 to 72 regulate the power of the commissioners to enter on lands, to stop up streets, enter into contracts, purchase lands, compensate, contract for supply of water, &c.

73 and 74 apportion the sewers-rates for the district; and such rates may be made either prospective or retrospective, and the charges of permanent works spread over a period of 30 years.

75. Commissioners may impose district-rates in gross on parishes or places in whole or in part within the areas rateable thereto, or to assess and levy such rates upon the occupiers of the property, as from time to time they may think proper.

76. Tenants may deduct sewer-rate from rent.

77 to 112 all relate to the regular mode of enforcement, &c., of rates, precepts, mortgages, &c., and the borrowing of money.

113, 114. Expenses incurred by commissioners in drainage works within the City of London to be assessed in gross on the City.

115 to 119 relate to general provisions as to money matters—appointment of auditors, annual report to Parliament, &c.

120. Commissioners may make bye-laws as to penalties, appeals, construction of drains, suits and proceedings, limitation of actions, venue, and as to the clerk being a competent witness in any action.

121 to 129 relate to law-suits—commissioners not personally liable, power to examine upon oath, and to decree and assess costs, &c.

130 to 134. Penalties for obstructing officers or damaging property of commissioners, and as to common informers.

135 to 138 relate to service of notices and distresses, the authentication of documents; 139 to 141 to repeals of local and other Acts.

142. The general law of sewers to be applicable to commission under this Act.

143. The City Commissioners of Sewers may exercise within the City and Liberties the like powers and authorities for enforcing house drainage as are hereby given to the Metropolitan Commissioners of Sewers within the limits of their commission.

144. Interpretation clause.

145 enforces the new Act for two years; and 146 provides for its amendment, &c.

The present Act repeals two Acts in the Holborn and Finsbury division, four in Westminster and part of Middlesex, and four in the Kent and Surrey district.

RESTORATION OF BARFRESTON CHURCH.

FREEMASONS OF THE CHURCH.

At a meeting of this society, on the 8th inst., Mr. Stothard read a descriptive and historical account of Barfreston Church, Kent, concerning which structure notices have appeared in The Builder on several occasions. The paper was illustrated by numerous drawings. At the close of it Mr. Stothard requested the Rev. James Gillman, the late rector of Barfreston, to give some account of the manner in which the restoration, effected about six years ago, at a cost of 900*l*., was managed. Mr. Gillman accordingly made the following statement.—

The church of Barfreston, which consists of a nave and chancel, divided by a very beautiful arch, on each side of which are two blank arches, was restored in the following manner:—In the first place, two recesses, which had been cut in each of the very thick side walls of the nave, where they join on to the chancel, were filled up by a facing of brick and cement inside, flint stones being laid in dry behind, and parts of the old work cut out, and then all grouted together, so as to form a complete bond. The south side of the chancel was then underpinned, brick and cement being used inside, flint work outside, all bonded together up to the string course, about four feet high. At the east end there were two blank stone arches, but which had run away from the wall they were intended to support; these were taken down and built up again, together with the wall, and underpinned: a good foundation of concrete was also added here. The north side of the chancel, which was completely dislocated, was taken down and replaced, brick and cement being used for the internal part. Above the string course before alluded to the external walls are ashlar. On the south side of the chancel, the interior face of flint work (very rotten) was cut away; the brick and cement continued upwards, and grouted in to the old ashlar work, which was not removed except to alter two windows of a later insertion. The east end, much cracked, was then taken out, in the form of a V, down to the arches, as the two groins were perfect, and each stone being marked, was restored to its original position. Lastly, the chancel arch was taken down, and restored in the same manner, stone by stone. There has been no crack or settlement since.

Our readers will remember that Barfreston is a Norman church. The length of nave and chancel together, according to Mr. Stothard, is 41 feet 6 inches; the width of nave, 16 feet 10 inches; the width of chancel, 13 feet 9 inches.

At the same meeting, Mr. W. Cave Thomas read a paper "On the Influences which tend to retard the Progress of the Fine Arts," which we shall give in full.

NEW PILOT-HOUSE, DOVER.

Mr. S. BEAZLEY, Architect.



NEW PILOT HOUSE, DOVER.

Extensive improvements in the neighbourhood of the South-Eastern Railway terminus, at Dover, having involved the removal of the pilots' station, it became necessary to provide other accommodation for them, and hence the structure shewn in the annexed illustration.

The new erection occupies a site about 200 feet west of Cheeseman's Head, contiguous to the terminus, and within 10 feet of the sea wall; it stands upon a solid bed of concrete 10 feet thick, which is carried down to where the shingle, from its compactness, forms an excellent foundation: it is built of brick, with dressings of Portland stone cement, the balcony excepted, whose floor is of York stone landings, with brackets and balustrade of Bramley Fall stone. The interior arrangements consist, on the ground floor, of a store room 20 feet square, whence a pair of doors opens on the seaward front, capable of admitting a boat. The first floor is a dormitory, where berths are fitted up; the second story, on a level with the balcony, is the look-out room, and above is another chamber for stores and signals: from this access is obtained to the roof, which is a lead flat, affording by its great elevation a fine view of the scenery around.

Mr. S. Beazley was the architect, and Mr. Grissell the builder.

THE CATALOGUE OF THE BRITISH MUSEUM LIBRARY.

In the Commons recently, Mr. Hume complained that Mr. Grenville's rare and precious bequest was still unarranged, and covered with dust,—and Dr. Bowring, that a classified catalogue for the whole library was much wanted. The Lord-Advocate assured the House, however, that, "by means of the existing catalogue, every book in the museum was at present easily accessible to the public!" Now, hitherto we have consoled ourselves for the want of all but the most contemptible apology for a catalogue, with the hope that in the forthcoming new one—should it come forth at all, indeed, in the mere brief space of a single human life like our own—a dilatory *otium et solatium* would be granted to us in the evening of our days for all those laborious and profound "researches of the portal" into which the ardent student of the mysteries of the Museum must first be thoroughly initiated, ere he can attain to the substance through the shadow; and that we should then, at least, luxuriate, in the *penetralia*, on the exultant consciousness of having gone victorious through all those trials and obstructions amongst which the younger, rawer, and more enthusiastic 'students of the mysteries' still flounder on in the outer courts of the Temple. But even this anticipative consolation for our latter end of life is cruelly denied us; for, if the existing catalogue be regarded as already one which renders every book so easily accessible, what have we to hope for, to look for, to anticipate, in the new? Our hopes are blasted! What did we *want* but an "easy access" to "every book?" and what can we expect, then, in the new, but what, in the old, we already have? An easy access certainly there is—and all in a row of "classification" too—to all the Smiths, and Browns, and Jenkinses, whose works encumber the shelves of the penetralia; but have we such an easy access to all the *Sciences and Arts, and Manufactures, Histories, and Travels*, to which the student who sets the slightest value on his time desires to have prompt and easy access? If there be, we hope we shall have the rare good fortune to find it out some time or other while exploring the catalogical depths. Meantime, when we look for "easy access" to "every book" upon chemistry, or architecture, building, masonry, dynamics, hydrostatics, yea, or even physics or metaphysics, physiology or anatomy, geology or astronomy, trigonometry or geometry,—what do we find? As for "Chemistry" or "Architecture," like so many of the others, not even the word! True it is, that in the old *basis* of the catalogue, wherein something like an attempt at classification seems to have been really made—a basis, however, very rapidly *de*based—we find a collection of a few olden works under the old latin heads of "Chemia" and "Architectura;" even these, however, like all else in the like predicament, being chiefly the incidental and unavoidable titles of the books themselves. And as with "Architecture" so with "Building." If a student turn up this

precious catalogue with any expectation of finding easy access to every book on "Building," he will be surprised to find, or at least induced to believe, that there is not one book of the sort in the whole library, as not one work on "Building," old or new, is there indexed or recorded. Not so with "Masonry," however. There is "A New Song," so called, with a lot of other "old songs" under the head of "Masonry, Free;" and these, with "Mason, Monck," "Mason, William," Mason, Thomas, Robert, John, or something equally explicit and important, exhaust the whole catalogue under head of "Mason," or "Masonry." But there may really be no books in the library on the art of "Masonry," some one may say. Well, we shall not offer either our own or any other evidence on that point; but does any one imagine that there is no modern book on "Chemistry" in it, since there is no such heading or no such collection of books in the catalogue?—Or does he believe that there is no book on "Anatomy" except the "Anatomy of *et cetera*"—a highly characteristic representative, by the way, of such *general* heads of Museum classification and "easy access,"—to which, however, must be here, too, added a few "Anatomias" on the old basis.—Or can he suppose that there is little "Physics," and less "Metaphysics"—a poor sprinkling of "Theology," and as little "Physiology" as "Anatomy," though there are plenty of "Physicians," and no end of "Physic" and of "Law"—on which latter basis, by the way, his lordship, the Lord-Advocate, may probably have grounded his opinion of this immaculate catalogue. As for such obscure and trifling subjects as "Dynamics," of which there is none, or "Hydrostatics," the nearest approximation to which is "Hydrophobia"—with the single exception of a "Hydrostatic ship," a curiosity, in its way, in go-ahead times like these, and the sole representative, too, of all the other "Hydroes," which are avoided, no doubt, out of deference to "Hydrophobia," from which a safe alphabetical distance is thus very properly kept,—it is really needless for us to say even one word more, either on these or on the more important heads, "Geology," "Astronomy," "Geometry," &c., except that the occasional abortive attempts at classification which pervade this poor and pitiful apology for a catalogue, only prove the consciousness of *what* the rule ought to have been, and *that* it has been wittingly as well as indolently neglected. In conclusion, we will venture to characterise it as a production the like of which the meanest circulating librarian in the poorest village in Britain would be ashamed to acknowledge as his handiwork.—The establishment itself sadly needs sweeping changes. It is to be hoped the "commission" will do its duty; but hope with us is stronger than expectation.

BAD WORK, AND WHY.

Sir,—Will you allow an operative mason to make a few remarks in your valuable journal, in which I have frequently seen just complaints of the way in which mason-work is too often executed in various parts of this country. The parties complaining generally state the cause to be a want of competent operatives; but there is another and a greater cause, and that is, that in nine cases out of ten the operatives have not sufficient time allowed them to execute their work in a proper manner. If a man is seen by some contractors or their foreman to take a pride in doing his work well, he is told that he must not take so much pains with it, as it is only so and so, or that it is going at great height, &c.; and if he does not take the hint, and move a little quicker, and consequently much worse, he is paid off, as a warning to the others. The effect of this is, that the men see that he who does the greatest quantity, leaving out the quality, is counted as the best man. I for one, and scores beside me, earnestly wish that sufficient time was allowed us: not that we wish to take advantage of the contractors, but that buildings might be creditable to the present age, and monuments in time to come of the genius of the architect and the skill of the workman.

Leeds. An Operative Mason.

*** We have said the same thing ourselves before now, but cannot refuse to let a workman speak out for his class.

PERPENDICULAR PANELLING: BRANDESTON CHURCH.



PERPENDICULAR WOODWORK.

BRANDESTON CHURCH, SUFFOLK.

The accompanying sketch, presenting a good specimen of the tracery prevalent on church doors during the third Pointed or Perpendicular period of ecclesiastical architecture, is taken from the quiet and little-known village church of Brandeston, near Wickham-market. It is on the west door opening into the tower, which latter is a fine example of cut flint-work so peculiar to the eastern counties.

There is, however, nothing else particularly deserving of notice in the edifice, and a casual observer might pass by many times without deeming it necessary to turn out of the road to visit the church. I myself have done so many times, till, a few weeks since, business required me to make rather a prolonged stay in the village, when, having a few leisure moments, I strolled down to the church, more for the sake of a walk than with the hopes of seeing anything "good," but came away fully impressed with the importance of visiting every church I had an opportunity of seeing, whether prepossessing or not in appearance.

The tracery is entirely worked—as was often the case at this period—with a simple hollow and fillet, and—thanks to rural simplicity and a lack of modern refinement—has escaped the daubing of paint and whitewash so often applied by over zealous and ignorant churchwardens. R. M. Phipson.

Ipswich.

The scale is 1 inch to a foot.

RAILWAY JOTTINGS.

The view taken by us on the engine-driving question has been supported by several of our contemporaries. "Our opinion," says the *Mining Journal*, "is, that all correct-minded men think Mr. M'Connell and his supporters are decidedly in error, and careless for the safety of the public, and that in this case the men are right." Of course none of us have been blind to the fact that the men have studiously, though towards their superiors most respectfully, rung the alarum for the public safety, in order to promote their own interests by the force of public opinion; but events appear to have justified them even in doing that, although the public know but too well that accidents, such as those of last week, will and do occur, in spite of all the engine-driving experience yet accumulated. That the official announcement that the trains were in the hands of competent and efficient drivers has been completely discountenanced by the facts, however, appears but too evident, as also does the assurance that Mr. M'Connell's scheme was not designed, or at least *adapted*, to the ultimate and permanent reduction of the wages of the men. Indeed, the Directors have virtually acknowledged as much in the alleged abandonment of that scheme, provided the men would give in *unconditionally*, which they promptly did, and were thereupon as promptly assured, on the part of the directors, that they would not be prejudiced as regards their present rates of wages, and that their interests in other respects would be fully protected. Suspicions of the good faith of such an understanding, however, on the part of the subordinates, were excited by the exclusion of the firemen from the benefit of a replacement,—and their companions in adversity, the drivers, therefore still determined to stand by the interests of all who resigned employment, as an essential condition in the agreement,—since which, we understand, both firemen and drivers have been replaced; and we sincerely trust that a determination has been come to to keep faith with them, not only to the letter but to the spirit of their surrender, by an abandonment, or a satisfactory modification, of a scheme which we believe must have proved far more objectionable than a straightforward notice of reduction of wages, on the ground of reduced dividends. Some of the shareholders, even, we have reason to know, have done an injustice to those who were only protecting their own vital interests in a way and with a demeanour but too seldom displayed amongst inferiors, in these days, towards their superiors,—having not only accused them of dictation to their superiors, but of actual insolence and threats,—the display, in short, of a spirit anything but like the rational, and respectful, and exemplary, but firm procedure of the inferiors, in the present instance, from beginning to end.——The timber-gearing of the high level bridge across the Tyne at Newcastle has been connected from side to side, and the temporary viaduct will shortly be completed for the passage of trains. The *Gateshead Observer* suggests that the high level bridge should be henceforth named "the Stephenson Bridge," in honour of the elder Mr. Stephenson now deceased. A brief memoir of this celebrated engineer will be given in The Builder.——The men employed on the high level bridge across the Tweed lately struck work on account of arrear of wages. They demanded security for regular monthly payments, better usage at the 'tommy shops,' and a better arrangement of the sick allowance. A ticket for 20s. worth of goods, it was alleged, would only produce 15s. in money. The arrears were paid on the day after the strike, and a shocking scene of

drunkenness, it is said, ensued; while many 'sloped,' leaving long scores due to tradesmen who had trusted them while short of funds. ——The competition between the Caledonian and the Edinburgh and Glasgow is said to be now at an end,—as of course are the cheap trains, too, on either line.——The directors of the latter company have determined to build a hall at Cowlairs, for the purpose of establishing a reading room and library for the use of the workmen in their employment. ——The works on the Aberdeen line are again in an active state. From Montrose, the great northern terminus at present, the railway route is all half finished. There is a great deal of cutting, and a number of viaducts. An opening throughout in less than a year is looked for. —— The Leeds and Dewsbury portion of the Leeds and Manchester direct line was lately opened. It stretches from the valley of the Aire to that of the Calder, a length of 10½ miles. The principal works are the following:—A viaduct at Leeds, consisting of straight girder bridges over Lower Queen-street, fifty-three stone and other arches, all of about 30 feet span, one arch over the Aire of 105 feet span; one over the Liverpool Canal 70 feet span, and a girder-bridge over the Leeds and Bradford line, with two openings; in all, 70 feet span. The masonry of these works was contracted for by Mr. George Thomson, and the iron-work by Mr. Robert Crosland, of Bradford: a skew bridge over the Leeds and Birstal road, 35 feet span on the square and 62 on the skew—angle 34½ degrees, contracted for by Messrs. J. and R. Crawshaw, as also for a skew bridge—angle 40 degrees—at Beeston: this division, superintended by Mr. John Henderson, C.E., closes with a viaduct of 6 arches, of 40 feet span, over the Churchwell-road. The Morley tunnel is the heaviest work in the middle district of the line: tunnellers, Messrs. Shaw, Nowell, and Hattersley —engineer, Mr. Renton: it is 3,370 yards long, 24 wide, and 23 high, and lined with masonry. The whole was completed in twenty-one months. Deep cuttings and high embankments run the line into the Dewsbury division contract, by Messrs. Crawshaw: the Union Mill viaduct consists of 18 arches, of 30 feet span, succeeded by a heavy stone cutting at Hanging Heaton, the road being crossed by a straight girder-bridge. The Dewsbury viaduct is of 10 arches, of 45 feet span, with one 80 feet span: The Calder is crossed by an iron arched bridge of two openings, each 100 feet span, and the canal by a like bridge of one opening. Through the town are six to eight girder-bridges: engineer of this division, Mr. J. L. Carstairs, chief engineer of the whole Mr. Grainger. The deepest cutting on the line is 70 feet, the highest embankment 60 feet.——The Great Northern is in active progress south of Peterborough, where 500 men are endeavouring to make a solid embankment over the fluid soil of Holm Fen, "which," says a contemporary, "would a few years since scarcely bear a duck to walk upon it." It is to be hoped they know what they are about.——The late accident at Shrivenham, it is estimated, will cost the Great Western not less than 30,000*l.* in compensations and expenses,—a sum which would have supplied breaks and guards not only to every carriage in the train which ran into the truck on that shocking occasion, but to many other carriages, over and above providing one policeman for the cross road which divided so much attention with other duties, and another for the duties which were unfortunately neglected. It was even more, however, from the want of stringent rules and regulations to prevent porters from taking things for granted without troubling themselves to inquire or ascertain, than from the want of any other preventive, that the Shrivenham fatality occurred. Of course we do not mean to justify the gross negligence either of porter or policeman in saying so; but these were thus not the only offenders, although Herapath deprecates even the pocket punishment of the directors and shareholders, all of whom he holds 'completely innocent of the affair.'——The Windsor, Staines, and South-Western continuation line from Richmond to Datchet, and the additional line from the junction at Falconbridge to the Coke Ovens, at Nine Elms, solely for the Richmond traffic, have been inspected by Captain Wynne, along with the contractor, Mr. Brassey, and other gentlemen. Fifteen trains will henceforth leave London, and twelve leave Datchet for London, daily, with an increase of four trains down, but a decrease of one up, on Sundays.——A meeting of railway directors is to be held in London in the course of a few days, for the purpose of taking into consideration the best measure to be adopted in consequence of the great increase in the parochial rates charged on railways. —— A contemporary describes the model of a new form of iron girder bridge, to be exhibited at the Polytechnic Institution, which "appears to possess much greater bearing powers than any on the old system. The arches, instead of being cast in their usual shape—each end resting on its corresponding pier—are cast in two half-arches, in one length, the solid centre resting on the pier, and thus causing a perfect balance. On the ends of these half-arches are cast a series of teeth, similar to those of pinion-wheels; and the two ends being locked together, tooth in tooth, are then covered by an iron plate on each side, and bolted and screwed up tight, forming a very powerful joint in the centre of the arch, while due allowance is made for expansion and contraction. By this arrangement, the patentee [Mr. Saddler] states, there can be no deflection over the centre of any one arch without its being met and counteracted by the whole, forming a series of levers, and the greatest possible strength is obtained with the employment of a minimum weight of iron." A similar arrangement was suggested in THE BUILDER by Mr. Dredge some time ago.

NOTES IN THE PROVINCES.

A CORRESPONDENT of the *Leicester Journal* complains of the filthy state of the town and the culpable neglect of the scavengers who make a complete job of the cleansing process. He gives the farmers of the vicinity a hint to supersede them altogether, which might be of no little use in other vicinities than that of Leicester. No quarter should be given to fellows who foster, on any pretence, the seeds of plague and death in the midst of multitudes, and especially at the present critical time, when all and sundry ought to bestir themselves in the promotion not only of outward but of inward cleansing and drainage: for nature, they may depend on it, has displayed at least as much wisdom in the structural organizm or architecture of the human body and its ample and designed provision for the removal of decayed and putrifying material and refuse, as ever did municipal authorities in laying out the most elaborate and scientific system of sewers and drains for the excretion of the miscellaneous refuse of the body corporate in towns and cities.——The tender of Mr. Mills at 3,100*l.* for the alterations in the Sudbury union-house has been accepted.——Another boiler explosion at Preston, with seven more people killed! Is the measure of this crying iniquity not yet full? What with boiler explosions and chartist explosions, poor Preston appears to be kept 'in hot water' to much more than its own 'heart's content.' Were it possible for some hon. member of the community to move for a return of the number of killed and wounded by boiler explosions within the last ten or twenty years, we mistake much if Government would not then have staring them in the face a list of reasons and inducements for their determined suppression, far excelling all those actual fatalities that have ever occurred in the annals either of Chartism or of Radicalism at large: the "Manchester massacre," or "Peterloo," by comparison, would sink into utter insignificance.*——The town of Barnsley has just been considerably improved by the entire removal of a pile of most unsightly old buildings, called the Peasehill Nook, which have long been a great nuisance to the inhabitants, by obstructing the public thoroughfare. This improvement, says the *Leeds Intelligencer*, will make a fine opening from the market-place into Peel-street and Pitt-street, and has been completed at a cost of about 1,650*l.*——An interesting discovery has been made of three caverns in a hill called Kepshead, on the north-east side of Ulverston Sands, where workmen are employed in getting rocks for the construction of the weir. One of these caverns is a chamber some 25 feet in length, and 16 in height. The second is described as a beautiful Gothic temple, 50 feet long, the roof and walls composed of stalactites and petrefactions of every shape and figure, "here and there sparkling like diamonds, and glittering like rubies, and every part most chaste and beautiful." The entrance to these caverns in the fore part of the rock is 12 to 14 feet high.——There are now exhibiting at Mr. Pearce's, statuary, Truro, two truncated columns of serpentine, and a pedestal of steatite, with porphyry and red jasper bases executed to the order of H. R. H. Prince Albert, for Osborne House. They are remarkable, it is said, for their richness of colour.——The Sunderland body-corporate seems to be now outgrowing its shell. "Unless building shall progress more rapidly," says the local *Herald*, "numbers of the continually increasing population of the town will shortly have to dig themselves holes in the ground, or live exposed under the blue canopy:"—a very different state of things surely, from that which gave rise to the necessity of turning the Sunderland, Shields, and Newcastle females into bricklayers "in the war time"—a custom which the return of the lord of creation "from the wars" has only now extinguished, by the lamented loss of "Mrs Elizabeth Johnson," the last of the bricklayeresses, recently defunct, after forty years hard labour in her arduous vocation.——The town council of Beverley has appointed a committee to consider the best means for establishing public baths in that cleanly and picturesque little capital of the East Riding.——A second national school room and master's dwelling have been erected at Beverley by voluntary subscription, aided by 300*l.* from the Privy Council: it will hold 300 children.——A strike has occurred amongst the nailers at Rowley Regis, and the but too usual tyrannical compulsion has been there exercised towards those unwilling to strike with these indignant denouncers of the tyranny of masters.——The Birmingham ratepayers in town-meeting assembled, have confirmed the resolution to build a workhouse at Birmingham Heath; confirmation itself confirmed by poll.——The Romseyites have just discovered their want of a corn exchange.——At Morpeth, too, a new one is in progress, and will be completed in a few weeks.——Mr. T. Oliver, jun., architect, Sunderland, is the successful competitor for the Temperance Hall there. In style it is Venetian-Italian, and will be built of stone. Accommodation is provided for upwards of 1,500 persons.——Large blocks of stone, from 1 to 2 tons in weight, are being daily carried through Brechin for shipment at Arbroath, on their way to Prussia, to aid in the completion of the Cologne Cathedral.——Prince Albert has consented to lay the foundation stone of the new docks at Grimsby, in October next.——"We have been shewn," says a Liverpool paper, "a perspective view of a building about to be erected, either in Liverpool or Birkenhead, for the purpose of exhibitions similar to those of the Colosseum, Regent's-park, London, and in connection therewith. The Liverpool building will be exactly the same size as that in London; and is to be executed, in conjunction with a London artist, by our townsman, Mr Charles Reid, architect."——It is stated that the Liverpool Water Committee, after investigating the numerous estimates given in for cast-iron pipes required by the corporation have accepted that of Messrs. Thomas Allan and Co., Spring-bank Iron-works, Glasgow.

CHURCH RESTORATION: PRESTON.—Sir, In passing through Preston the other day according to custom, I looked into the parish church, and was happy to see that the plaster ceiling was being taken down, and the roof thrown open to view. I send you a note of this, as I have not seen it noticed in your valuable paper, and as I feel convinced that the more these improvements and restorations are laid before the public, the more are churches likely to be restored.—F. WALKER, Curate Farnwall, Warrington.

* Since the above was in type, we perceive that Sir George Grey has been taking cognizance of this case, by drawing the attention of the law advisers of the Crown to it, and the result is the indictment of the manager of the mill, in which the explosion took place, for manslaughter.

CHURCHES AND CHAPELS.

The Roman Catholic Church of St. John, Salford, Manchester, the opening of which was noticed in last week's Builder, is a cross church of the largest class, with nave and aisle, transept, choir and aisles, and a central tower with a lofty spire. The following details are condensed from the *Manchester Advertiser*:—The extreme dimensions, externally, are, from east to west, 200 feet, and from north to south, in the transept, 130 feet. The tower is 110 feet high, and with the spire, 240 feet, the highest, it is said, in Lancashire. The style is the Decorated, the design by Messrs. Weightman and Hadfield, of Sheffield, architects. The site is a commanding one, in the chief thoroughfare of Salford. The west, or principal entrance-front, stands boldly out to the street, and is flanked by four massive buttresses, each crowned by open spire turrets. The entrance doorway is deeply recessed and richly moulded, and on each side are panel arcades with floriated cusps and tracery. The great west window is of four lights, with geometrical tracery in the head and a crotcheted hood with niche over the crown of the arch, containing a statue of the Virgin and Child. The centre gable rises to the height of 66 feet, terminated by a floriated cross. This front in all is said to be a copy of the west front of Howden church, Yorkshire. The north side is much concealed by neighbouring houses. At the east end is a window of seven lights. The east gable is crotcheted, and surmounted by a cross. The choir details were copied from the Abbey Church of Selby. The south front has a large open space before it in form of a cemetery. The transept has a quaint, deeply moulded arched doorway, with columns and carved capitals to the jambe. Above is a four-light window. The whole of the exterior carving of the church is in the coarse Yorkshire grit-stone, of which the outer walling of the whole edifice is built. The tower, which rises at the intersection of the cross, rests on four massive pillars, upon which are turned arches to support the walls, 5 feet in thickness. The square plinth is weathered up so as to clear the roofs. The buttresses are weathered and panelled with crotcheted gablets, terminating under the parapet, which has a curved cornice, with quatrefoil parapet and weathered coping. The spire has four hexagonal turrets with crotcheted pinnacles. There are four heights of spire-lights, and the whole is surmounted by an orb and cross of copper, with a weathercock at the head of the cross. None of the exterior work is very minute or elaborate. The foundations and the internal walling are executed in the red sand-stone of which the old college church was built, and which is got near the "city," as we presume it is now entitled to be called. The interior, from the west, has quite a cathedral aspect, with its long sweep of arches, bold triforium, and cluster of tower-columns. The floor throughout is laid with plain tiles, and the windows are glazed with quarries of a green tint, which is found to diffuse a warm rich light throughout the interior. The stained glass, furniture, and decorations are to be confided to Roman Catholic artists, and Mr. Tayler Balmer is to paint the Doom's Day on the western arch of the tower. Even the pulpit and the font are temporary, as the fittings are to be in the meantime. The nave window is to be a gift of the architects. The benches are quite plain but massive. The choir is lighted by a corona of sixteen lights, worked in iron gilt, and suspended from the roof, with pillar brackets and iron sconces on the reredos and side screens. The fittings are all temporary. This church has occupied four years in erection. The builder was the late Mr. Benjamins Hollins, succeeded in completion by his brother, Mr. T. Hollins: clerk of works, Mr. Morgan.——The parish church of Keighley, lately rebuilt, was consecrated on the 11th instant. The new edifice will accommodate 1,400 persons. Its dimensions are as follow:—tower, east to west, 18 ft. 4 in.; north to south, 13 ft. Nave, east to west, 83 ft. 6 in.; north to south, 21 ft. 9 in. Aisles, length, 83 ft. 6 in.; north to south, 13 ft. 6½ in. Nave, extreme width, 48 ft. Chancel, east to west, 33 ft.; north to south, 18 ft. Porch, east to west, 7 ft. 10 in; north to south, 5 ft. 6 in. The style of architecture is the Perpendicular, and the cost of rebuilding was 7,000*l*. The architect was Mr. R. D. Chantrel. The east window is of stained glass, by Willement, and the font, tabernacle work or canopy, and a Caen stone monument, were from special designs by Mr. Rohd. Hawkins, architect.——The restoration of St. Mary's, Scarborough, is at length begun, by the removal of the south transept roof, and the working of stone on the North Cliff for chapel windows.——The new church at Welney, Isle of Ely, was consecrated on Friday week. It is in the Early English style, executed in Caen stone: open seats for 400, with gallery for 120 children. The rector, Rev. W. Gale Townley, presented a painted east window by Wilmshurst.——The removal of monuments, &c., to effect repairs at St. Lawrence Church, Winchester, has led to the discovery of a picture of St. Christopher, painted on the wall, an ancient piscina, and other objects of interest, but, unfortunately, they are not in a good state of preservation.——The Bishop of Gloucester was to consecrate the new church at Tetbury on 23rd, and the new church at Cerney Wick on 24th inst.——The new chapel at Pentir, North Wales, was consecrated on Thursday week. It is in the Early English style, after designs by Mr. H. Kennedy, of Bangor, executed by a Mr. Rogers, as contractor, and consists of a nave and chancel, with a small vestry. The chancel is lighted by a triple lancet window, and the nave by five windows on the north and four on the south, with a double lancet on the west. The west end is supported by a bell gable. The entrance porch is near the west end of the south side. There is a font of Anglesea marble. The nave has open seats, with poppy-headed ends: sittings, 279, besides 63 in a small western gallery. The nave and chancel roofs are open to the rafters.

REPORT ON THE SEWERS OF THE CITY OF LONDON.

Messrs. Walker, Cubitt, and Brunel, civil engineers, have been engaged for some time past in the examination of the city sewers, and have recently made their report. We give the following abstract of their general opinion, with which it concludes:—

"We think, that although there may be exceptions in particular cases, the present sizes of sewers are not too great, and that they ought not to be lessened.

That the sewers, where made, are efficient.

That, as from three to four miles only of the 50 miles of streets, courts, and alleys within the city are without sewers or drains, it is desirable that the same be constructed as soon as arrangements can be made for the purpose, so that every street, court, or alley, within the city may be efficiently drained.

That the city sewers, which receive the sewage of the portions of the adjoining county, are sufficient for the discharge of the county and city drainage.

That as of the 16,000 houses and buildings in the city, 6,762 have not private covered drains, it is desirable that these be provided.

That the fall or inclination in the private drains is generally such as to keep the drains clear of deposit.

That any general search for cesspools for the purpose of opening and emptying them in private houses, would be impolitic as a general measure, and would be likely to be more injurious than the cesspools now are, if they are properly constructed, which should be ascertained.

That the form of sewers has, practically, very little to do with the general question of their keeping clear of deposit, this depending very much upon their fall and the quantity of water; but that no fall or quantity of water is likely to be obtained in the city sewers sufficient to keep them clear of obstructions, without the occasional aid of men in the sewer to remove hard deposit.

That the most eminent men of their time have been consulted in, or have directed the execution of the city sewers, including Wren, Wyatt, Dance, and Rennie.

That we have discovered nothing in the construction of the works which can justify our charging the commissioners with waste in respect of the size or construction of the sewers or otherwise, although the outlay during the last ten years must have been great, as during that time more new sewers have been made than during the previous 130 years.

That the system of flushing has been introduced lately with great advantage, and is already considerably extended.

That the *desiderata* in order to perfect the sewerage of the city are—the formation of the three to four miles of sewers, the extension of private drains, and the flushing system by gates and tanks, as described in our report.

That neither of the new plans suggested by the surveyor to the Metropolitan Sewers Commissioners, nor that of their consulting engineer, is applicable to the city sewers."

THE ROYAL STABLES AT WINDSOR.

From a small hand-book to these stables, recently published by Strange, we abstract a few particulars of their erection and cost which may be found useful. They were commenced August, 1839 (under an Act of Parliament passed in July of that year), and were finished October, 1842. The contract for the foundation was undertaken by Mr. Nowel, at 6s. 3d. per cubic yard. The structure was undertaken under contract by Messrs. Peto and Grissell. Sir Jeffrey Wyatville designed and commenced them, and they were completed under the direction of his successor, Mr. Ashton. The frontage extends to upwards of 300 feet, and accommodation is afforded for 102 horses (exclusive of 16 loose boxes) and 44 carriages. The space given for each carriage is 8 feet in width and 20 feet in length. The width of each stable is 22 feet. The flooring is of Dutch clinkers. There is a hot-water apparatus to keep the carriage houses aired, and gas is laid on throughout. On the upper front edge of each manger is a revolving iron roller, to prevent "crib-biting." The new riding-house is 170 feet long, 52 feet wide, and nearly 40 feet high. Within four or five years after the completion of the riding-house the *dry rot* made its appearance, and spread nearly throughout the entire boarding around the interior of the building to such an extent that the whole had to be removed, "and a wall of brickwork, about 8 feet in height, substituted in lieu of the rotten wood." This wall was afterwards covered with a composition of saw-dust and India-rubber. It was afterwards discovered that the wooden divisions of some of the stalls, and other portions of the wood work in the stables were similarly affected; much of this was therefore removed, and it is feared that ultimately the whole will have to be reconstructed. 70,000*l*. was the sum voted by Parliament in the first instance for this building, and no more was asked for; but what the actual expenditure upon it was is not stated.

BRUSSELS.

The restoration of the exterior of the collegiate church of St. Gudule has now been progressing satisfactorily for the last few years, and all those interested in its completion have not ceased to require of the authorities that the small and mean habitations erected against the south side should be removed. We learn, however, from the *Revue de Belgique*, that to the great mortification of the admirers of ecclesiastical architecture of the middle ages, these ugly excrescences have just undergone a complete repair, and external refreshing with white-wash and paint.

The square of the Place Royale has always been cited as a very successful example of architectural display. The Belgian Government having authorized the sculptor, Simonis, to execute an equestrian statue of Godfrey of Bouillon for its further decoration, a huge pedestal has been erected to receive the statue, from the design of the architect, M. Suys, which has the effect, from its magnitude, of completely masking the portico of the church of St. Jacques, Caudenberg. The view of the square, as you enter it from the ascent of the Montagne de la Cour is completely broken by this enormous mass of "pierre bleue," which, by contrast, diminishes the blocks of building that decorate the area into insignificance.

According to the *Journal de l' Architecture*, the approaching exposition of works of fine

art will be one of the best that has taken place. The number of objects received amount to nearly 1,100: there will be more large pictures than in former exhibitions.

Correspondence.

DRIPS IN LEAD GUTTERS.

Sir,—I am now making out a plumber's specification for a mansion, and come to the consideration of the drips in the gutters. The owner prudently keeps no more servants than can be well employed; therefore I propose the gutters should hold the snow till it dissolves: the only difficulty in doing this is, the drips. I ask the assistance of some of your ingenious readers to do away with the barbarous system of drips to gutters. If the edges of the two pieces of lead were doubled together on a level bottom, could they not be united by some elastic substance under the lead to allow for expansion and contraction, or else some water-proof socket to work in this would be a great improvement in building?—I am, Sir, &c.

G. P.

Miscellanea.

The Model Lodging-Houses in St. Pancras.—A correspondent who first bears witness to the value of such an establishment, says, "I went with the full expectation of being able to add to my stock of knowledge, in seeing some efficient mode of ventilation at work, or, at the very least, to have seen a provision made to extract, or let off, the vitiated air from the several rooms; my disappointment and regret was great, when I found, on the floors giving three rooms to a family, one of those rooms (throughout) measuring about 12 feet by 9 feet, did not possess even a common fireplace for the escape of vitiated air; the only opening I could see, when the door and window were closed, was an aperture about 8½ inches by 2½ inches, into the living room. Now, as the design of separate rooms is to part parents from children, it is not too much to suppose, that four or five children at least may be lodged in the room I have described, and will consequently be exposed to all the serious evils attendant on the breathing of impure air. I, therefore, through the medium of your excellent journal, beg to call the attention of the directors of the association to the matter, so that in any future erection, this very material point may have an equal consideration with those which have already been attended to, in providing a good supply of water, good drainage, and lighting.

Electro-telegraphic Progress.—An important invention, lately made by an individual at Birkenhead, has been purchased, it is said, by Messrs. Brett and Little, for their telegraph. It consists of a sponge saturated with some salt, in the cells, instead of acid, condensing the vapour of the atmosphere, and continuing, it is said, for an almost indefinite time in unimpaired action. —— From New York to New Orleans a continuous line of telegraph is now almost completed, and, even with the few gaps not yet filled up, intelligence can be conveyed from the one extremity to the other—a length little short of 2,000 miles—within a few hours.——The experiment of crossing the Hudson, from Jersey to New York, by telegraph wires, encased with gutta percha, and laid on the bed of the river, has been completely successful.

"The principal Gothic Edifices of Europe," by Gustave Simonau (Brussels). The work consists of twenty-four large lithographic prints, each 29 inches by 18 inches, exclusive of margin, representing the most important edifices of its class in Belgium, France, Germany, and England. The artist has drawn the whole with remarkable accuracy from the actual sites, and imbued them with artistic ability. The work occupied twelve years in execution, under the patronage of the Belgian Government, and embodied the features of the most celebrated churches, cathedrals, and town-halls, on a larger scale than any existing publication. They are highly important to the architect, for the truthfulness of the details united to the general elevation of these magnificent mediæval architectural structures.

New Congregational Church, Kentish Town.—The locality in which this edifice is placed is contiguous to the Kentish Town-road, near to the "ancient" Castle Tavern, which will in a few weeks be pulled down to give place to modern improvements. The plan of the church is a parallelogram, about 100 feet by 60 feet, divided into nave and aisles, ministers' and deacons' vestries, an entrance porch, and circular staircases of slate in the turrets at west-end, for access to a west gallery. Accommodation is provided for 900 persons in open pewing, with reclining backs. Octagonal pillars, surmounted by arches, carry the clere-story. The roof over is simple. The dimension to the ridge, from floor, is 50 feet. Aisles are in unison. All the windows are traceried; the west window is 20 feet high, and the east window, which is circular, is 12 feet in diameter. The whole are filled with stained glass, from Mr. Goslett's manufactory, Soho-square. The organ-case, communion-pew, pulpit, and font, form one group at the east end. The floor is formed of blue and red tiles, on a bed of concrete. The exterior is covered with Kentish rag-stone, with Bath stone dressings. The total cost is expected to be about 5,200*l*. The works were commenced October, 1847, and the church was dedicated last Wednesday, August 16th, 1848. Mr. Henry Hodge was the architect, and Trego the contractor.

Cologne Cathedral.—The *Times*' correspondent, in describing the recent festival at Cologne, on the 600th anniversary of the commencement of the cathedral, says:—"The portion of the edifice added since 1842 is soon described. The choir and the tower have been united on the south by carrying up the stonework to the point where the light shafts are to spring from the plain square buttresses; the three portals on this side are nearly completed, and the nave is so far finished that, with a temporary roof, it can be used for divine worship. It is in this south side that the stained glass windows presented by the King of Bavaria are placed. On the north side nearly the same amount of plain work has been finished, but on both all the most expensive labour has yet to be bestowed, in the elaborate carvings and tracery of the pinnacles and shafts, in which the modern workmen are to imitate and reproduce the triumphs of their ancestors. The old stonework, dark and worn to roughness by time, contrasts strongly with the smooth white masonry of yesterday: in form, of course, the ancient plan has been rigidly adhered to. Time will harmonise the colour, but at present the effect is harsh. The carved work on the front of the south tower is so decayed that large patches of grass are actually growing in the roses and fretted ornaments above the portal: the tracery looks as if it would turn to dust with a touch. When the eye passes from it to the fresh solid masonry, the text that condemns 'the new piece on the old garment' occurs involuntarily to the mind." And in a subsequent communication he says of the new windows to which we have before alluded:—"They are certainly a princely gift; all the skill of the *ateliers* of Munich has been lavished upon them; good drawing and perspective, which the ancient specimens of the art never possess, are united to a depth and richness of colour which the old masters have not surpassed, though in some particular tints they may have equalled them." "The windows have occupied four years in preparation, and have only been fixed within the last month. The antiquary will perhaps prefer the quaint forms and stiff outlines of the ancient style; but standing between the north and south windows of the Cathedral of Cologne, an artist would give the palm to the modern masters; the ancient work looks meagre and poor beside the new. The old artists produced coloured windows; the moderns create transparent paintings." And with all respect for the writer, the old artists in this did right.

Size in Colour.—A correspondent remarks,—I am now writing out a specification for plasterers' work, and upon writing that the size used shall be sweet, it struck me that the next generation will probably laugh at our simplicity for using in our dwellings a disagreeable animal substance to fix our colours. Surely some of your scientific chemical readers could suggest something better than this for the purpose.

Projected Works.—Advertisements have been issued for tenders by 30th August for the whole or any portion of the different works required in the erection of the new church at Bank Foot, Bradford; by 4th September, for the erection of a new municipal hall at Chesterfield; by 5th, for several works required to be done at the workhouse in Gray's Inn-lane; by 14th, for alterations and additions to the house at Paddington; by 17th, for 3,245 feet of sewers in St. Mary's, Islington; by 30th, for executing the whole work connected with the erection of the Gretna station-house on the Glasgow, Dumfries, and Carlisle Railway; and by 31st, for 200 goods trucks, and 200 sets of wrought-iron wheels and axles, for the Eastern Counties Railway.

Competition.—Extension of time to 2nd October has been advertised for lodging the plans for the Leicester Cemetery, and an increase of price to 30*l*. on the purchase of plans, has been announced.

New White Paint.—Our correspondent (Sir J. W. S. G.) will find, on reference to our impression of the 11th March, that we merely recorded the announcement of the discoverer in such a way as to lead to further inquiry or experiment. The idea having been suggested in The Builder, our correspondent himself is just one of those from whom we hope to hear something practical on the merits. As to zinc oxide, very different opinions seem to prevail: it has been tried along with white lead too, but unsuccessfully—better have tried it united with antimony itself, if either of these separately be objectionable, from electrical or other causes. Scaling off, if we mistake not, was alleged against zinc. Some personal knowledge of chemistry is requisite to the mere preparation even though instructions were offered, but the oxides of zinc and antimony can readily be prepared by any operative chemist for experiment.

Piracy of Manufacturer's Designs.—M'Crea, the plaintiff in a case recently decided by the Vice-Chancellor, Mr. Knight Bruce, had exhibited a pattern in damask to the defendant, Holdsworth (both of Halifax), and the latter copied it, in ignorance of the fact that it had been protected by registration, and proceeded to manufacture from it. An injunction having been granted, the defendant appeared and pleaded "ignorance," which the Vice-Chancellor told him could not be listened to, as he knew perfectly that it was another man's design. The defendant also pleaded a right to manufacture, though not to sell—an odd sort of discovery, the judge remarked. Defendant's counsel thereupon undertook to destroy the pattern papers, stamped cards, &c., and to pay all costs, the injunction still continuing in force in case of any breach, to which the newly discovered "right to manufacture" might in future lead.

Combustion of Water with Fuel.—The following memorandum was found among Sir S. Bentham's papers:—"In regard to all or most of these different kinds of fuel [namely, coal, wood, peat, and oil], there seems some reason to believe that an addition of water may be made to increase the quantity of heat produced by their combustion. Chemical analysis appears, in some respects, to confirm the experience of persons of various classes. The practice of throwing water on coals is general amongst blacksmiths; the wetting of ashes on throwing them on a coal fire is the usual practice of housewives; mixing green wood with dry, and wet clay with small coal, has been found advantageous in horticultural furnaces." Mr. Strutt, of Derby, it is said, nearly twenty years ago, at Sir Samuel's request, caused a trial to be made, in a common steam-engine fireplace, of the effect of placing a trough of water in the ashpit; in this way, however, no addition of heat was perceptible, but a very decided advantage in preserving the fire-bars from rapid destruction. In some correspondence on the subject, it appears that Mr. Sylvester conceived, that as much heat would be lost in decomposing water, as was likely to be gained by burning the oxygen and hydrogen set at liberty,—an idea much in accordance with a suggestion of our own, with reference to a recent French invention, in which electricity was brought to bear on water for its decomposition while passing along the furnace bars of a locomotive engine of a peculiar construction.

CURIOUS DISCOVERY AT GLOUCESTER.—In forming a cutting for the Great Western Railway to Gloucester, close to the city, the men have exposed to view a portion of what was probably a Roman water duct. It consists of a concreted mass, formed of pounded red brick and lime, 5 feet or 6 feet high, and 4 feet wide, hollowed out at the top into a deep channel. A length of about 20 feet is exposed.

IMPORTS AND EXPORTS.—Amongst the imports into Britain and Ireland during the month ended 5th July last, were 1,523 tons of mahogany, 5,965 tons of copper ore, 2,607 cwt. of unwrought copper, 2,784 tons of bar-iron; and among the exports were glass to the value of 20,210*l.*; machinery, 93,374*l.*; metals, 538,467*l.* The gross total value of the exports during the last six months amounted to 21,571,939*l.* against 25,394,243*l.* in 1847, and 25,020,972*l.* in 1846.

PRESENT STATE OF ROME.*—The bulk of the inhabitants dwell in the space between the Corso and Old Tiber, and are closely packed,—a few in fine palaces, the many in cheerless, shabby dwellings. A third street, running from the same starting point in a south-easterly direction, leads to the Piazza di Spagna, where another fountain cools the air, and the huge building called the Propaganda blocks up all further view; but the traveller will meet other fountains, and massive palaces, and churches, and piazze, interspersed with venerable ruins. Whithersoever he turns his eager steps, he is alternately delighted and disgusted; the majestic remains of a great antiquity he wishes to examine with critical accuracy, but he stands in the midst of inconceivable filth. He turns to the churches, sacred in the eyes of Christians, but often not safe from defilement in the City of Churches. He finds in his guide-book, and notes on the map, numerous piazze, which he imagines to be fine squares, clean, if not splendid; he observes, with some few exceptions, they resemble waste ground, reserved for rubbish or the refuse of a great city. Persevering in his walk through Rome, he finds himself more severely fagged in one hour than he would have been in London in three; for the streets are generally narrow and gloomy, seldom clean, the pavement sharp and broken, there being no flagging, with the exception of the Corso, where it is three feet broad, and of so ragged a material that little knobs of stone rise up in the flags, and almost penetrate the stoutest boot. Following the map to gain an object of interest, he turns into narrow bye-streets and lanes, and then learns, through the medium of his senses, what amount of filth can be endured by human nature. * * * A principal source of business is the imitating in bronze the classic monuments, and at every corner is an artist's studio. He remarks no substantial houses building for a respectable middle-class, but several old ones plastered with white cement to attract tenants in the English quarter; fifty dwellings are inspected before he meets one congenial to his English taste; for if an invalid, he wants sunshine, and does not want malaria. He desires wholesome air and spacious apartments, with a good lookout; yet he finds several excellent apartments, out looking into a yard or court everlastingly covered with wet or filth. He thus learns there never was a real, opulent middle-class in Modern Rome, and that cardinals and bishops cannot, even with their fine palaces, make a flourishing city.† But still does he ever find, to his inexpressible delight, that into no quarter of the once Imperial City, no palace, no church, or building, or studio, can he put his head without meeting with some object of interest and art, novel to his eyes, beautiful or wonderful. He forgets all inconveniences, forgives the Government and the Pope, and rejoices in his visit to the Eternal City.

* From "Italy in the Nineteenth Century, contrasted with its past Condition."

† "Modern Rome occupies a triangular space, each side of which is nearly two miles long. The greater part of the city lies low, about 40 feet above the level of the sea, although but sixteen miles distant from it. The Tiber, where it enters Rome is but 20 feet above the sea. The city is divided into

54 parishes and 300 churches,
154 churches served by secular clergy,
130 churches served by regular clergy (monks),
64 monasteries and convents for men,
50 monasteries and convents for women.

It has some 500 streets, 270 lanes, 140 palaces, 5,000 shops, and 340 noblemen's houses, of which 60 might be considered palaces."

SHOP-FRONTS. — Several correspondents, acknowledging the truth of some observations in a recent number of our journal, on the want of novelty in shop-fronts, say they have been "to many builders, but none of them can suggest anything new." We recommend our correspondents to go to an architect first in such cases, and the builders afterwards. If they employ an able architect, and express a willingness to pay him fairly for his trouble, they may be more successful.

TENDERS

For the erection of schools and master's house, at Strood, near Rochester; Mr. M. Bulwer, architect, Maidstone :—

Saunders and Colegate	£1,194	10	0
Robins	1,070	12	0
Osmer and Botts	1,063	18	0
Clements	996	0	0
Barnett	901	10	0
Thompson	841	0	0
Goodwin	839	9	0

For the erection of schools and master's house, to be built at Bull's Cross, Enfield, for the promoters of the new schools, &c., in the district of Jesus Chapel, Enfield :—

Thos. and Wm. Piper	£944	0	0
George Mansfield and Son	854	0	0
Draper (Enfield)	827	16	0

TO CORRESPONDENTS.

"*Fire Escape.*"—In reply to a correspondent from Windsor, we may mention that the operations of the fire-escape, similar to those performed at the London Gas-works, will be repeated next Monday morning, 28th inst., at Eleven o'clock, opposite the Southampton Arms, near Mornington-crescent, Camden Town, Hampstead-road.

"*Subscriber.*"—If working drawings from an architect shew clearly an intention to depart from the specification, they may fairly be considered as *written orders* for extra work.

"*P.*"—Extraordinary works should obtain extraordinary remuneration: 5 per cent. will not pay for such as are described.

"*A. A.*"—If the Government were to take such a step they would draw upon themselves the reprobation of every thinking man. It is not likely.

"*A Young Carver.*"—A Stone Carver's Society has been established to obtain drawings, &c., for reference. We will inquire into its constitution. In Brandon's "Analysis of Gothic Architecture," if not beyond our correspondent's means, he would find many examples. Loose prints may be found at Evans's, corner of Little Queen-street and Great Queen-street, Holborn.

"*Blind Builders.*"—Mr. W. Ellison, of Poplar, asks us to state that it was not he who tendered for repair of St. George's Church, mentioned under this head on the 12th.

"*F. H. W.*"—The bridge shall be mentioned. The account scarcely makes the principle clear.

"*H. C. P.*"—Key-stones were not used by the medieval architects in pointed arches, but universally so in groined vaultings.

"*J. C.*"—Write to the *Gardener's Chronicle.*

"*W. H.*"—B. T. has not reached us.

"*A Subscriber.*"—"Pyne's Practical Rules in Drawing," are published in the work on "Carpentry," seventeen parts of which (*i. e.* the Carpentry), have been issued by Weale. Twenty complete the work.

Received. — "J. S." (shall be remembered); "Sir J. W. S. G." (see in paper); "E. J. W." (Jedburgh is in Scotland); "C. E. D." (the drawing shall be returned); "F. R. M." (we shall be happy to receive the observations); "W. F. P.," "P. B." (declined with thanks); "R. J. W.," "A. A." (thanks); "R. M. P.," "C. D.," "J. A. P." (we shall be glad to receive notices); "W. L. W.," "E. G. M." "The Treasury of Natural History, or a Popular History of Animated Nature, by Samuel Maunder." (Longman and Co.); "Report and Supplement on supply of Surplus Water to Manchester, &c.," by S. E. Homersham, C.E. (Weale); "Causes of the Explosion of Steam-Engine Boilers explained," by W. Stewart, C.E. (Longman and Co.)

Notice.—It is out of our power to comply with the numerous demands of correspondents for recipes for making and doing every thing under the sun.

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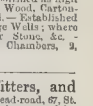
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TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRONMONGERY, at Messrs. JOHN GOODFORD and CO.'S, the article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.
Cast Butts	11s.	15s.	24s. per gross.
Cut	4d.	6d.	10d. 20d. } per
Clasp	6d.	8d.	1s. 4d. 1s. 10d. } 1,000.

Nos.	3	4	5	6
Patent Line	6s. 6d.	7s. 3d.	9s. 10d.	12s. per gross.

2	3 Inches.
Rain Pipe	1s. 1d. 1s. 3d. 1s. 9d. per yard.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s., 3 ft. 6 in., 44s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

1½	2	2½	3	3½	4	per 1,000,
4d.	6d.	8d.	1s.	1s. 4d.	1s. 10d.	per 1,000.

Best Sheet Floor Brads, 8s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line					
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
2	3	4	5	6	

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 5, Union-street, Pimlico.
Lists of Prices had on application at the Warehouse, or by letter prepaid, including postage stamps.
N.B. Warehouse to the trade only.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 129, Blackfriars-road, and 117, Union-street, Borough.

Strong Set Cutting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Hendy's Patent Improved, with Tank Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£5. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per in.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturers of WILKINSON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings. Its flexible and portable nature presents important advantages over the form of conductor in use. References can be given in which it has been applied for nearly three past to CHURCHES and HAYRICK BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its PERFECTNESS.
SMITH and LIGHTLY are the sole makers of the machinery employed in the IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also the Patent Weather Bolt Fastening, Cylinder, Pressure Gauge, Wall Bars, and much admired for their security, simplicity, cheapness, and efficiency. Of the merits of the

Patent Double-action Arm Door Springs,
Improved Sash Lines, &c.,
Hundreds of the above articles are well known and appreciated.
Manufacturers of Iron Suspension, Sliding, and other Doors, Street Paving Plates, and Ornamental Palisading, Gates, and Cattle Guards, Area, Main, Basket, Shop Fronts, Railings, Balconies, Brass, Butt, and other Hinges. Bolts and Locks upon a new, safe, and simple plan.
Estimates given for every description of Metal-work.
SMITH and ENGLISH, 92, Princes-street, Leicester-square, London.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low prices, and the work guaranteed.—Apply to JOHN PIM, KINGTON, PORCELAIN'S BITUMEN PAVEMENT OFFICE, 15, WHARF ROAD, CITY-ROAD.—N.B. Country Agents required.

Engineers and Contractors supplied with the best bitumen for concrete, gardens and arches.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Flat Decayed, Damaged, or Leaky Roofs, Terrace Roofs, &c. &c. Manufactured only by Messrs. ORSI and ARNAUD, sole importers of the best description of Italian Artificial Stone, Cements, and Ornaments. Basinghall-street, City.

CAEN STONE, from the first Quarries of Allemagne Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.
P. EDWARD, Agent des Matières Caen propriétaire de Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has on the above-mentioned wharf, 50,000 of the best stone ready to meet the demand of purchasers. Contracts taken for any quantities.
Orders received at the WHARF, at 39 Stone-street, Branch Market. Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms. Shipments made to part of the Continent at Caen.
All orders received at the Wharf, as per usual, at the Offices of Mr. E. A. WITHALL, Surveyor, 30, Cheapside, where further information and specimens may be had.

CAEN and AUBIGNY STONE.—LEVARD, BEDDIAM, and Co., Proprietors of extensive Quarries of the above Stone, beg respectfully to invite attention of Architects, Builders, Engineers, Surveyors, Builders, and others to the above Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, cannot but fail to meet the approbation of the building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities to various parts of the continent for public works, Lighthouses, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom, and shipped direct from the quarries. A large stock of Caen and Aubigny stone always on hand at Sufferance Wharf, Red Cliffe, Waterside, Pimlico, and Purbeck and Portland Stone Offices, 28, Edwards-square, Edward-street, Southwark.

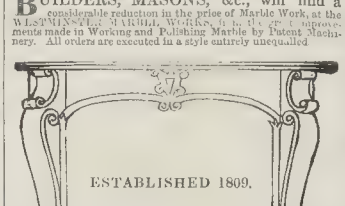
ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on short notice. This valuable stone, made famous by its durability, colour, and texture, is well known, having been selected in preference to all others for the new Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.
W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.
Facilities are at hand for forwarding it to all parts of the Kingdom. Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

SAMUEL CUNDY, Mason and Builder, 3, PIMLICO MARBLE and STONE WORKS, Belgrave-road, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in a manner the most strictly in accordance with the views of his Patrons.
GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.
FONTS from £5 upwards.
MONUMENTS and TOMBS in great variety of design.
Tessellated Pavements of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Cement or Clay.

Stone-box Chimney-pieces, from	12s.
Vein-Marble	40s.

RESTORATIONS Estimated for in which Branch S. C. has had considerable practice. Buildings fitted up, &c. &c.
Canada Lead Hopper and Dock Heads.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work at the WESTMINSTER MARBLE WORKS, 6, in the great improvements made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the Black Compositions supplied to the trade.
Westminster Marble Company, Earl-street, Millbank.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth. A reduced list of prices of the above WELCH SLATE SLABS, planed on face will be sent on application post paid, if one made, an inclosing postage stamp. The prices are and for these advertised for interior slates.

MAGNUS'S ENAMELLED SLATE.—Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c.—This beautiful material is now in universal use at Buckingham Palace, the Travellers' Club-house, Osborne, Aspley House, Strathfieldsaye, &c. &c., and it is now taking the place of marble in the mansions of the nobility generally. It is also extensively used in Government offices, the principal railway stations, and other public buildings. It can only be distinguished from marble by the superior brilliancy of polish, and it is more durable, and less liable to chip at the edges, than marble. The choicer productions, such as black and gold, scagliola, jasper, and antiques, jet black, &c. are not more than one-third of the price of marble. Among the articles manufactured at the Enamelled Slate Works are chimney-pieces, consoles, pillars, in table tops of all descriptions, pedestals, pilasters, columns, plinths, fascias, mural tablets, baths, wash-stand tops, &c. &c. Cisterns, dairy shelves, flooring and plain slate-work in general executed on exceedingly moderate terms. Welsh slate slabs, of the finest description, at very reduced prices.—N.B. The trade supplied with the Enamelled Slate, or planed on one or both sides, direct from the Quarries, at the lowest possible rates. Apply in addition to Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

TERRA COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has purchased the whole of the valuable Models, Moulds, &c. which has been successfully adopted by our eminent Architects and others, in the erection of their buildings, is ready to warrant has proved the indurable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.
Groups, statues, friezes, capitals, panelling, pinnacles, finials, vases and urns, trusses, trophies, bas-reliefs, diapering, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.
Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

VENTILATION.—The attention of Architects, Builders, and the Public is solicited to GRANT'S PATENT CHIMNEY-VENTILATING CHARCOAL GRATE, and also the ROTARY WINDOW, for the prevention of downward draft and cure of smoky chimneys.—Manufactured solely by the Patentees, JAMES GRANT, 91, Elizabeth-street, Eaton-square.—L. and G. warrant the above in all cases where they fix them.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot—cannot be deranged by the sweeping machine, and from their peculiar shape cannot be externally adapted for ventilating apartments. Price, in galvanized, 28s. each; ditto tinned, 32s. Deep chimney-cleaning brushes, 2s. each. WM. DAY, 59, Percy-street, Bedford-square, Great Russell-street, Bloomsbury, where it may be seen in use.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent from the original Tariff. Their extensive and successful application to the Public Buildings, Churches, Schools, Nursery, &c. prove their great utility. Coloured Glass of every tint at wholesale prices. Prepared Glass for Painting and Printing Windows in imitation of Stained Glass.—RICHARD BAILLIE, Glass Painter and Embosser, 24, Dean-street, Soho, and Mark-lane, Regent's park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, sole Manufacturer of Dr. Arnott's Ventilator, begs to call the attention of Architects, Builders, and the Public to the above, which is invaluable adjunct to Flued fronts of Houses. Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of the manufacture of chimney-cans, and the cure of smoky chimneys of every description, justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large assortment of Heads, Shoes, Elbows, &c., suitable for Cast-iron Soil Pipes for Water or Gas, Plain Pipes, Sash Weights, and other Castings; Iron Work for Bakers' Ovens of any description, Stable Fittings, Wheelbarrows, and all parts. Prices equal to all competition. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Beer-machines, Breweries, Dwellers, Fire Engines, Gas Fittings, Gardening, and Conservatories, &c.

THE PATENT VULCANIZED INDIA RUBBER HOSE-PIPES are made to stand hot liquor and acids without injury—do not become hard or stiff in any temperature; but are always perfectly flexible) and as they require no application or dressing, are particularly well adapted for Locomotive engines, railway carriages, fire engines, pumps, gas, hot engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from 1 inch bore upwards, and of any length. Solid Vulcanized India-rubber Valves in hose-ends, with brass caps, copper rivets, and hooks complete ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES HANCOCK, Gun Barrel Works, Gravel-road, Bristol.
N.B. Vulcanized India-rubber Valves for pumps, &c. for non-freezing cisterns, Solid Valves, Vulcanized sheet rubber, any thickness; all kinds of joints, and other purposes.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS,
HONOURABLE EAST INDIA COMPANY.

And by the most eminent Architects, Civil Engineers, Agricultural Societies of England, and Ireland; at these great National shows it has been exhibited and PRIZE MEDALS awarded. The best and cheapest article for roofing; also used for underlaying slates. Royal Agricultural Society's House, in Hanover-square.
Its advantages are lightness, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Sample and price to Builders, &c. sent free on application. The TRADE are respectfully informed that the Felt is now universally used in, and free to any part of the town or country. A Dry-hard Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully informed that the Felt is DIRECT to the PATENTEES, the only means of being supplied with the genuine article, and a length best suited to their wants. Take notice that CAUTIONS AGAINST MISREPRESENTATION, as to the above, were inserted in the Times, Morning Chronicle, and Builder, of March 4th, 1848, by F. McNEILL and Co.'s Manufactory, LAMBS-BUILDINGS, BUNHILL-ROW, LONDON.
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

The Builder.

No. CCXCI.

SATURDAY, SEPTEMBER 2, 1848.

A SMART blow has been struck against filth and fever, immorality and crime, by the transformation of Lord Morpeth's "Bill for promoting the Public Health" into an Act of Parliament. We are not of those who regard it as the *only* achievement which the present session has to boast of,—the preservation of order and the maintenance of the safety and dignity of England at home and abroad, during most troublous times, are not to be lightly treated,—nor do we view it as a perfect measure; but it is nevertheless an issue on which we can cordially congratulate the country, and indeed the world, because, as an undeniable evidence of the opinion entertained in England, it cannot fail to have a great effect in other countries, where life and property are at present recklessly wasted.

It starts on the unquestionable ground, that "further and more effectual provision ought to be made for improving the sanitary condition of towns and populous places in England and Wales," and that the supply of water, the sewerage, drainage, cleansing and paving of such places should, as far as practicable, be placed under one and the same local management and control, subject to a certain general supervision. The metropolis, as our readers have heard, is excepted from its operations.*

The first Commissioner of Woods and Forests, and such two other persons as Her Majesty may appoint (one of whom only is to be paid), are to constitute a "general Board of Health," with power to appoint a paid secretary: the board to continue for five years only. The board may from time to time appoint, with the approval of the Treasury, "superintending inspectors" for the purposes of the Act, with an allowance to each of not more than three guineas per day, for every day he shall be actually employed or travelling in the performance of the duties of his office, together with reasonable travelling and other expenses.

The services of these superintending inspectors will be brought into operation thus:—On the petition of not less than *one-tenth* of the inhabitants rated to the relief of the poor (not being less than thirty in number), *or* when the proportion of deaths, from febrile epidemic, endemic, and contagious diseases in any city, &c., appear upon the Registrar General's returns to have exceeded the proportion of 20 per cent. of the total deaths, or the general average rate of such deaths in the registration districts,—the board may send a superintending inspector to the place to inquire as to the sewerage, drainage, and supply of water, burial-grounds, sanitary condition of the inhabitants, existence of local Acts, &c., and report to the board. On which report the Act may be put into full force within such place by an Order in Council. In places where certain local Acts are in force, the order must be made provisionally, and sanctioned by Parliament. Except for the purposes of sewerage, the consent of the town-council is in some cases required.

This will serve to shew such of our readers as desire to see the condition of the several towns in which they dwell examined into, how to proceed: the necessary requisition is already in course of signature in Portsmouth, we understand, and elsewhere, calling on the board to send down an inspector. In places where the deaths have been above the proportion, the board will probably of themselves, as empowered by the Act, immediately institute the necessary inquiries, with the view of bringing the provisions of the Act into force.

The expenses of the inquiry, &c., in the event of the Order in Council being made, to such an extent as the Treasury may direct, are to be paid out of the rates on the district.

The Act, then, being brought into operation in any district, a local board of health is to be appointed, under prescribed regulations. In districts consisting of a corporate borough or boroughs, or part of a borough, the town council is to be the local board. In other cases, part of the local board is to be selected by the town council and part by the owners and rate-payers: and in districts not comprising any part of a corporate borough, all the persons forming the local board are to be elected by the owners and rate-payers. About one-third of the local board are to go out of office in each year, but are re-eligible.

The local board is to meet every month at least, maintain offices, appoint surveyor, inspector of nuisances, clerk, and other officers,—the surveyor and inspector to be subject to the approval of the general Board of Health. The local board, with approval of General Board, may also appoint a member of the medical profession, under the name of the "officer of health," and the same officer may serve for two or more districts, and be paid either by a salary or otherwise.

The local board may, if they please, obtain a map, exhibiting a system of sewerage for effectually draining their district.—Sewers, with certain exceptions, to belong to and be under the control of the local board, who are to repair the same, and make such others as may be required for the purposes of the Act. The board is also to have the sewers constructed, covered, and cleaned, so that they may not be a nuisance or injurious. A communication must not be made with any existing sewer, nor any building erected over a sewer, nor any vault formed under the carriage-way of a street, without leave from the board: a house must not be built or rebuilt without proper drains.

In places containing less than 5,000 inhabitants, where this Act shall not have been applied by an Order in Council, if it shall appear at a public meeting to the majority of the inhabitants there assembled that any open receptacles should be drained, covered, &c., or that a sewer should be made, a well dug, a pump constructed, *or water otherwise provided*, the churchwardens and overseers shall procure a plan and estimate of the cost,—and if the same be sanctioned by a majority of the rated inhabitants assembled at another meeting, the work is to be done, and paid for out of the poor-rates.

It will not be lawful to erect or rebuild any house without a water-closet or privy or ash-pit; and provision is made for the proper arrangement of similar conveniences in factories, &c., where persons of both sexes, in number more than twenty, are employed. Relative to proper levels, &c., for these conveniences, their situation and construction, notice must be given to the local board fourteen days before beginning to build or rebuild; and the board are to see that all cesspools, closets, &c., are kept so as not to be a nuisance. And on a written application, shewing that a drain, water-closet, cesspool, or ash-pit, "is a nuisance or injurious to health, but not otherwise," the surveyor may, after twenty-four hours' notice (or, in case of emergency, without notice), open and examine the same, and if necessary remedy the evil at the cost of the owner, when the latter will not do it himself.

The board is to see to the cleansing of the streets, and the provision of public necessaries,—an important and much-needed power. The board is to drain, cover, or fill up, all ponds, drains, and places containing matter likely to be prejudicial to health, having first given notice to the owner or occupier of the premises whereon the same exists. Offensive matter is to be removed on certificate of inspector of nuisances; houses are to be purified on certificate of officer of health, or any two medical practitioners; the emission of opaque smoke ("which shall for the purposes of this Act be held to mean smoke not transparent at the point of its exit from the chimney or flue") is made liable to a penalty; and slaughter-houses are to be registered, and, if necessary, provided by the board. Offensive trades or manufactures are not to be newly established in any building without consent of local board, "unless the general board shall otherwise direct."

A clause, enforcing the ventilation of places intended for the assemblage of numbers of people, was struck out by the Lords.

Public lodging-houses are to be registered, and the local board is to make regulations for promoting cleanliness and ventilation therein. It will not be lawful to let, or occupy, as a dwelling, any vault or cellar built after the passing of the Act; nor to continue to let, or occupy, as a dwelling, any underground room whatsoever, unless the same be in every part 7 feet high, and under certain other conditions.*

The management of all present and future streets, pavements, &c., is to be under the local board, who, further, have power to compel owners of private streets to sewer, pave, &c., and have power to purchase premises to improve streets; and with the approval of the general board, provide and maintain public walks and pleasure grounds.

The local board is to provide their district with sufficient supplies of water, but is not to construct water-works if any waterworks company within their district be able and willing to supply water on such terms as the general board may consider reasonable.

* "That is to say, the City of London and the liberties thereof, the parts within the limits of certain commissioners of sewers, bearing date, at Westminster, the 30th day of November, in the year of our Lord 1847, also the parts within the limits of a certain other commission of sewers, bearing date at Westminster, the 4th day of December, in the year last aforesaid, and the parts subject to the jurisdiction of the commissioners acting in the execution of an Act of the fifth year of the reign of king George the Fourth, for (amongst other things) more effectually paving, lighting, watching, cleansing, and regulating the Regent's Park, and in the execution of the several Acts for extending the jurisdiction of such commissioners."

* The conditions are as follows:—"Unless the same be in every part thereof at least 7 feet in height, measured from the floor to the ceiling thereof, nor unless the same be at least 3 feet of its height above the surface of the street or ground adjoining or nearest to the same, nor unless there be outside of and adjoining the same vault, cellar, or room, and extending along the entire frontage thereof, and upwards, from 6 inches below the level of the floor thereof up to the surface of the said street or ground, an open area of at least 2 feet and 6 inches wide in every part; nor unless the same be well and effectually drained by means of a drain, the uppermost part of which is 1 foot at least below the level of the floor of such vault, cellar, or room; nor unless there be appurtenant to such vault, cellar, or room, the use of a water-closet or privy, and an ash-pit, furnished with proper doors and coverings, kept and provided according to the provisions of this Act; nor unless the same have a fire-place with a proper chimney or flue; nor unless the same have an external window of at least 9 superficial feet in area clear of the sash-frame, and made to open in such manner as shall be approved by the surveyor, except in the case of an inner or back vault, cellar, or room, let or occupied, along with a front vault, cellar, or room, as part of the same letting or occupation, in which case the external window may be of any dimensions, not being less than 4 superficial feet in area clear of the sash-frame."—This is not to come into operation till one year after passing the Act, nor in any district till six months after the application of the Act to that district.

If on the report of the surveyor it shall appear that any house is without a proper supply of water, and that such supply could be had at a rate not exceeding 2d. per week, the local board, in the event of the occupier being unable after notice to obtain such supply, shall do the necessary works and recover from the owner. The board may supply water for public baths and washhouses, maintain pumps, reservoirs, &c., and construct new public cisterns for the gratuitous supply of water.

The powers of the local board in respect of interments are not so great as they should have been; still a movement is made in the right direction. On the certificate of the general board, only to be given after circuitous inquiry, to the effect, "that any burial-ground situate within any district to which this act is applied, is in such a state as to be dangerous to the health of persons living in the neighbourhood thereof, or that any church or other place of public worship within any such district is dangerous to the health of persons frequenting the same, by reason of the surcharged state of the vaults or graves within the walls of or underneath the same, or of the churchyard adjoining the same,—the said local board may, subject to the approval of the said general board, procure some convenient place wherein interments may take place, on conditions to be settled by the said general board, and (so far as relates to the interment of persons belonging to the Church of England) approved by the Lord Bishop of the diocese;" and thereupon it will be unlawful to bury under the ground or church to which the certificate relates. "Provided always, that nothing herein contained shall prejudice or affect the right of interment in any family vault or burial place." Interments within churches or burial-grounds erected or formed after the passing of the act, are prohibited, unless with consent of the general board.

Local boards before commencing works are to obtain estimates of cost, and before entering into any contract above 100*l.*, shall publicly advertise for tenders. Instead of calling on owners for the amount of those expenses, which may be declared by the board "private improvement expenses," the board may levy separate rate upon the premises sufficient to discharge such expenses, together with 5 per cent. interest on the same, in a period not exceeding thirty years.

We have thus laid before our readers with some care the intentions and principal powers of the new Act. Some annoyance and ill-feeling will probably be caused in the first instance by its operations, but all must see that the general welfare will be advanced by the proper administration of it; to obtain which all should consider themselves, as they really are, vitally interested, and so feel bound to overlook any trifling personal annoyance to which it may subject them. Very much will, of course, depend on the surveyors and health-officers appointed by the various local boards, and we therefore strongly urge the latter to make each election with the greatest care and consideration, not regarding the appointment as a good place for a man, but seeking most anxiously for a good man for the place.

To Take Stains out of Marble.—A surveyor writes:—In answer to your correspondent's inquiry, how to take out stains from statuary marble? I beg to say that I have had American potash used, by making a thin paste of it, and laying it on with a brush, and it has been effectual, but I am not sure that it will take out the stains of *oil*.—S. Noble.

ON BRICKWORK,

MORE ESPECIALLY WITH REFERENCE TO ITS APPLICABILITY TO MODERN DECORATIVE ARCHITECTURE.*

At Sutton-park, Surrey, supposed to have been built by Henry the Eighth's brewer, the walls are of red brick, and the mullions and other dressings, cast in clay, of a deep cream colour, which, it is said, had exactly the appearance of stone. The hollows in the moulding of the windows are filled with an ornament of the same material. Here, as in most of the buildings of the kind, the otherwise plain face of the wall is relieved by means of chequered work, composed of glazed bricks, of which a modern writer† remarks, that "with a tact so peculiar to themselves, these, like other disadvantages, were, by the old builders, turned into beauties. Instead of allowing the workmen to use these bricks indiscriminately, and thereby disfigure the walls, they were selected and wrought into devices, relieving the plainness of those parts which had neither apertures nor stone dressings."

Notwithstanding this opinion, I am inclined to believe that the glazed bricks were expressly made, by the old builders, for decorative purposes. Extreme care is needed in placing them—and, indeed, in contrasting all descriptions of bricks—for, if they be too plentifully employed, the wall has too much the appearance of fancy needlework. A failure, this way, may be seen in the Brixton-hill schools, where the architect seems to have had no other idea than that of violent contrast. Stone is used only for the labels and drips to windows. The coins, window-dressings, and other ornamental parts are of white, and the walls of a yellowish-red brick. Throughout the front, in small diamond pattern, these glazed bricks are introduced, and the harlequinade effect is considerably heightened by the whole being laid with black joints. The chimney-tops—which are about three times too large—are ornamented with bricks of four or five different colours, continued spirally,—somewhat similarly to the chimney at the New-cross Railway Station; but there, the variety of colour is, with common bricks, artistically subdued, and produces at once an agreeable and harmonious variety.

At Streatham, and near Pope's villa, Twickenham, attempts have been made to vary, in a different way, the blankness of fence walls: it is there done with red bricks. Both a positive and negative good may be deduced from these efforts. In effectually disposing of the monotony, they have also, as surely, discarded the stability of the wall. The joints are oftentimes placed over each other—bond being unheeded—to suit the '*pattern*,' and bricks are laid on edge, or as they may best fill the '*pretty panel*' that had been designed, without the slightest consideration of its constructive capabilities.

Failures of this kind would also inevitably result from the adoption of the designs given for brick parapets, in "Loudon's Encyclopædia." It cannot be too often remarked that the constructive capabilities of ornamental brickwork must have paramount consideration.

As an example of ornamental brickwork, we must not forget the celebrated tomb at Wymondham Church, Norfolk, and its beautiful show of foliated decoration. It was built soon after the introduction of Italian art into this country, when brickwork and bricklayers were honoured in the person of one whose after-developed genius commands reverence for the name of Ben Jonson.

After a slight decline the art was revived in Inigo Jones's time, and a law was passed prohibiting the use, in London, of a less destructible material for building purposes. No. 45, St. Martin's-lane, is an instance of the neatness with which the most intricate forms of brickwork may be executed; it is, perhaps, unrivalled in or near London. It consists of two fluted Doric pilasters, with enriched caps, entablature, and soffit. The ornamental foliage—of a different pattern in each metope—is most elaborately and finely executed, and with a degree of accuracy unsurpassed by stone.

On account of the closeness of the joints, I was, till very lately, uncertain whether to consider these metopes formed each of one block of clay or not: but in passing through the Temple I perceived a somewhat similar specimen, with the foliage of the capital executed in pieces of the size of an ordinary brick. From this and similar works I have seen since, I concluded the ornament in St. Martin's-lane was executed in like manner.

Adjoining the latter, Nos. 44 and 46 respectively, there is a dentilled Ionic, and an enriched Corinthian cornice, with modillions, &c., all of brick.

In parts of Christ Church school, Newgate-street, the Ionic pilasters, vases, and angular caps are indebted to no other material for their merit; the cornice is composed of wood.

There are, in different parts of London (for instance, at the corner of King-street and Gresham-street, Cheapside), good examples of cornices which, with a trifling outlay, produce capital effects. There are ornamental brick-door and window-dressings, with trusses, &c., in Kings's Arms-yard, Lothbury (fig. 1), and in the Inner Temple (fig. 2). At the first-mentioned place a larger kind of brick is employed in an angle corbel, though at first scarcely perceptible on account of their joints being unpointed, whilst the white lines from the face are continued along the surface of the corbel bricks. The trusses in the Temple are of three different patterns. They are composed of bricks of the ordinary size, very accurately and closely set. The only other ornament connected with these buildings is a fine bold brick string about 18 inches high.

One great peculiarity in all the buildings erected at this period is, that the band or string, in almost every instance, runs along immediately on the top of the window-arch, instead of being, as in modern custom, placed under the window opening. Another circumstance connected with these works is, that not one of them has *completeness*; we have here a good truss; there, a beautiful cornice; yonder, an ornamental string; but in no instance are these ornaments artistically allied, or is it attempted.

Are not these examples abundant and sufficient proofs that there are no required shapes but what may be produced in brick-work, and that taste and judgment only are needed:—the first, to collect the materials, even of form, which other minds have laboured for and brought forth; the second, to direct their proper application? Be certain, a man who produces nothing but what is strictly original beauty, will do but little in a lifetime. Let us not adhere to the shell in our admiration for the pearl, but con well the wants of our age, and get whence we can the materials with which to satisfy it. Is English landscape less pleasing because corn decks the earth also in America, or because grass springs everywhere? No; our national skill and climate create the diversity. What more do we require in art? When applicability is surrendered to the whim of copying a past structure, then evil occurs, not otherwise. Has not this evil prevailed for some time in our street architecture? The style of beauty applicable to stone or marble is imitated in a brick-built house. This is false, and consequently to be avoided. The science and art of architecture should be combined with Siamese inseparability; instead of which, the former is made distinct and separate, "the beautiful" being added as directed,—

"Lay it on thick,
For sure then *some* of it will stick."

In gazing upon the works of nature, it is not the red flower, the brown blade of corn, the blue sky and their appropriate grouping that cause the agreeable sensations within us. Half our gratification is derived from what is visible but to the mind: from the consciousness of nature's secret workings, by the known and unknown harmonious laws that regulate her growth. Can these two sources of pleasure be separated? No:—it is their combination that gives perfection to each. In this spirit we should imitate nature, rather than superficially. Yet we hear it sometimes advanced that science is a hindrance to art,—that there is nothing poetical, and consequently, nothing artistical in it; but, I would ask, is poetry or grandeur wanting in the lightning passage of an engine through the earth, or in the long sleep of the wide-spread pyramid on the burning sands? Man's mind, creative in its boundless power, should see beauty and discern art in all things, and the

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* See page 412 *ante*.

† Hunt's "Tudor Architecture."

ORNAMENTAL BRICKWORK.

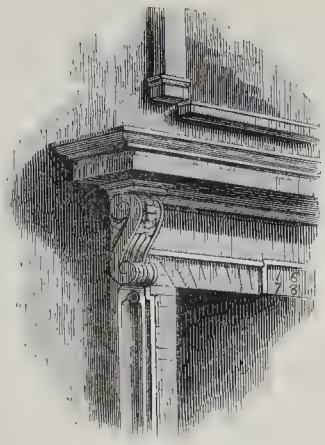


Fig. 1.—LOTHBURY.



Fig. 2.—INNER TEMPLE.

possession of scientific materials, — brick, ron, &c.,

"The bones of the giant, Civilization,"

s like a fresh point of observation to the poet; hey are additional fuel to the blaze which nay, for a time, appear obscured to them, but vill eventually seize on every side, and use hem but as instruments for its own exalta- ion, and for diffusing a brighter glow to the urrounding world. The scientific material *we* re obliged to resort to, on account of our geo- ogical position, is brick. Instead of art being he gem to adorn it, it has been too long con- idered but a veil to obscure it.

To the unfortunate antagonism in which the rt and science of architecture is placed, I ttribute the cry of regret that we shall have o "national" edifice on the land we bequeath o posterity. Were our buildings durable, no ne would, I think, misread the age when Gothic art was made lustrously intrusive, and he external outline of the Italian palaces were urified to adorn Pall Mall. Will the Houses f Parliament be no index to the future art- istorian? The fact is, the majority of our uildings—our Compo ones—will scarcely utlast one generation; otherwise, we might

"make our life sublime;
And dying, leave behind us
Foot-prints on the sands of Time."

What, then, is the cause of this error?

Firstly,—I attribute it to that broad Upas tree -Fashion: to another phase of that vulgarism hich has been well ridiculed under the head f "snobbishness." Do we not see the same isgusting propensity for finery and flippancy; ie same dissatisfaction with the true posi- on, and an envy of the grandeur unattain- ble; the like grasping at the *appearance*, stead of the *reality* of truth; and, worse than l, being satisfied with it? The tradesman is ot contented unless his shop—or, pardon e, his first floor—be like a mansion at e West-end; and in happy ignorance he tires in the evening to

"fill a niche in
A Grecian temple opening to a kitchen."

Another preventive—and the most formid- ble to brick decoration—is "the duty." This 5s. 10d. on ordinary bricks; double that m if the size be but an inch exceeded (and, member, this duty is levied before the bricks e burnt. This requires a larger profit, to ver the loss on the bricks damaged in rning); and a double duty is also charged ornamental bricks. "Why," asks a riter in THE BUILDER, "should the geo- logical position of a place be taxed? A person living near a stone quarry pays no tax for his building material; why should he who chances to reside near a brickfield?"

Speaking of this subject, Dr. Ure says,— "The espionage of the excise is a bar to all invention, in every art under its control. The excise system is totally incompatible with their healthy growth. The sooner this portion of the revenue—so offensively, oppressively, and expensively collected—is replaced by an equit- able tax on property, the better for the welfare of this great country. In concluding a very extensive survey of the great branches of our national industry, this vile obstacle to their progressive growth became so apparent, that it would have been pusillanimous to shrink from the task of pointing out the magnitude of the evil."

It is strange that the architectural societies move not in the matter. Their opinions would have great weight.

If the duty cannot be taken off all kinds of bricks, at least the barrier might be removed which obstructs the onward march of a section —and no inferior one—of decorative architec- ture, and prevents the transit of the old brick ornament into the present century. That this would result from its removal, we conclude from the fact that glass has become highly ornamental since it has been exempted from duty. Much may, however, yet be accom- plished by an artist of taste and judgment, as is proved by examples which follow. One of the first modern attempts was made at the New Streatham Church, by Mr. Wyld. The decoration is procured at a comparatively trifling cost, and the position of every brick seems to have been determined after attentive consideration. The angular ornament so con- spicuous there, is also seen in the fence walls of Lambeth Palace, and in the almshouses at the corner of the Kennington-road.

It will be perceived that all projections entail the necessity of having the interior of the wall occasionally formed of small pieces. This is, of course, to be regretted, but the brick duty almost compels it, by forbidding the use of larger sized bricks. To give as much con- sistency as possible to these parts, they should invariably be laid in cement. Another con- structive defect is in the cornice, where tiles are laid on, instead of the parts being expressly moulded; but—"*the duty*."

The campanile of Streatham church is covered with bricks laid in a diamond-shaped pattern, relieved by bricks of a different colour, and the effect is good. The small three-light window in the western front will also repay attention. The whole church is evidence of what good effect may be produced with a small outlay, judiciously employed.

Another specimen I shall instance, in the ill- fated engine-house at the New-Cross station of the Croydon Railway.

The defect in Mr. Wyld's cornice is not seen here, and the joints of the brickwork com- posing it are very carefully broken. One course is laid on edge, apertures being left in it for the ventilation. The keys to the arches, ends of pediment, and other parts requiring additional strength, are stone. We may see here what good results spring from simply splaying the angles.

The whole of the decorations of this build- ing, particularly the tall chimney before men- tioned, are very effective, especially at a dis- tance. As we approach, it seems rather too *red* for its position. Had it, for instance, instead of a dirty-looking town, some fine tall trees to relieve it, the effect would be at once much improved. This is a point that needs to be well studied, and the various hues of which bricks may be obtained afford the archi- tect an opportunity of designing his building in perfect harmony with the adjoining scenery. The climate of our country is on the cool side of temperate, and requires, consequently, that a cheering tint should prevail in our buildings, and no material can give this better than bricks. The disagreeable effect of *white* compo is palpable.

I do not maintain that brickwork should be employed for every architectural pur- pose; but wherever it is used, it should be suitably decorated.

I will now consider two or three arguments to be urged against it.

It is common. Be it so;—the more con- spicuous will the *art* become; for,

"Like bright metal on a sullen ground,
'Twill shew more brightly and attract more eyes,
Than that which hath no foil to set it off."

It has, however, a bad name. We have a right regal sneer against its employment. Augustus Cæsar is reported to have said, in his usual boasting style, that "he found Rome of brick, and left it of marble." Supposing he did so (which is not the fact, for marble was used there years before he trod the "by- paths and crooked ways" that led to his throne), it was on account of the morbid desire for *possession*, rather than *appreciation* and *production* of art, which reigned in his age, and which developed itself in the luxury and magnificence which surrounded Rome's first Emperor.

Notwithstanding this objection, I believe if

true art may be seen, even in bricks, in our ordinary streets, it will eclipse the more assuming buildings around, which have their superficial and butterfly splendour plastered on—never to superior material, oftentimes, relying on concealment behind their showy exterior, to weak unsubstantial place-bricks wretchedly mortared together.

A second objection may be raised as to comfort. It is said that bricks absorb moisture, and therefore hollow walls should always be provided, or a coat of plaster laid on to keep the damp out. Of all the inventions—and their name is legion—brought forward to counteract this evil,—though their prospectuses had asserted them to be very little dearer (some even cheaper) than ordinary bricks,—none have become generally used. The reason, I think, is, that though theoretically, the old method of laying bricks has been shown to be wrong, *practically*,—by those who live in a 14-in. walled house—no inconvenience is felt. When a building is just finished, the walls are of course damp, but they soon dry, and I think, effectually. This is, assuming that the brickwork be properly laid, and with what fine joints it may be done, is seen in the buildings erected about a century and a half since, or a little earlier. I imagine, were this done, and the site well drained, there would be no need of such inventions.

Lastly: it may be said that brickwork is too expensive. When we consider its durability, and that compo is continually requiring repainting, is not this objection set aside? Were it not for the duty, it would be much cheaper.

A word or two ere I conclude on the "style." The ecclesiastic, having by an Oxford patent galvanized the dead bones of Catholicity, digs up her Gothic shroud, and avers *that*, with all its grave-begotten uncleanness, to be *our* national fabric. Might not the same, with equal justice, be said of Stone-henge? Yet, at the wink of this expiring flame, new chancels, sedilia, piscina, rood-lofts, puny little panes of glass to fill

> "Storied windows richly dight,
> *Mullion'd to exclude the light*"—

have arisen, as if by magic, with no other good than a little amusement to the spectators. Let me not be understood as hostile to the beauties of mediæval art: but I hold that modern science and requirement should not give place for *their* re-production, much less, for that of its quaintness, bad drawing, and absurdity. Brickwork will never re-produce Gothic architecture, we may be satisfied. "What style will it then take?" I would answer, Let us think not of that; "*style*" but denotes what is *past*. Hold fast to Truth and Harmony—follow and trust in them; *their* beauty may then envelope *us*. Let us rest assured no perfect Grecian, Roman, or Gothic art *can* ever be revived. The stream of time ebbs not, and they have all been left upon its banks.

Wm. Boutcher.

THE INSTITUTE OF THE FINE ARTS.

The council of the Institute of Fine Arts, anxious to cancel an overhanging debt, and to render its funds commensurate with an enlarged sphere of usefulness, are making an appeal to the upholders of the fine arts in this country for assistance. A number of the members have volunteered to present to the society some work of art, and from the collection which will thus be formed the council offer donors of ten guineas first, and of five guineas secondly, a choice.

The number of members possessed by the institute is at present 300; it ought to be four times as many, and would be, we cannot help thinking, if its managers (who nevertheless deserve praise for personal exertions) took more enlarged views, and acted with greater vigour.

Amongst other steps, we would suggest to them a judicious increase of their list of honorary and corresponding members at home and abroad, comprising those who deserve well of art; the establishment of a corresponding member in every important town in the kingdom; and the formation of a new class of honorary members, with a distinctive title, open to the Royal Academicians, on payment of, say 20 guineas.

GEORGE STEPHENSON

THE MATURER OF THE RAILWAY LOCOMOTIVE.

Amid the competitive claims of not a few men of thought and invention to a share of the merit, ideal and practical, of originating the grand leading feature of this "age of iron"—the railway system—we presume that no one will deny that the extraordinary man who has recently quitted this earthly stage of human ambition, with fewer of its vanities, we daresay, or even of its vexations of spirit, than fall to the lot of the many,—merits, at least, the honour, great as it is, of being considered the "establisher and maturer of the railway locomotive."

That there are, or have been, not a few aspirants to the still higher and more comprehensive honour—due, in all probability, to no one individual — of being the originator, practical and theoretical, of the railway system at large, need not be wondered at, considering that, when the steam-engine had once suggested the idea of the substitution of steam power for animal power, the mere desire to imitate the old modes of conveyance by help of the new modes of power, must have tended to force itself into every mind enlightened or interested in the new discoveries and inventions of the previous age. And that the locomotive was from the first but "the iron horse," not only in idea, but in practical effort, will be clearly seen when the fact is recollected, that in 1813—sixteen years before Mr. Stephenson's first ostensible railway locomotive won the grand locomotive race on the first locomotive railway—Mr. William Brunton, of Butterley Iron-works, patented an iron horse with legs!

But that even the amalgamation of the four-legged horse with its four-wheeled vehicle was itself too obvious an idea not to have also from the same first origin forced itself into notice, may be seen from the fact, that even so far back as 1802, Messrs. Trevithic and Vivian patented a high-pressure engine with wheels, adapted to locomotion, but designed for turnpike-roads, and in fact exhibited it that very year near Bethlehem hospital, where all the metropolis might have seen it running.

Even the idea of the adaptation of the locomotive to the rail must have forced itself simultaneously on the minds of many, as a mere desirable improvement of the old jog-trot horse-and-waggon railway, or even of the scarcely less old self-acting plane, or rope and steam-engine, railway system; and the idea certainly did originate with several. Thus, in 1811, Mr. John Blenkinsopp, of Middleton colliery, near Leeds, patented a rack-rail, on which a steam-engine with rack wheels was to travel; there being an erroneous notion at that time in the minds of engineers that an engine would not travel on a smooth rail, for want of "bite." And although doubts of a like description prevailed in the minds of many, and even amongst the shareholders of the first great line of rail connected with the present system, down to 1829, when the contrary was proved by Mr. Stephenson and his competitors, so far back as 1814 it had become known, through an experiment made by Mr. Blackett, on the Wylam waggon way, with an engine constructed in 1813, that racks, and chains, and legs were all superfluous, the wheels gripping a plate rail, and moving onwards independently of any assistance whatever.

As remarked, too, by Mr. Charles Maclaren, editor of the *Scotsman*, esteemed as a man of science and ability, and moreover one of the claimants to the credit of having "first anticipated the marvels of railway travelling,"—articles by him in the *Scotsman* drawing attention to this grand idea having been published in 1824, republished in 1825, translated into French and German, and reprinted in the United States,—so far back as 1807 a distinguished philosopher, Dr. Young, in his lectures on natural philosophy, while laying down the theory of friction, suggested the idea, that "it is possible that roads paved with iron may hereafter be employed for the purpose of expeditious travelling, since there is scarcely any resistance to be overcome, except that of the air; *and such roads will allow the velocity to be increased almost without limit.*"

Though many have merited a share of that honour, however, in the distribution of which amongst them we must not overlook the name of Mr. Thomas Gray, already sufficiently noticed on previous occasions in The Builder, it remained for the esteemed owner of the name at the head of this article, after all was said and done, to *realize* the grand idea on a *practical* basis, which he more and more matured, at least, if he did not originate.

Mr. Stephenson the elder (the subject of the present desultory notice), was in the 68th year of his age when he died, at Tapton House, near Chesterfield, on Saturday, the 12th of August current.* He was born on 9th June, 1781, of the most humble parentage, at a solitary cot or cottage, on the Tyne, between Wylam and Closehouse, Northumberland, about eight miles west of Newcastle. His father was an engine-tenter at a colliery, and he himself began life as a pit engine-boy at 2d. a day's wages; and afterwards acted as a stoker, and as a breaksman in the employment of Lord Ravensworth and partners, where his mechanical talent first forced itself into notice in the amateur repair and improvement of a condensing pump-engine, where some engineers had failed. He was then promoted to the office of engineman; but we do not know whether it was at this critical period of his history, or even earlier, that he declared to a confidant, that having risen from 2d. a-day to the independent sum of 12s. a-week, he was now a man for life. At this very time, at all events, the fates began to educate him for his future and still more manly career in life; for something went *wrong with the waggon way*, or it never had been any thing else but wrong until he tried his apprentice hand upon it, and of course improved it. He was afterwards employed in forming railway planes and engines under ground. Indeed we may say that from this time forward, his peculiar mission was chalked out for him, as, in the midst of defects in the working of coal railways, he happened to be placed in the most favourable circumstances possible for the engagement of his attention and his peculiar talent. "In this, however," as remarked by a writer in the *Gateshead Observer*, to whom we are indebted for the record of some of these facts, "he was not singular. The same question had occupied, and was occupying, other minds; and we put in for Mr. Stephenson no higher claim than that he was the most prominent and meritorious of the men who founded the modern system of railway travelling."

The main points in his subsequent career we cannot better describe than in his own words at the opening of the Newcastle and Darlington line of railway in 1844:—

"Mr. Liddell has told you that in my younger days I worked at an engine in a coal-pit. I had then to work early and late, often rising to my labour at one and two o'clock in the morning. Time rolled on, and I had the happiness to make some improvements in engine-work. The first locomotive that I made was at Killingworth colliery, and with Lord Ravensworth's money. That engine was made 32 years ago, and we called it *My Lord*. I said to my friends that there was no limit to the speed of such an engine, provided the works could be made to stand. * * * I betook myself to mending my neighbours' clocks and watches at nights, after my daily labour was done, and thus I procured the means of educating my son. He became my assistant and companion. He got an appointment as under-viewer; and at nights we worked together at our engineering. I got leave to go from Killingworth to lay down a railway to Hetton, and next to Darlington; and after that I went to Liverpool, to plan a line to Manchester. I there pledged myself to attain a speed of ten miles an hour. I said I had no doubt the locomotive might be made to go much faster, but we had better be moderate at the beginning. The Directors said I was quite right; for if, when they went to Parliament, I talked of going at a greater rate than ten miles an hour, I would put a cross on the concern. It was not an easy task for me to keep the engine down to ten miles an hour; but it must be done, and I did my best. I had to place myself in the most unpleasant of all positions—the witness-box of a Parliamentary Committee. Some one inquired if I was a foreigner? and another hinted that I was mad.† I put up with every rebuff, and went on

* His death is attributed to his having spent nearly the whole of his time latterly, in the impure air of a hot-house in a praiseworthy, but imprudent, rivalry with the Duke of Devonshire, in the cultivation of certain exotics. Whether peer or commoner, Stephenson could not bear that any man should be his superior or equal in anything he undertook.

† Many of the shareholders themselves had previously manifested symptoms of the same way of thinking: they became alarmed at the "mad" scheme of this "Wild

with my plans, determined not to be put down. Assistance gradually increased—improvements were made every day—and to-day a train which started from London in the morning has brought me in the afternoon to my native soil, and enabled me to take my place in this room, and see around me many faces which I have great pleasure in looking upon."

The competitors of Mr. Stephenson for the premium of 500*l.* offered in 1829 by the new Liverpool and Manchester Railway Company for the best locomotive engine were Mr. Burstall (or Burstall and Hill), Messrs. Braithwaite and Ericson, and Mr. Hackworth. Burstall's locomotive, the *Perseverance*, was withdrawn: it was made for locomotion on turnpike roads, on which it had repeatedly run with success previously, as we happen to know, although we cannot now recall the precise reason why it was withdrawn at a critical moment, when, had its parts been properly re-adjusted on the ground, we cannot doubt but that it would have run, as it did before, and well too—better far, of course, than it had already done, even on the rougher and more trying track of a common road. It was, indeed, the fruit of much perseverance and more cash, and, in all probability, lost its place in the grand race of renown by the mischance of some mere accident.* The other two locomotives, the *Novelty* and the *Sanspareil*, broke down, while Mr. Stephenson's *Rocket* outran the requirements of the Directors, averaged 15 miles an hour in speed, won the prize, and ushered in "the greatest mechanical revolution effected since the invention of the steam-engine by Watt," and its more immediate fruits.†

The subsequent career of Mr. Stephenson was as rapid and as smooth as the railway locomotion which he had done so much to realise. He took the lead, of course, at once, in railway engineering, became an extensive locomotive manufacturer at Newcastle and a railway contractor, a great colliery and iron-work owner, particularly at Claycross, and, in prosperous and money-making conjunction with Mr. Hudson, in a manner *made* our great railway system, as they themselves, in a money-making sense, were *made* by it.

The claims of Mr. Stephenson to the original idea of the Davy Lamp at one time excited a good deal of discussion; but whatever be the merits of that question, certainly Davy was a man of more originality of idea, Stephenson more a man of happy talent in mechanical adaptation of ideas to useful and to noble purposes.‡

The present notice has really no pretension to the title of a memoir, however brief, our limited space having compelled us simply to form the idea of throwing together a few of the more prominent subjects of interest in the life of a remarkable man, who has done much for us all during a sojourn amongst us of but too brief duration had not his mission been fulfilled—his work accomplished.‖

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run wild;" and in order to prevent his no less mad steam-engines from being let loose upon their cherished horse-trot railway project, they got two "eminent engineers" to act as Commissioners *de lunatico inquirendo*, and report. The "eminent engineers" accordingly investigated the subject, and, in "a very able document," proved most clearly that Mr. Stephenson's project was practically and commercially inexpedient! Talent and enterprise, however, prevailed, and the horse plan was abandoned.

* In justice to Messrs. Borthwick, then merchants at Leith, we think it right, as we are sure Mr. Burstall would, here to record, that to their liberality, as well as to his own talent, was he much indebted for the *means of perseverance*.

† In acknowledgment of Mr. Stephenson's claims in connection with railways, the Midland Company voted 2,000*l.* in 1845, to be expended in the presentation of a service of plate and the erection of a statue on the high-level bridge across the Tyne,—the structure recently proposed to be called the Stephenson-bridge in honour of his memory, and seen to the left of the castle in the illustration of present number. Mr. Hudson, on whose motion the grant was made, stated that three other Companies—the York and North Midland, the Newcastle and Darlington, and the Newcastle and Berwick—would each vote a like sum.

‡ There was a powerful local feeling in favour of Mr. Stephenson's pretensions to the priority of invention. A committee was appointed to investigate the priority of the claims of the inventors of the safety lamp, and a public dinner was given by that committee to Mr. Stephenson, when a purse of a thousand guineas, and a silver tankard, were presented to him. In returning thanks, he announced his intention of devoting the money to the education of his son at the Edinburgh University. It is rather curious that, nearly thirty years afterwards, another piece of plate was presented to Dr. Clanny, as "the inventor of the safety lamp."

‖ "In private life," says a correspondent of the *Athenæum*, he earned the regard of all who appreciate worth and liberality, not less than ability. His habits were active, his constitution so vigorous that he was tempted occasionally to take undue liberties with it. His affections were warm, his manners frequently playful and vivacious, bearing that stamp of originality indicative of the man. He was fond of the society of ladies; selected them commonly for conversation in mixed parties, where he could follow the bent of his inclinations, and was thrice married." He never hesitated to acknowledge the humbleness of his origin, but, on the contrary, displayed a manly pride in occasional reminiscences and contrasts. It is recorded of him that, in response, on one occasion, to the curiosity of a stranger lady, he said,—"Why, madam, they used to call me George Stephenson; I am now called George Stephenson, *Esquire*, of Tapton House, near Chesterfield. And further let me say, that I've dined with princes, and peers, and commoners—with persons of all classes, from the humblest to the highest;—I've dined off a red herring when seated in a hedge-bottom, and have gone through the meanest drudgery. I've seen mankind in all its phases, and the conclusion I've arrived at is this—that if we were all stripped, there's not much difference." With all this plain-spoken bluntness, however, he appears to have had a spice of the courtier too, as another anecdote told of him would seem to betray. "I tell you what, my lord duke," he said, on one occasion, while on a visit at the princely country seat of the Duke of Devonshire, "your Grace won't find the change, after all, so very great, when you get into Paradise." Above all his own engineering and other titles—and he had even been created a Knight of Leopold of Belgium (for railway services), and an F.R.S.—he is said to have specially esteemed his title of founder and first president of the Society of Mechanical Engineers. His attention to the mental and temporal improvement of the workmen in his collieries (1,000 and upwards), is said to have been unremitting.

THE CATALOGUE OF THE BRITISH MUSEUM.

SIR,—Presuming that you have no objection to laying before your readers some additional remarks upon the "existing" catalogue of the British Museum, I commence by observing that the Lord Advocate must be wholly unacquainted with that chaotic mass, extending to upwards of sixty folio volumes; or else he must be in possession of a divining rod which enables him to discover at once under what title the work he is in search of lies concealed. By the help of such rod, a person who wanted for instance Cicognara's "Fabbriche più cospicue di Venezia," would, instead of looking for it under "Cicognara," or "Fabbriche," or "Venezia," turn at once to Diedo! Consulting the admirable "existing" catalogue, is pretty much like making a voyage of discovery; and though you are very likely to miss the object of your search, you may possibly stumble upon something else which you are glad to have found out, although you certainly would never have looked for it, and that for a very all-sufficient reason—ignorance of the existence of what so unexpectedly turns up. People cannot possibly look for books whose titles they never heard of; and if they occasionally meet with in the catalogue, by mere accident, some which they rejoice to learn are thereby rendered accessible, the exultation at such discovery is greatly damped by the reflection, that still greater treasures may lie for ever hidden from them in the mazes of the labyrinth yclept the catalogue.

Great, however, as are the inconveniences arising from the want of a classed catalogue, the latter is not likely to be provided at all the sooner on that account. It seems to be thought that readers at the Museum must by this time be just as well accustomed to those inconveniences as eels are to the being skinned alive. To many frequenters of the reading-rooms it is matter of indifference whether the much-needed classification be ever undertaken or not, they knowing that, were it to be commenced forthwith, it could never be completed in their time; therefore they have no particular objection to others being subjected to the same inconveniences as they themselves have been forced to experience and submit to. Hardly needs it to be said that far other and more generous considerations ought to prevail in the management of so important and national an establishment as the library of the British Museum; and certainly the longer the task of forming a classed catalogue is delayed, all the more formidable and laborious will it become, owing to the continual accumulation of books.

One effect which a classed catalogue would have, would be to make manifest how exceedingly great are the deficiencies in some departments of literature, and how much others are crammed with what is comparatively worthless. Some foreign literatures are hardly represented at all in our national collection, not even all their standard writers and classical works being there to be found.

To confine myself to that branch of study in which you and your readers are most of all interested, architecture: the deficiencies there are not only great, but some of them quite unaccountable. That all foreign works of any note should not be *purchased* for the Museum is not, perhaps, very surprising; that it should not contain all modern English ones of the class, which may of course be claimed from their publishers, is, indeed, astonishing, not to say incredible. Nevertheless, such is actually the case. Hardly will it be credited that our national library—one which does not disdain to give house-room to, and encumber its shelves with, children's books, school-books, and other productions of the same stamp, does not contain a copy of Hope's tasteful work on "Household Furniture." Still, such is the fact; and what is worse, it is by no means a solitary one. Frequently have I gone to the Museum with a list of about half-a-score of English publications that have appeared within the last half-dozen years, and sometimes have not been able to find even a single one of them. In some instances of works that have been brought out at different times, I have found the first "series," but not the following ones, or else the second or third, but not the preceding ones. If I mistake not, for I cannot at this moment speak positively as to any work in particular, such is the case with respect to Haghe's "Belgium," and Nash's "Old English Mansions." However, be it they or other publications of the kind, it is evident that there is great remissness in not making application to the publishers within the limited time. The consequence of such negligence is, the Museum library contains many broken series and sets. Speaking only on the report of others, I cannot vouch for the truth of it, but I have heard that within the few last years, several extensive purchases have been made by the Museum of both antiquated medical books and of Hebrew ones; neither of which classes will be thought to add to the usefulness of the library. What I can truly aver is, that my own collection of architectural works, small as it is, a mere drop in comparison with the boundless ocean of my wishes, contains several works that will be sought for in vain at the British Museum. I do not say that I feel particularly chagrined when, on turning over the catalogue for that purpose, I have ascertained that my own bookshelves contain treasures that are not to be found on those of our grand national repository, but I do say that a very sharp eye ought to be kept upon it; and were a sturdy besom to be employed to sweep away some of the rubbish, both animate and inanimate, which now encumbers the Museum, it would not be at all amiss. I say so, and you think so.

So yours, *ad infinitum*,

P.

THE "OCEAN MONARCH" AND THE FIRE ANNIHILATOR.

SIR,—You have made the public acquainted with the Fire Annihilator—both with its wonderful powers of extinguishing flame and the nature of its combustible materials, together with its mode of operation. Its stated moderate cost, and easy use and convenience, and also its safety, are satisfactory; but I am sorry to find on inquiry, that, although this useful and desirable object has been patented several years *it is not yet to be purchased at any price*. At a public meeting in St. Pancras, last Tuesday, where Lord Dudley Coutts Stuart, M.P., presided, we were informed that, for an outlay of five pounds, cost of the machines, (and a consumption of a few shillings only), four or five annihilators, thrown down between decks into the *Ocean Monarch*, would have at once converted the deadly vapours of the fire into innocent steam, — would have saved 173 lives, and have preserved as many more human beings from utter ruin and wretchedness, besides the preservation of 50,000*l.* worth of property. But, Mr. Editor, whose fault is it that 5*l.* have not been expended to so good a purpose? Does the law allow any one to tie up by patent that which is essential to the wellbeing of mankind? With the highest respect for ability, I cannot bring myself to think that it should be so, and I would press upon the gentleman who has made so great a discovery, that to disseminate health and happiness is far more meritorious than to make ingenious discoveries, and like Paracelsus, deny them to his fellow-creatures: I would even put it to him, how far may rest upon him the responsibility of every disaster from fire that, through his negligence or arbitrary proceeding, occurs nightly in this kingdom. In the hope that the horrors that surround us will soon be greatly mitigated by the ingenuity of man, and his zeal in the cause of humanity,—I am, Sir, &c.,

A PHILANTHROPIST.

THE CASTLE AT NEWCASTLE.



RESTORATION OF THE CASTLE AT NEWCASTLE.

The Norman Castle from which the town of Newcastle-on-Tyne takes its name, is placed on the summit of a piece of land which descends abruptly towards the river Tyne. The ease with which this position could be defended in all save one direction, seems to have recommended it to importance, most probably before the Roman occupation of this country. A bridge was built across the Tyne by one of Hadrian's generals, which gave the name of Pons Ælii to the site of the present town of Newcastle-on-Tyne. This name was changed during the same period to that of Monkchester. The subject of our engraving is the only remaining portion of the Norman Castle which superseded the Saxon buildings. It is generally supposed that the New Castle was erected by Robert, Duke of Normandy, eldest son of William the Conqueror, A.D. 1080. From that period until the reign of James the First the New Castle has held a prominent position in history; for a succession of ages it continued to be the residence of English and at times of Scotch kings, and has been the scene of many stirring and poetical events. The condition of the country no longer requiring the defence of stone walls, the New Castle was allowed to go rapidly to decay. A writer in the *Newcastle Journal* says:—"We find the incorporated company of tailors farming the castle at a yearly rent. What this worshipful company wanted with the keep of the castle of Newcastle-on-Tyne we cannot imagine; but certain it is, that all idea of military use seems to have been abandoned. In 1644 its roof had become wholly decayed; and Sir John Marley had it covered with timber, whereon he mounted his cannon. In subsequent years it fell into further disuse; and in 1782 the then owner advertised it to be let as a mill, which, in the advertisement published on the occasion, is recommended to be erected on the summit! Its eligibility for the purpose of grinding corn, bolting flour, and making it, are feelingly expatiated upon, and there is a happy suggestion, that as there is a good supply of water within the castle, it is rendered a very eligible situation for a brewery or any manufactory which requires a constant supply of water." This barbarous fate was fortunately prevented by the corporation purchasing the castle and making certain repairs, which were, however, not done in the best taste. Since the building has come into the possession of the corporation it has been used at various times as a prison, an hospital, and a school. The principal portions of the keep of the New Castle are perhaps more perfect than that of any other Norman military edifice remaining in this country; but the beautiful details were rapidly perishing; the rich groining of the chapel was sadly decayed, and the doorway leading to the great hall (seen midway in our engraving) so defaced, that it would not have been possible to restore it had not Mr. Dobson, the architect, fortunately, when a boy, made sketches when the details were in a more perfect state. By the exertions of the Newcastle Society of Antiquaries the corporation has commenced the complete restoration of the keep. The chapel and entrance to the great hall are completed, with the exception of the pavement and windows. It is not yet decided whether the pavement shall be made of ornamental tiles or plain stones. It is proposed to fill the windows with horn. The doorway leading to the great hall is finished, and a small oratory on the same platform is in progress. The battlements which are at present on the castle were placed there forty or fifty years since. It is proposed to expend 250*l.* a-year until all other parts are made perfect.

The only original approach to the keep was by a flight of steps leading to the doorway of the great hall; on the right of this doorway is seen the window of the small oratory. The great hall is a noble apartment, without decoration. Leading from the great hall is an apartment formed in the thickness of the wall, called the King Chamber; in this is a fine Norman fireplace: the wall of the great hall is perforated with chambers and passages leading to galleries, from which an enemy might be annoyed even when in possession of the very centre of the stronghold. The other portions of the building are of remarkable interest, and it is gratifying to find that the enlightened taste of the present time is likely to convey this relic of the past, in much of its integrity, to future generations: the keep of New Castle is for the future to be placed in the possession of the Newcastle Society of Antiquaries, for the purpose of holding their meetings and containing their valuable collection of British antiquities.

THE LONDON FEVER HOSPITAL COMPETITION.

SIR,—Being very reluctant to enter into a discussion before the public on a matter which is in great measure personal, I have refrained from noticing any previous communications respecting the London Fever Hospital; but, in regard to that in your last number, as my silence may be liable to misconstruction, I beg briefly to state a few facts which I have ascertained from the secretary.

The proceedings of the committee, and their decision in favour of Mr. Mocatta's plan, were all superseded, in consequence of its being discovered that, in regard to the erection of the building, the authority and responsibility were not vested in them, but in the trustees, who had not hitherto interfered, and *they* were thus compelled to take the matter into their own hands. I learn further from the secretary, that the trustees, after a careful examination with professional assistance, and hearing the explanations of both parties, unanimously rejected Mr. Mocatta's plan, and adopted mine—both having been greatly modified. What influence the Earl of Devon might have had in that *unanimous* decision I know not; for, when other matters brought me into communication with his lordship, I studiously refrained from adverting to the subject; and I know of no grounds for attributing it to him any more than to the Duke of Somerset, another of the trustees, to whom also I have the honour to be well known professionally.

The event of the first decision shews how little Lord Devon's influence prevailed in the committee, where I understand there was a large majority of those present who voted against me; and, until it can be shewn that it was exercised with the trustees, I submit that there can be no ground for the imputation attempted to be fixed upon his lordship—the injustice of which is sufficiently repelled by his high character, and needs no refutation from me.

With respect to charges of plagiarism, &c., I feel that it would be impracticable to enter into a sufficient explanation in the columns of THE BUILDER; but, participating fully in the feeling evinced by Mr. Mocatta for upholding the honourable practice of our profession, and considering that a candid exposition before a professional tribunal is calculated to prove a wholesome check in cases of this sort, I readily accept his appeal to the Institute; and, with the same willingness that I acquiesced in the plan being presented to public notice in THE BUILDER, I am now ready to send all the drawings, with the instructions and documents, for the inspection of the council, or any member who may desire to examine them and judge for himself on the points in question.

"Factis non verbis."

CHAS. FOWLER.

Gordon-square, August 29th, 1848.

*** We have received several other communications on this subject, including a strong view of the case in favour of Mr. Mocatta from Mr. Jacob Bell, but cannot find space for them. This is the less to be regretted, a tribunal for the decision of the question being now mutually agreed on.

HOUSE AT ST. LAWRENCE, ISLE OF THANET.



STREET ARCHITECTURE.

ANNEXED is a sketch of a cottage in the village of St. Lawrence, near Ramsgate, which may interest some of your readers.

The facings, strings, &c., are of red brick, and the wall itself of black flint. The whole has a very picturesque appearance. The house is tenanted by one or two poor families.

F. H. N.

RESPONSIBILITY OF BRIDGE-BUILDERS.

WESTON-SUPER-MARE COMPANY *v.* DREDGE.

IN this case, which was tried at the Nisi Prius Court of the Somerset Summer Assizes, on the 8th inst., the plaintiffs sued for repayment of 1,450*l.* paid to defendant, pursuant to agreement on a contract entered into by him for the formation of a bridge to connect Birnbeck with Weston, on terms, which, from the evidence of one of plaintiffs' own witnesses, 'would not allow' of the work being done according to the specifications, and the consequence of which undertaking was, as alleged, that "the masonry which was erected was not of sufficient strength, and the tower he had erected was entirely swept away by a storm, which was not a very violent storm." The whole work was to be completed for 10,000*l.*, by 1st May, 1848, but when that part of it which was done had been swept away, "they concluded that he was incompetent to carry out his contract, and after considering some different proposals respecting the reconstruction of the bridge, they determined to hold him to his agreement."

Amongst the witnesses called on the part of the plaintiffs were a builder, several masons, and a labourer, who all pretty much agreed, so far as they went, with the following evidence adduced by Mr. G. C. Ashmead, of Bristol, surveyor, who was of opinion there had not been a proper foundation,—that the stones of the foundation ought to have been cemented together to bear an erection of 40 or 50 feet; there was concrete described in the plans, but none in the work. From his observation he found that 10 feet were run up with dry masonry, instead of being cemented; according to the specifications, the outside facing should have been 6 feet thick; the masonry, however, was only from 18 inches to 2 feet thick. The plans showed the inside to be concrete, but there was merely rubble or loose stones; about 10 feet up was dry masonry, instead of cemented. The contract did not mention that it was to be cemented, but the plans did. It would be useless to cement after that: according to Mr. Fisher's evidence, and Mr. Dredge's own calculation, the value of the work done on 11th August, was 718*l.*, but he should deduct 60*l.* from that in consequence of the foundation not being cemented; he did not deduct anything for the absence of concrete, as Mr. Dredge's price would not allow for it: he also did not deduct for there being only two two feet of facing in thickness, as Mr. Dredge's price would not allow for six feet of facing. Taking into account what the witnesses had stated about the progress of the works, he should say at the time of their destruction (11th September) the value might be 72*l.* 8*s.*—Cross-examined: There was no appearance of concrete: if the work had been erected on dry land, away from the sea, he believed it would have fallen.

A Mr. Fisher had reported in August on the favourable state of the works, and on 11th September a second instalment would have been due to the defendant, who pleaded the refusal of the Company "to pay him a further sum of 1,050*l.* for work and value of materials on the ground."

Mr. Stone addressed the jury for the defendant, and called some witnesses. Mr. Crowder having replied, his Lordship summed up, and the jury returned a verdict for the plaintiffs, damages 1,400*l.*

SCULPTORS' AND STONE CARVERS' SOCIETY.—A number of operative sculptors and ornamental stone carvers have formed a society for the mutual advantage of its members, affording opportunities for study and improvement, which individually they could not obtain. They propose to establish a library immediately connected with the arts, form a collection of drawings and models, and obtain the delivery of lectures upon subjects bearing upon the pursuit. Mr. John Smith, of 37, Dartmouth-street, Westminster, is the secretary, and will give any information which may be required.

NOTES IN THE PROVINCES.

THE works at Lowestoft harbour are in more active progress than heretofore. A design by Messrs. Brown and Kerr for villas and a terrace is about to be realised. The large hotel is not yet opened, but the new marine terrace is in occupation.——The old church of St. Bartholomew, at Hyde, is under repair.—At St. Lawrence church, besides the ancient painting representing St. Christopher, the stripping of the plaster from the walls has brought to light a piscina, situated in the south wall, near the altar, and an ogee canopy in the east wall, apparently of the same date as the large east window.——The affairs of the Liverpool and Harrington waterworks have been wound up.——New arrangements as to numbering and naming the streets are in progress at Liverpool.——During a late storm some rounds of stone were thrown down from the spire of the new church at Runcorn, which had been raised 70 feet, with the scaffolding 20 feet higher, which also gave way, injuring some of the workmen. The roof and pews were damaged by the stones.——The new Baptist schools at Bilston have been opened. ——The Roman Catholics are about to build a 'splendid cathedral' at York.——The new baths and washhouses at Newcastle are ready for opening on 18th inst. The charges are proposed to be, 1d. for a plunge bath, and 2d. for a warm one; washing and drying apparatus, 1d. per hour.——Christ Church, Walker, was consecrated on Tuesday week. The building is extremely simple, but ecclesiastical in aspect. It is in the Early English style, with chancel (51 feet by 24), nave, north aisle, south porch, small vestry, and bell gable. It is lighted on the north and south sides by double lancet windows, and on the west by two long lancets. The chancel is lighted by three lancets, and a circle cinquefoiled above them, all filled with painted glass; and also by a small low lancet at the S.W. corner. The north aisle opens into the nave with four arches of two orders of chamfers and hood mouldings, which spring from circular piers, with richly moulded capitals and bases. The roofs of the chancel and nave are of a high pitch, open to the apex, and of a light construction. The sittings are all free, and confined to the nave and aisle. The pulpit and reading-desk are of oak, stained, like the rest of the woodwork. The stained glass, glazing, and illuminated scrolls on the walls, were by Messrs. Robert Lawson and Son, of Newcastle. Mr. A. B. Higham was the architect. and the contractor was Mr. Cail, of Newcastle. The cost is about 1,400*l.*, of which 1,100*l.* have been subscribed.——The Imperial Slate Quarries at Nenagh, which employ 400 to 500 persons, have been in a critical position for some time, but are now likely to be established on a more active and permanent basis.

RAILWAY JOTTINGS.

FROM a return presented, by her Majesty's command, to Parliament, it appears that during the six months ending 30th June last, 90 persons have been killed, and 99 injured by railway accidents in Great Britain and Ireland. On an average, we have thus a fellow-creature every day either killed or injured; the latter being often a worse case than the former, to which it after all but too often leads.——The Directors of the North-Western line lately allowed a pleasure excursion from the metropolis to Edinburgh and back to take place at the very moderate rate of 2*l.* for nearly 1,000 miles; and to Liverpool and Manchester and back, a distance of 440 miles, for one guinea. The fast coach to Liverpool alone, in 31 hours, cost 2*l.* 7*s.* outside seat. During the past three years the trains employed in the same excursions have carried upwards of 7,000 passengers—itself a pretty considerable stroke of business. In one of them alone there were 54 carriages, with 1,080 passengers.—— The Carlisle, Dumfries, and Glasgow line was opened from Gretna to Dumfries on Tuesday week. The Bill for the line was obtained in 1846, and the works commenced beginning of last year. They do not present any extraordinary engineering difficulty—the timbers on Lochar Moss, the rock embankment a mile and a half long at Dormore, the skew bridge across the Annan and Dumfries road, and the bridge of seven arches at Annan, being the most remarkable features. The contractors were Mr. Jeff, Messrs. Ritson, Mr. Ross, and Mr. Goslin. Mr. Ritson's contract includes a deep cutting of rock, about seven miles from Dumfries, where a great deal yet remains to be done.——The sum of 7,050*l.* has been awarded to Mr. Warren, of Killiney, for compensation for encroachment upon his property, at Killiney Hill, by the Dublin and Bray line, now in progress. Mr. Recorder Shaw acted as umpire in the case. The award of an arbitrator, against which there was an appeal, was 17,000*l.* The Company offered about 6,000*l.*——The *Monmouth Merlin* states that Mr. N. Bowen, of the Newport and Pillgwenlly Foundry, is engaged in the formation of an iron bridge, of 52 feet span, with girders of 9 to 10 tons weight each, and abutment plates of 5 to 6 tons weight each, for the Newport and Pontypool line. By an improved blower, six tons of metal, in place of three, are now melted at these works in three hours.

GUTTA PERCHA.

THE applications of this mysterious material are so numerous and varied, that our readers, we have no doubt, will gladly hear something of its history and manufacture. At the late meeting of the British Association for Science, Mr. Whishaw exhibited numerous specimens of it, in the shape of small thread, and large driving-bands for steam-engines; stout constables staves for modern heads, and fine medallions of ancient ones; speaking pipes, and inkstands; whips, and water-buckets. He also read a paper on the subject, reported in the *Athenæum*, which, after shewing that gutta percha was the concrete juice of a large tree of the same name, abounding in Borneo, &c., obtained by tapping the tree periodically by the Malays, stated that its introduction into this country was purely accidental, Dr. Montgomery having transmitted the first sample of it to the Society of Arts in 1843. The first articles of use made of gutta percha in this country were laid before the society in 1844, and consisted of a lathe-band, a short length of pipe, and a bottle case, which the reader had himself made by hand, having caused the concrete substance to become sufficiently plastic by immersing it in hot water. It was soon adapted to commercial uses; and from the period mentioned to July 11th in the present year, between 600 and 700 tons had been imported for the Gutta Percha Company. From 20 to 60 tons were now regularly imported every month. It appeared that the only pigments that could altogether be relied on to be used with gutta percha, without rendering it brittle, were orange lead, rose pink, red lead, vermilion, Dutch pink, yellow ochre, and orange chrome. Under the influence of heat and pressure, gutta percha would spread to a certain extent, and more so if mixed with foreign matters. The best composition for increasing the pliability of gutta percha was that formed in conjunction with caoutchouc tar, and next in order that of its own tar; and the best material at present known for moulding and embodying was obtained by mixing gutta percha with its own tar and lamp-black. In describing the process of manufacturing gutta percha, the author observed, that rude blocks of the material were first cut into slices, by means of a cutting machine formed of a circular iron plate of about 5 feet in diameter, in which there are three radical slots furnished with as many knives or blades. The blocks are placed in an inclined shoot, so as to present one end to the operation of the cutters. The slices are then placed in a wooden tank, containing hot water, in which they are left to soak until found in a plastic state. They are afterwards passed through a mincing cylinder, similar to that used in paper-mills for the conversion of rags into pulp, and then thoroughly cleansed in cold water tanks; the water, in cases of impure gutta percha, being mixed with a solution of common soda or chloride of lime. It is next put into a masticating machine, such as is used in the manufacture of caoutchouc, and then pressed through rollers; thus being converted into sheets of various width and thickness. When necessary, the sheets are again masticated, and again passed through rollers. These sheets are subsequently cut into boards by vertical knives, placed at the further end of the table, along which the sheets are carried by a cloth or web to another roller round which they pass, and are cut into the required widths. The bands or straps are then removed, and coiled up ready for use. Driving bands for machinery are thus made, and shoe soles and heels are stamped out of similar sheets of gutta percha. In making tubes or pipes, either of gutta percha or any of its compounds, a mass of gutta percha, after being thoroughly masticated, is placed in a metal cylinder furnished with a similar piston, by which it is pressed down into an air box, kept hot with steam, which has at its lower end a number of perforations, through which the plastic material is forced into a cup, whence it passes out, round a core, into the desired tubular form, and thence through a gauge to the required size, and into a receiver of cold water, being drawn to the other end of a long trough by a cord passing round a pulley at the far end of the trough, and returning to the person in attendance on the machine, who gradually draws the pipe away from the air machine. Thus tubes of considerable length and diameter are made to a very great extent, and are used for the conveyance of water and other liquids, and are now under test for the conveyance of gas.

BOILER EXPLOSIONS.

THE recent prevalence of boiler explosions has called forth hints in various forms for their prevention, among which is a pamphlet* embodying the results of the experience of a civil engineer (Mr. William Stewart) for the last twenty years, with all sorts of engines—not an experience in the practice of explosion we mean, but in its prevention, by the adoption of those rules of prudence which twenty years' experience cannot but force on the notice of any man of an observing and intelligent turn of mind.

Amongst the main causes of explosion he enumerates the tendency of the bottom of the boiler to give way to the expansive force of the steam sooner than the top, the safety valve in such case being perfectly useless;—want of water in the boiler;—excess of water;—attachment of the safety-valve by slime and dirt;—the very opening of the valve in some cases;—the formation of explosive gases from decomposition of the water, as well as of steam from its mere expansion, operative in such cases as that of the red heating of the boiler from want of water.

The bottoms of boilers, he observes, *should* be made of inflexible material, with an arch of perfect regularity, since sheet-iron, in cases of want of water, softens and weakens, bulges and bursts, while the upper part resists the pressure. To prevent the occurrence of such cases, of course a sufficient supply of water, and a safety-valve in good order, are requisite; but the bottom should be kept free from incrustation. When a want of water occurs, if the flues are not yet red hot, the engine should be kept in motion, and a supply slowly pumped in; but if the flues be anything red, the fire must be directly withdrawn, and the boiler cooled, *before* attempting to replenish with water, the engine being still kept in motion, and the safety-valve on no account moved, as a rapid escape of steam will set the remaining water in ebullition, cause it to fall in drops on the red-hot surface, and suddenly expand into volumes of steam, or even be as suddenly decomposed into the still more tremendous volume of its constituent gases.

Where the boiler is too full of water, the heat may be raised almost to a red heat without generating steam, unless the safety-valve be opened, when there will be imminent risk of an explosion from the sudden liberation and generation of steam at so high a heat. To prevent such an accident, the fire must be checked or withdrawn till the temperature of the water be reduced below the boiling point, and then, but not till then, the surplus quantity of the water may be withdrawn.

Accidents have even occurred when there was neither steam nor water in the boiler, nor fire underneath, but the previous heat must have decomposed water into gases afterwards exploded by a candle, &c.

* Longman and Co., London.

GLASGOW CATHEDRAL.

In course of the 'restorations' for some time in progress at Glasgow Cathedral, an intention is said to have been expressed by Government to demolish the ancient north-west tower, which is regarded by the citizens not only as an important and characteristic feature of the structure, as it has existed for at least several centuries, and as it has been described by their classical poet and novelist, Scott, but as 'one of the ancient land-marks' of the city. A memorial, signed, it is said, by ten architects and ten other citizens, has accordingly been presented to the local authorities, deprecating such a sacrilege. "The tower," say the memorialists, "is considered by many persons to be the most ancient part of the building, and of a form and in a situation characteristic of the ancient Scottish Cathedral. Mr. Wade, a competent authority, in his volume on ancient and modern Glasgow, thus describes it:—'The north-western tower is of a much plainer character. In the upper part of the tower the antiquary may treat himself with some curious grotesque sculpture, coeval, no doubt, with the most ancient portion of the fabric;' and the same author states that a second and corresponding tower was evidently intended.

Should the tower be removed, the western front, if completed on the north as it is now on the south, will have a low and diminutive character. It is therefore imperative to have a commanding feature in that part of the elevation; and while the memorialists conceive that the western tower raised to its former height would fully answer this purpose, it would be less expensive than any other that could be reared to be equally effective.

While the memorialists highly approve of the judicious renovation of Glasgow cathedral, they would suggest that farther alterations be avoided as much as possible, and the substitution of modern for the ancient architecture of the building, except where required by decay, be prevented."

The memorialists, therefore, proposed that a meeting of the citizens should be called, or the influence of the authorities with the Government exerted for its preservation.

DWELLINGS FOR THE POOR, FACTORIES AND BATHS.*

The Dwellings of the Poor.—Among the remedial measures of a private character that can only be reached by the inculcation of an enlightened policy, the improvement of the condition of the dwellings of the poor holds the first rank. I have already adverted to the conduct of the landlords of this description of buildings, and the consequences of their oppression, but I would add a few words to assure them that even a considerable expenditure upon their property would be economy compared with the narrow parsimony and neglect that is adopted towards their poor tenants. Just in proportion with the improved condition of the habitation is the occupant's ability to meet the demand for rent.

The repair and white-washing of these habitations, the provision of water, and efficient house drains, proper receptacles for dust and dry refuse, and the substitution of a decent water-closet to each for the foul cesspool in common for many, would be the largest gain to the landlords themselves, not only in the increased ability to pay rents, from the improved condition of the inmates, but in the willing payment of higher rents for these benefits, infinitely increased in comparison to the cost of the improvements. I would caution all such men who thus neglect the duties imposed upon them, that the continuance of that neglect will surely fall heavily on themselves. A strong movement has set in among the better classes to beat such oppressors out of the field, by the substitution of good, wholesome dwellings for the poor.

Already have these been proved an excellent investment of capital, the buildings being eagerly sought, and the speculation paying from 5 to 9 and 10 per cent. profit. With such results, it is to be hoped that the laudable example will be followed in every town throughout the kingdom, and that even the poor, with these examples before them, will be able by combination to do much to help themselves.

Improvement of Factories.—I would next appeal to manufacturers and employers of assembled numbers of the industrious classes, on behalf of themselves and of those employed.

I have had the pleasant duty already to remark on the absence of those injurious influences in the establishments of Ipswich, with which the labouring classes are so frequently and cruelly oppressed in the places provided for their labour; but so much remains in their hands for good, that I would not have them stop there. If property has its duties as well as its rights, this is especially so where the influence and example of masters are capable of exerting a constant effect on the conduct of those in their employ.

Factories and workshops should not only be convenient for work, cleanly, well ventilated, and provided with every means of decency and comfort, but manufacturers would do well, also, to surround their work-people, as far as practicable, with greater personal conveniences and objects of enjoyment, and moral advancement. The establishment of dining-rooms and soup-kitchens would be most beneficial and economical to the work-people, by keeping them from the public-house; and in large establishments, where women are employed, much good would result also from the provision of nurseries, where the infant children might be tended and cared for while the mothers were engaged at work, and the fearful infant mortality arrested that now results from the administration of drugs to keep them at rest during the hours of labour.

Baths and Washhouses.—The establishment of baths and washhouses, also, is another important power in the hands of manufacturers with which much good may be effected. I believe that the Act for the public provision of baths and washhouses will be productive of much benefit to the humbler classes, but I cannot help thinking that the tendency to provide large central and costly establishments will strip the provision of much of its usefulness. The great object should be to *diffuse* the advantage. The poor cannot afford, neither will they take the trouble, to travel long distances for a benefit of which they have yet to learn the full importance. The object must be rendered easy of accomplishment, and the habit fostered, or it will droop.

Small, unpretending, and economical establishments, in different localities, will be infinitely preferable to one extensive erection; and in most towns and districts, I believe that the provision might be advantageously made in combination with manufacturing establishments. The very arrangements of factories, generally, admit of the most economical addition of this provision, there being abundance of waste water for the purpose,—steam-power affording the requisite supply of heat, without increased cost. A substantial shed, fitted with the necessary appliances, would generally suffice for the great object sought, and enable such a small rate of charge to be levied as to insure their being made self-supporting by more general use.

The whole of such places of improvement, appertaining to a factory, should be surrounded with pleasurable objects, trifling in themselves, but exercising an important influence—such as cheap works of art, good engravings, and moral sentiments conspicuously printed. The presence of these things during the cessation of labour must attract the attention and foster good and ennobling impressions.

Such additions to a factory should, with the superintendence of the employer, be under the guidance and regulation of the work-people themselves, who would thus be brought to feel an interest in, and responsibility for, their good order and maintenance. They should be encouraged, moreover, to frame and maintain rules for the preservation of peace and good conduct — especially condemnation of drunkenness and bad language—and should be encouraged to appropriate a small part of their wages for insurance against sickness and death.

The influence of the employer's exertions for the welfare of his work-people may extend most beneficially beyond the sphere of the factory, by inculcating the importance of their living in good healthy dwellings, and impressing on their attention the vital importance of attending to sanitary arrangements.

The employer might do much also to encourage this feeling, by the provision of model cottages, and by assistance in small objects of improvement, as well as by a system of rewards and periodical inspection. This may appear a somewhat formidable list of objects for the attention of the manufacturer, but the improved physical and moral condition of his work-people would amply repay him any amount of labour and cost that he could possibly bestow upon them.

The partial operation of these provisions has been attended with the utmost success in many places, and the contrast to the usual state of things is so remarkable on visiting a factory, where such attention is paid, that it is almost like visiting another race of beings.

The extravagance of neglect is the most wasteful and cruel of all extravagance. The labour of one contented, willing, and well-conducted workman, is worth that of many of the poor weakly, depressed, and immoral creatures, that are brought to such low ebb by the cruel physical conditions to which they are bound.

* From a report on the present sanitary condition of the town of Ipswich, and the means to be adopted for its improvement, by Mr. Henry Austin, C. E.

ARCHITECTURAL EXAMINATION.*

SECOND CLASS.

1. Name the several conveniences for a farm-house and farmery, necessary for a farm of 400 acres?

2. How should liquid manure tanks, and the drains communicating with them, be constructed?

3. How should a dairy be constructed, when detached from the house and offices?

4. Shew the method of constructing rain-water tanks, for preserving water in a fit state for use.

5. How should openings to stairs, and hearths, be *trimmed?*

6. Shew the way of setting out *dog-legged* stairs, and how the steps are secured to the strings.

7. How should half-paces and carriages for stairs be constructed?

8. Shew the manner of bracketing waggon-headed ceilings and cornices.

9. Describe the various ways of hanging inside shutters to windows?

10. Shew the method of constructing deal-cased frames with oak-sunk sills, and sashes double-hung.

11. How are panelled doors framed and put together? what precautions are necessary in laying in mouldings?

12. What is the usual way of proportioning rooms?

13. How should the size, and position of windows to dwelling-houses be regulated?

14. Shew how architectural ornament may be made to possess the semblance of utility.

15. Give examples of the proper finishings of external walls to houses.

16. How are brick and stone cornices measured?

17. Shew in what way the form of gutters to houses may be made to agree with the proper form for conduits.

18. Shew the arrangement proper for timbers in partitions to sustain floors.

19. Shew how solid, wrought, rebated, and beaded door-frames, should be put together.

20. What is the object of covering the outside of brick walls to houses with cement? State the precautions necessary in executing the work.

21. What number of 12-feet deals will it require to make 50 one-inch proper ledged doors, each 7 feet high by 3 feet 4 inches wide?

22. What number of duchess slates will it require to cover 50 squares of roof, when laid to 2½-inch gauge?

23. How many 16-feet battens will it take to cover 150 squares of framing, with ⅞-inch weather boarding *edges splayed?*

24. How should doors be placed and hung, when opening into rooms having windows and fire-places?

25. Describe the Venetian style of architec-

* The following is a continuation of the questions submitted to the students in the College of Engineers, at Putney—Mr. Ranger's class, at the last examination. See p. 365, *ante*.

ture. Shew the modifications necessary in applying the Venetian style to street architecture of the metropolis.

26. Name the style in which the use of columns in façades is interdicted, and the means taken for imparting grandeur to the composition, in lieu of using columns.

THIRD CLASS.

1. The true strength of materials in an edifice depending rather upon their distribution than upon their quantity, shew how the present mode of arranging the distances between rafters and floor-joists may be advantageously altered.

2. State the principles which should be observed by an architect in adapting the models of antiquity to buildings in this country, with a view to ornament and utility.

3. Describe the essential requisites for a labourer's cottage: sketch a plan for a model cottage, shewing the relative position of the doors, windows, fire-place and furniture.

4. It is important in making mortar that the greatest degree of solubility should be imparted to the lime with a minimum quantity of water; shew in what manner this object may be practically accomplished. Describe the mode at present in use for the above purpose.

5. Name the several precautions that ought to be taken to prevent the stone-work from crumbling and mouldering within a few years after the erection of the edifice: give instances of the neglect of these precautions from public buildings in the metropolis and elsewhere.

6. Explain the manner in which the alternate dilatation and contraction of iron may be rendered practically useful as an agent in the restoration of works, and mention examples of its success.

Miscellanea.

THE VACANT SPACE IN DOWNING-STREET.—During the late debate in Parliament on the "Estimates," Sir Robert Inglis said it was very desirable that the large and at present unsightly area on the south side of Downing-street should be appropriated for the erection of a plain, solid, substantial building, for all the *Commissions* appointed, so that it should not be necessary to have recourse to the occupation of houses in George-street, or elsewhere, for them. There ought also to be a building more worthy of the important business transacted in the *Foreign and Colonial Offices*. It was to be hoped that it was not generally known that the Foreign-office of England consisted of five separate private dwelling-houses, in such a ruinous state that the documents of the department had to be removed a floor lower, because the weight of them would hazard the stability of the building.

ELFORD, LITCHFIELD.—Two or three interesting events occurred at Elford, near Litchfield, Staffordshire, last week. The foundation stone was laid by Mrs. Puget (the rector's lady), of the new chancel and nave of the church there. Afterwards a new infant school, composed, in part, of the old church materials, was opened, and an entertainment given to the children, with fireworks and other rejoicings. On the following morning, a very good ridge-shaped grave-stone was discovered, while excavating within the boundary of the old church nave, having a raised (double) cross-fleury, with enriched stem upon it; the upright cross had been wilfully mutilated, and was obliterated; it was two feet below the surface, but not far from an original pavement. It is in local grit, 4 feet long, by 18 inches head, 14 at foot: a very slight slope 8 to 10 inches thick: a bead runs round the border. Some think it is a child's grave-stone, though a cross. Mr. E. Richardson, the sculptor, is engaged here in the restoration of some interesting monumental effigies, eight in number, of the Ardernes and Stanleys, from Richard II. to Henry VIII., all in alabaster; together with two elaborate table tombs, canopied (one the Ardernes'), and containing twenty-two statuettes, well proportioned, and with an admirable, if not unknown variety of the costumes of the reigns of Henry IV. and V. The sculptor proposes, if sufficient support can be obtained, to publish these works in quarto, to match his "Templars."

A DISTRICT COURT OF SEWERS was held on Thursday last, at the office, No. 6, Bethnal-green, for the purpose of hearing appeals against the sewer-rates made for the Tower Hamlets division. Upwards of 2,000 notices of appeals had been given, but not more than 400 cases were entered into, the parties not being in attendance when called. Sir E. N. Buxton, M.P., was in the chair. Several of the parties summoned stated that they had objected to the payment of the rates, not on account of their being illegally made, but with a view of bringing their cases of individual grievance immediately under the notice of the commissioners. They stated that they had for several years paid sewers-rates, and although they had complained of want of proper drainage time after time to the old commissioners, that no steps had been taken to remedy the evil. The court said that there was every disposition to listen to all complaints, and, as far as at present lay in their power, to remedy them; but to enable the commissioners better to judge of what was required, the court recommended that a book should be kept at the district office, in which all parties having complaints to make as to drainage should enter the same, so that their surveyors might investigate the matter. The court also gave notice to householders that full explanation as to the proper course to be taken for cleansing cesspools and drains in the quickest, cheapest, and least offensive manner, would be given without any charge, on application at the chief office in Greek-street, or at any of the district offices.—The great majority of the appeals were on the ground of poverty.—The following is an abstract of the new rate for the Holborn division, of 6d. in the pound:—

	£	s.	d.
Field-lane sewer	640	5	0
Leather-lane sewer	614	5	6
Gray's-inn-lane, first part....	3,462	18	6
Ditto second part ..	3,056	8	6
Southampton estate sewer	1,919	15	0
Northern sewer	5,907	4	6
Chancery-lane sewer	559	13	6
Holborn sewer.....	3,008	17	0
	£19,169	7	6

DATES ON BRASSES NO AUTHORITY FOR COSTUME.—Mr. Waller said, in his paper read at Worcester, and mentioned by us last week, that dates on brasses of themselves form no criterion or authority for contemporary costumes or period of execution. An instance occurs of *two* bearing the same date whose costume and execution differ from each other by sixty years. (*Sir John de Lisle, Thruxton, Hants, and Sir John de Cobham, Cobham, Kent.*) In order, therefore, to arrive at a correct notion of the real date of the execution of the monument, a careful comparison should be instituted between as many examples of the same date, or thereabouts, as can be obtained; thus the true one will be easily confirmed, and the causes of departure from it probably determined. *Blanks* are often left for after-insertion of *dates*, and never filled up. These are very useful examples; for as it usually happens that these are put up by a survivor, it is pretty certain to be contemporary or nearly so; thus a point to start from is often obtained in settling the true chronology of dates. On the subject of costume, brasses present great facilities for study, especially in defensive armour, where the gradual development from the ringed hauberk, &c., to an entire panoply of steel plates, may be traced in all its changes from the thirteenth to the seventeenth century, when it fell into disuse.

GAS.—An invention has been patented by Messrs. John Watson and Edward Cart, of Hull, for the regulation of the supply of any liquid material to gas retorts, for the evolution of gas, according to the quantity withdrawn from the gasometer.—Dr. Arnott gave it as his opinion, in evidence on the case of explosion at Albany-street, that an escape of gas was quite sufficient to explain the phenomena to the full extent; and that, as gas ascends to the top of a room, had Captain Loten, in his endeavours to see, by the light of a candle, where the gas escaped, only lowered the candle in place of raising it above his head, no explosion might have occurred. The surest remedy, or preventive rather, he regarded as a ventilator at the ceiling, opening into the chimney, 'which is always an air pump.'

PROJECTED WORKS.—Advertisements have been issued for tenders by 15th inst., for the erection of a new asylum wing to the hospital at Westbourne Green; by 5th, for the several works to be executed in building an addition to the workhouse in Gray's Inn-lane; by 7th, for building 3,245 feet of sewer in Holloway and Seven Sisters-road; by 6th, for sinking shafts and driving headings, and for forming 2½ and 3½ miles of railway for the Vale of Neath Company—separate tenders; by 14th, for 356 yards strong cast fall pipes, 87 yards ornamental railing and gates, area gates, and other work, for nine houses in Leeds; by 23rd, for the construction of two cast-iron swivel bridges for the Victoria dock, Hull; and by 5th October, for iron tanks, &c., for the Royal Navy.

THE VERNON GALLERY.—The trustees of the National Gallery directed their architect, Mr. Pennethorne, to examine and report upon the facilities for placing and exhibiting the Vernon collection in the lower rooms of the gallery in Trafalgar-square. We understand his report to be, that the rooms in question are totally unsuited to the reception of the pictures, with regard both to light and space. The space required for their proper display is three thousand square feet. Mr. Pennethorne has, we believe, suggested to the trustees to erect a plain temporary building in one of the parks—a building that will not be required to last more than ten or twelve years; and to apply to Parliament for an annual grant of 15,000*l.* or 20,000*l.* to accumulate during these ten or twelve years, by which means a fund will be formed for the erection of a National Gallery; and the site he recommends is Cleveland-row, the leases of a number of houses in which will expire about the year 1860, when the ground will become the property of the crown.—*Art-Journal.*

BIRMINGHAM INDUSTRY.—The cottages and humble dwellings of England are indebted to Birmingham and its neighbourhood for a greater amount of neat interior fittings, useful utensils, and ingenious knick-knacks of all kinds, than fall to the lot, perhaps, of any other country in the world. Let the reader take his eyes off this sheet for a few minutes, and glance round the room in which he may be sitting—we care not whether it be in a house of 10*l.* or 100*l.* a-year rental: let him look at the doors, the windows, the fire-place, the cupboards, or closets, the furniture, the implements and vessels, the ornaments or decorations—wherever he may look, Birmingham is before him. There is scarcely a room in this country, except in the most poverty-stricken hovel, that does not contain some article of Birmingham manufacture. Let him then go from houses to persons: let him look at English dress, and all its endless variety, and then say whether there is one such dress that is not indebted to Birmingham for something or other in a metallic form. It may be trivial, it is true; but this very triviality only the better illustrates the minute applications which are now made of metal. Will not a beaver or silk hat escape this enumeration? Look at the little buckle that fastens the band. Are not our boots excepted? Look at the nails and 'tips,' or at the tags of laces. Female attire? Let the buttons and buckles and clasps, the pins, and hooks-and-eyes and lace-holes, the combs and bracelets and armlets, the rings and brooches and necklaces—let them all give evidence to the part which Birmingham and its vicinity have taken in decking out any and every Englishwoman. If you write a letter, look at your desk, your inkstand, your steel-pen, your pen-holder, your wafer-stamp, your seal, your candlestick or taper-stand, and think how far Birmingham has been concerned in them. If a lady, seated at her work, would gossip a little about her work-trinkets, the needles, pins, thimble, bodkin, piercer, crochet and knitting-needles—all would tell of Birmingham, or in some few instances of Sheffield or Redditch. If you walk abroad, and rain befall you, ask who made the metal work of your umbrella. If you ride on horseback, think where the bridle-bit, the stirrups, and the buckles came from. In short, do anything, go anywhere, buy, beg, borrow, make, alter, eat, drink, walk, ride, look, hear, touch—you cannot shake off Birmingham for many minutes together.—*The Land we live in.*

VENTILATION OF MINES. — At the late meeting of the British Association, at Swansea, Mr. P. Struve read a description of a new mine ventilator, wherein he proposes to substitute for the present system of furnaces a ventilator worked by a five-horse power engine, calculated to take out of a mine an unlimited quantity of air. This he does by converting the whole area of the upcast pit into an air channel, which he connects with his ventilator by means of a culvert of a similar size. The ventilator consists of two large air chambers, something like gasometers, which he causes to move up and down in water contained in a tank constructed of masonry; the chambers balance each other, and are surrounded with outside cases so as to form double pumps: the inlet and outlet valves, when open, present the same amount of area for the ingress and egress of the air as the upcast pit, so that the only resistance to be overcome in ventilating the mine is what arises from the friction of the air in the passages of the mine and in the parts of the apparatus, which would be of small amount. He described one now erecting on this principle at the Eagle's Bush Colliery, calculated to pass through that mine 40,000 cubic feet per minute, the cost of which would be about 4,000*l*.

THE ROYAL STABLES AT WINDSOR CASTLE.—Sir, observing that the book you quoted states that the walls of the Riding House which had been affected by the *dry-rot* had recently been covered with "a composition of saw-dust and india rubber," — perhaps you will pardon me for saying, that if "*saw-dust*" had been a component part of the composition the dry rot would again attack the building, from the capillary attraction in the wood saw-dust. The covering which is alluded to is a mechanical combination of prepared cork and caoutchouc, called "kamptulicon," from the Greek words kamptos (flexible) and ulikos (material), both non-absorbents. The kamptolite (or elastic stone) pavement laid down in the Admiralty court-yard is an entirely different composition, worked under a separate patent, and has long been the prey of *lawyers* in a chancery suit, to the serious injury of all concerned, more especially your obedient servant, GEORGE WALTER.

TENDERS

For St. Marylebone Baths, &c.; Mr. Christopher Eales, Architect:—

Smith	£10,146	0	0
Fry and Son	9,946	14	3
Henham and Co.	9,918	0	0
Haward and Nixon	9,647	0	0
Cooper	9,522	0	0
Higgs	9,438	0	0
J'Anson	9,407	0	0
Piper	9,267	0	0
Burton	9,245	0	0
Holland	9,120	0	0
Patrick	9,070	0	0
Haynes and Co.	8,941	16	10

TO CORRESPONDENTS.

"*Varnish.*" — "The least coloured varnish is that of copal." (Graham.) It is generally prepared by melting the resin, mixing it while hot with a little drying oil, and adding gradually oil of turpentine, in quantity equal to the resin. "When copal is dissolved in any volatile liquid, and spread thin upon wood, metal, paper, &c., so that the volatile menstruum may evaporate, the copal remains perfectly transparent, and forms one of the most beautiful and perfect varnishes that can well be conceived."—(*Edinburgh Encyclopedia.*)

"*Constant Subscriber*" (Ipswich). — Keene's cement would probably answer the purpose.

"*W. H.*"—We cannot undertake to pronounce on the correctness of estimates. In the present case, however, we may say that there seems no reason why the work required should exceed the sum named.

"*Civis.*"—Herr Zwirner is the architect: address, Cologne Cathedral.

"*A Non-Sooi. Architecturally-Educated Practitioner.*"—A simple denial of any statement, by any anonymous writer, is, of course, worth nothing. There are many able and honourable men in the class he defends, and there are many who are otherwise.

"*Architect*" (Sunderland), will see the proper course marked out in our leading article.

"*T. R. M.*"—We shall be happy to look at anything which is sent, but do not promise to make use of it.

"*L. B.*"—If a copy be forwarded it shall be looked to.

Received.—"J. P.," "J. T.," "G. T. D.," "X.," "P. A.," "J. B.," "Grim," "P. N.," "B. V.," "W. J. H.," "H. H.," "B. B.," "S. M.," "G. W.," "E. S.," "S. H.," "B. C.," "A Brassier," "G. P.," "Subscriber" (Liverpool), "J. N." (Bedford), we have not time to comply. "The Geometrical Mosaic of the Middle Ages, with brief Notice of the Art," by M. D. Wyatt, Architect (Day and Son, 17, Gate-street, Lincoln's-Inn Fields); 'Rambles about Bath and its Neighbourhood," by James Punstall, M.D., 2nd edit. (London, Simpkin and Marshall—M. Pocock, Bath); "Condition of the Working Classes," by H. G. Cooper (London, Groombridge and Sons); "Descriptive Atlas of Astronomy," by Rev. Thos. Milner, Part V. (Orr and Co.); "The Man in the Moon," for September; 'Dolman's Magazine," &c.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades:

H B H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

IRON ROOFING WORKS, SOUTHWARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings, Iron Hurdles, and other fences, and iron work generally. Lists of prices and estimates furnished upon application.—Office, 2, Adelaide-place, London-bridge, City.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. —Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Rot Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

CAMDEN TOWN.—R. FULKES'S RANGE and STOVE MANUFACTORY, 91, Park-street.

Elliptic Stoves, 3d. per inch. Register Stoves, 6d. per inch.
Self-acting Ranges, with Oven and Boiler and Revolving Shelves, 3 ft., 55s.; 3 ft. 6 in., 65s. Chimney Bars, 14s. per cwt.
Copper, 1s. 2½ per lb. Sash-weights, 6s. 9d. per cwt.
Builders' Ironmongery of all descriptions equally low.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Bright and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
2l. 5s.	3l. 1s.	4l. 8s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 43s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3 3s.	3 ft. 6, £3 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	13s. per gross.
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At P. R. WILLIAMSONS IRONMONGERY and STOVE WAREHOUSE, 30, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

N.B Warehouse closes at Seven o'clock.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 8s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 15s.	£3. 18s.	£4. 10s.	£5.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3d., and 4d. do.

Manufacturer of WOLFANSTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Manufactories, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

WALKER'S  PATENT

WARMING and VENTILATING WORKS, LOWER KING-STREET, MANCHESTER.—Established for the manufacture, by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been engaged for many years in an extensive practice of this art in various parts of the kingdom, and reduced it to certain and accurate data, and feeling satisfied, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Dry-air rooms and stoves heated, where required, up to 300 deg. Fahrenheit, and drying operations generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—

Walker's Patent HEAT BOXES.
Walker's Patent Portable SELF-FEEDING BOILERS, improved SCREW-WARMING and VENTILATING MACHINES.
Walker's Patent HOT-WATER STOVES.
Walker's Patent Tubular and other WARM-AIR STOVES.
Walker's Patent Portable Steam-Engines of useful sizes, with cylindrical or tubular boilers.

Competent workmen sent to any part of the country. References to numbers of public institutions, churches, nobility and gentry, architects, manufacturers, &c., throughout England, Ireland, Scotland, and Wales.

FIRE-PROOF DWELLING-HOUSES, &c. —This important desideratum is secured by the use of Dr. FOX'S PATENT FIRE-PROOF FLOORS and CEILINGS, which are applicable to prevent the houses generally, as well as to all descriptions of public buildings, warehouses, manufactories, &c. The attention of the public is solicited to this valuable invention, by the use of which the ravages of fire are effectually prevented, while the expense does not exceed that of the ordinary mode of construction; and the proprietors of the Patent are prepared to furnish every information and assistance requisite for its adoption, and to guarantee its successful application to old as well as to new buildings.—Further particulars may be obtained on application to the Proprietors, Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

PAPER-HANGINGS, CHEAPEST IN LONDON. — Builders, the Trade, and Country Dealers, may select from a Stock of 30,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 22, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be found a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

VASES.—To Noblemen and Gentlemen requiring VASES and GARDEN ORNAMENTS — J. M. BRASHIELD, Commercial-road, Pimlico, has a few fine Vases, Pedestals, &c., &c., which are to be disposed of at a very moderate price; they are manufactured in the best manner, and will stand frost.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Casts of Arms finished in a superior manner, all at half the usual price. 28, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire. — N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Millhill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

TO ARCHITECTS AND BUILDERS.

JENNINGS'S WATER-CLOSETS have given the greatest satisfaction to all who have tried them; they are most simple in their construction. The water is rendered as like pure to the appearance as is desired, the raising of the closet-handle releases the valve, and the water falls with force from the basin through the tube direct into the trap. As no chamber or valve chamber is required in the construction of this closet, all displacement of impure air is avoided when the closet is used.

JENNINGS'S INDIA-RUBBER TUBE COCKS have been tried in Government and other Works, and found to answer most satisfactorily.

The charge for JENNINGS'S SHOP SHUTTER SHOE and FASTENER is 3s. per Shutter, about half the cost of the clumsy Bar.

Apply at 29, Great Charlotte-street, Blackfriar's-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1846, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Securing the Bars of Wood and Bands with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of any wheel-work and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS,
and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c.,
IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price.

Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR CABINET MAKERS.

SOLE LICENCEES FOR MARTIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw, may be driven by a wheel, cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and thoroughly effective, and a SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These shutters are fixed either internally or externally, either above or below the window or door, or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a conference room, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Prince-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate-street, City.

REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, and Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lasned to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FENCING, IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panels, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of dry HONDURAS and SPANISH MAHOGANY and WAINSCOT always on hand suitable for Builders, Pianoforte Manufacturers, Cabinet and Chair makers, Railway Contractors, and all persons requiring well seasoned materials at moderate prices. At T. E. WILSON'S Timber Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon sawing the same it has proved otherwise.

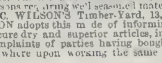


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TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



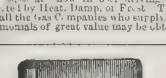
WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT PROCESS.—The Directors of this Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood at the Grand Surrey Mills, are desirous of informing the Commercial and Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, to whom the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

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TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings for Public Rejoicings, &c., erected on the most prompt attention. WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

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T. PUGH'S REGISTERED RIM LOCK. —T. PUGH and Co. beg to invite the attenton of Architects, Builders, and others, to these new Rim, Drawback, and Dead Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Locks, and also in the quality, and produced at very moderate prices, each lock is warranted perfect, and applicable with patent shifting spindles. To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass foundry, mortice locks and latches, bells, bolts, fastenings, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different patterns, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

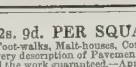
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CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes. STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

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PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c.—Manufactured only by Messrs. ORSI and ARMANI. Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City.

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P. FOUCARD, quai des Abattoirs Caen propriétaire de Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 60 to 80 feet of the best stone to meet the demands of purchasers. Contracts taken for any quantity.

Orders received by Mr. BASCHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared to contract annually to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHAM, Surveyor, 30, Cheapside, where further information and samples may be obtained.

CAEN and AUBIGNY STONE.—LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities of the above stone for public works, gaol houses, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of each and Caen and Aubigny Stone always on hand at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained. Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

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August 1, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a ledge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 3l. upwards.

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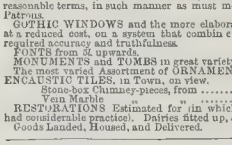
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Stone-box Chimney-pieces, from ..... 12s.
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RESTORATIONS Estimated for in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

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BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney pieces and Monuments always on view, and sold at a very low charge also the liberal commission always allowed to the trade

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TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward street, Westminster-road, London. —M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, vases, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

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The Builder.

No. CCXCII.

SATURDAY, SEPTEMBER 9, 1848.

DURING the week we have made so many memoranda in our note-book, of passing occurrences, and matters proposed or in agitation, which are likely to be new to our readers and interest them, that we are disposed forthwith to empty its contents upon them in the shape of a budget of news, certain, at all events, to afford them subjects for conversation if not for thought. We have been grieving over the destruction of the Colonnade before the houses in the Quadrant, Regent-street, considering it an alteration greatly to be deplored: it is cutting off a principal feature from the face of the West-end,—taking off its nose, indeed. The alteration, if it has not been already commenced, will be next week, under the direction of Mr. Pennethorne, and will be completed forthwith. It will include an enriched string under the two-pair windows of the houses, new dressings to the one-pair windows, with an ornamental balcony to every house, and a rearrangement of the front of the *mezzanine*.

Knocking down, to a much better purpose, is going on in Westminster, preparatory to the formation of the intended new streets there. The noted Duck-lane is disappearing, and the light will be let into a neighbourhood which for years has been the hot-bed of disease and the nursery of crime,—a foul centre, whence radiated evils which affected the whole community. The claims of the owners and occupiers of property required for these improvements are being settled in the "Court of Compensation" and by private reference. In the former place last week the claim of Mr. Courtnay, the coach-maker, trading under the firm of Barker and Co., of Chandos-street, for extensive premises in the new line, was tried. The claim was for 1,600*l*. The commissioners offered the nominal sum of 5*s*. The high bailiff, before whom it was tried, said the claimant was entitled to liberal compensation for the forced sale, and so the jury gave 400*l*.! At the same time, the claim of the freeholder of the Coopers' Arms, Strutton-ground (Mr. Collingford), was tried. The plaintiff held these premises, which were desirably situate for business, at 65*l*. a year, but though the lease would not expire till this year, the tenant, whose stake is always large in this description of property, and often equal to that of the landlord, had renewed it in 1845 for twenty-one years, and paid a premium of 550*l*., at a time when the trade was known to be much depressed. Counsel said the property was in every respect equal to ground-rents. The jury gave 1,600*l*.

We fear there is a disposition on the part of the Westminster commissioners, or their advisers, to deal illiberally towards tenants for short terms. Notice, that the premises would be required, was given four years ago, and has been hanging over their heads to the present time, when the term of some of them has nearly expired, and they are told that they have now no interest in the property, or not more than will equal a claim for dilapidations, set up by the commissioners in cases where they have purchased the superior interest. Juries and arbitrators will, we doubt not, see the matter in a different light.

Whether or not it is still necessary that the Westminster Improvement Commissioners should reserve a site for the proposed Caxton Memorial is more than doubtful. The question as to the fate of this once promising project, which was asked in our pages some time ago and mournfully echoed by the majority of our contemporaries, has brought us intimation that it is, up to this time, a failure. Political events and commercial panics are given as the reasons, but will scarcely be deemed sufficient by those who know how loud and immediate the response to the original suggestion was, how many persons came forward ready to lend their aid, and what little pains was taken to secure it. To ensure success *good* management seemed scarcely needful: all that the project appeared to require was, that it should escape bad.

A purchase recently concluded by the Government is likely, indirectly, to aid the progress of improvement in parts adjoining Westminster. The Royal Military Asylum, in the King's-road, Chelsea, was built on a very short lease,—much too short,—and in about twenty years from this time, would have reverted to the freeholder, Lord Cadogan. The Government being desirous to retain the property, and his lordship willing, a Bill to facilitate the purchase of the reversion was brought into Parliament and passed (shewing how noiselessly things of this sort *may* be done, when required by those who have power). The price to be paid was left by mutual arrangement to the decision of our old friend Mr. J. W. Higgins (the late official referee), and the whole matter, is, we believe, nearly settled. One result of this transaction, unless we are misinformed, will be the early commencement of the *embankment of the Thames at Chelsea*,—Lord Cadogan intending so to appropriate some of the money received. We look anxiously for the commencement of this most desirable improvement. The banks of the Thames are at this time a disgrace to us; and the state of the river itself, now daily thronged with overladen steam-boats, a crying evil. Passing down the river two days ago in one of the cheap steam-boats, which are a boon of no small value to our population, the stench at Blackfriars-bridge from the Fleet ditch, and for at least half-a-mile beyond, was quite intolerable, and, according to the captain of the boat, was not then doing its worst. If it be the case, as we truly believe, that a bad smell in nine cases out of ten is a sign of danger, some alteration here is loudly called for. We commend the subject to the consideration of Mr. Chadwick and the new commission.

The rude, ugly, and unscientific, not to say dangerous, landing-places which stud the banks of the river are sad eye-sores, where they might be, and ought to be, adornments. Proper advice is seldom sought; the usefulness of the beautiful is not understood, and therefore never recognised.

Touching the rareness, comparatively, with which the architect is appealed to in England: we received an account, yesterday, of a *fête* at *Bourges*, where 1,800 of the National Guards dined with the authorities in the Archbishop's gardens; and to whom were the arrangements of the *fête* deputed,—the fitting up of the dining-place in a natural grove, and the decoration of the city?—why, to two architects and one sculptor—Messrs. Beaujonau, Bourbon, and Dumontet. The result is said to have been very satisfactory.

Restorations are still going on briskly in various parts of the country. After making a professional survey the other day at Elstree—where, by the way, Mr. George Smith, the architect of the Mercers' Company, has recently bought an estate, and is making himself a "retreat"—we dropped down to Harrow, and, before taking the train, fagged up the ascent to look at the old church and the magnificent prospect, of which Byron said,—

"Oh! as I trace again thy verdant hill,
Mine eyes admire, my heart adores thee still."

It was a glorious afternoon—one of the first we had had for some time past—and the view would have paid for a ten miles' journey. We found the church in the possession of the workmen, and a long-needed repair and restoration going on under Mr. Scott,—lucky Mr. Scott. The oak roof—a curious one, as many of our readers know—has been taken off, re-framed, made good where needed, and stained and varnished. New windows, of *Bath* stone, have been put into all the openings;* the walls inside have been plastered; the stonework freed from whitewash and repaired; an aisle to the church is being built; and the whole is to be fitted up with new open seats of oak. The organ, which formerly occupied a gallery over the chancel, is to be put on the north side of the church. An ugly gallery at the west end, which blocks up the tower arch, ought to come down; and on the outside the rough cast should be removed, and the flint work restored. A curious brass has been found under the pewing, dated February 14, 1488, to "George Aynesworth," whose figure it gives, with those of his three wives and some fourteen or fifteen children!

From Harrow to Bristol is some distance to jump, but the one word *restoration*, shall serve as a whole line to tie them together. A proposal is on foot, as we have already mentioned, for erecting a fountain in the centre of College-green, Bristol, which, anxious as we are to aid every effort to *adorn* as well as improve our towns, has our warmest approval. It occurs to us, however, to suggest to the good citizens of Bristol, that this would be a good opportunity to amend the error they committed in allowing their ancient High Cross to be taken away some years ago. It was first shifted from one place to another, and ultimately sold (was it for 100*l*.?) to the late Sir Richard Colt Hoare, who placed it in his grounds at Stourhead Wilts, where it now is, though much knocked about and injured by patchings. We would have the Bristolians either move it back and restore it, or if that is not practicable, put up a *fac simile* of it, and make the proposed fountain form part of the design.†

Having mentioned the purchase of one estate just now, we will speak of another, especially as it tells us of the prosperity of an esteemed member of the building fraternity. Norbury Park, near Dorking, comprising from 500 to 600 acres of land, has been bought by Mr. Thomas Grissell, to be his residence. The house was built about seventy years ago by Mr. William Lock, a distinguished connoisseur of that period, and is nicely described by Gilpin in his "Western Counties." Mr. Brayley also

* These windows have an unnecessary quantity of iron bars, horizontal and perpendicular, outside the glass, which can scarcely fail to act injuriously on the stonework.

† A correspondent inquires of us if any detail drawings of the cross have been published? There is a model of it in existence, and several small engraved views of it, but we are not aware of there being any "detail drawings" engraved. We have access to several unpublished drawings made by Carter and others when it was in a more perfect state than it now is in.

gives some particulars of it in his excellent "History of Surrey." The drawing-room was painted by Barrett, the academician, and Cipriani. We hope it continues in a sufficiently good state to be preserved.

Having got amongst the painters, we cannot avoid noting the last occurrences in respect of Mr. Vernon's present to the nation, and some few remarks on the return which has *not* been made to him. On Sir Robert Harry Inglis expressing a hope two or three evenings ago that the House would mark its sense of the munificence of Mr. Vernon, in making so large a contribution to the National Gallery as he had done, Lord Morpeth said that the *Committee had already intimated to Mr. Vernon the gratitude of the nation for his unprecedented generosity.*

If Mr. Vernon has received all the intimation of the gratitude of the nation which is intended, it is indeed small enough, and is calculated most seriously to discourage any who might be willing to follow a noble example. We mentioned a few weeks ago, with some shame, that a *knighthood* had been offered to Mr. Vernon, and of course declined. A contemporary, in alluding to our statement, expressed a hope (and well he might) that we had been misinformed. We can inform him, however, positively, that our statement was correct. The *honour* was offered by Lord John Russell as emanating from her Majesty, which made the refusal of it a matter of delicacy. Still no friend of Mr. Vernon entertained for one moment the idea of his receiving it,—as the lowest honour the Queen can bestow, and one which is given on very trifling occasions for no service at all, it was felt, and justly, that the offer of it did not shew a proper appreciation of the gift; it was therefore respectfully declined, and of this reply *no notice whatever has been taken.* Every one concluded that a baronetcy would have been offered, and this Mr. Vernon would doubtless have accepted. The whole affair serves to shew the estimation in which the fine arts are held, and would even lead to the belief that ministers think it necessary to discourage others from following the example, as further donations would be troublesome! The public, however, view the matter differently. Notwithstanding the want of due acknowledgment on the part of the Government, Mr. Vernon's good will appears to be unabated, for within these last three days we understand a letter has been received by Mr. Uwins from Mr. Pettigrew, offering to the National Gallery, on the part of Mr. Vernon, another picture, viz., the Council of Horses, by the veteran academician Ward, remarkable as having been painted at the advanced period of life to which the artist has attained.

As to the disposition of the pictures, we can now state positively that, notwithstanding all the pros. and cons., the pictures *will* be removed in the course of this month, to rooms in the National Gallery, where they will be kept entire as the "Vernon Gallery," until some further arrangement can be made.

The value of the arts is not properly understood by some of those in power, and men who are aiding their advancement, labouring zealously to lead the masses to the refining enjoyments afforded by the arts, do not receive sufficient consideration. We have another instance of this in the course taken by the Board of Trade in respect of the Art-Union of London,—a course which, if persisted in, could not fail to destroy this important institution altogether. Compelled by the force of the representations made to them to withdraw unconditionally their first proposed alterations, the Board have now, as we stated a short time ago, suggested a course diametrically opposite. The preamble of their first letter was "with the view of restricting the field of selection;" the preamble of their second letter is "with the view of *enlarging* the field of selection:"—so much for consistency. A deputation of the council of the association* attended Lord Granville at Whitehall, on Tuesday, and pointed out the grave objections that there are to removing the present regulations, the result of long experience, which limit the choice of the prize-holders to the works of art in the public exhibitions of the year. Under the present arrangement the knowledge that a certain number of pictures must be purchased from the galleries, serves as a stimulus to artists, which as altered, would of course no longer exist,—while the opportunities for collusion and improper arrangement would be so greatly increased as to lead to serious irregularities. At the conclusion of the interview, the deputation stated that the majority of the council, sooner than be subjected again to the same amount of uncalled for and unnecessary annoyance which the interference of the Board of Trade had caused them, were prepared to resign their office.

We hope the Board will immediately withdraw the proposition: and with the expression of this hope we terminate our gossip.

ON THE INFLUENCES WHICH TEND TO RETARD THE PROGRESS OF THE FINE ARTS.

The object of this paper is to shew that the condition of the fine arts does not depend so much upon the artist as the state of public taste, and to expose some of the injurious influences to which they are subjected in England on this account; also, to shew that the characteristic features they exhibit will be the faithful exponents of that taste.

It may appear to some that too wide digressions are made from the subject in the following paper; but we feel the condition of art to be so intimately bound up with, and dependent on, our social condition, that it is feared unless it be investigated, the real motives which rule the former will be hidden from our view.

We consider that the circumstances which regulate the production of the fine arts are precisely similar to those of any branch of the manufactures,—that unless the supply tendered fulfil the terms of the demand, it will be profitless to the producer. We feel assured, too, that, like all manufactured productions, a constant, extensive, and discriminating demand will urge the producer to advance steadily towards excellence, and will find him, if not slightly in advance of public taste, generally keeping pace with, and very seldom below it. It is our firm conviction that any demand made upon the arts by the public will be responded to, and that the quality demanded will be the quality supplied, if it be not too sudden and unexpected.

It will, perhaps, exhibit our notion of the relation in which the arts stand to public taste more completely, if society be compared to a book, and the fine arts to the illustrations; for in contemplating attentively the vestiges of the Grecian and Roman periods—of the mediæval—the Dutch and Flemish schools—and, more recently, the battle pieces of Versailles, or the modern German works,—who can help feeling that one and all have been moulded to illustrate the feeling as well as to answer the demands of public taste? We think that there are few who could contend that Phidias created the appreciation of the beautiful among the Greeks; that the Greek artists employed by, established the taste for, the ostentatious display of the Romans; that Fra Angelica, Raffaelle, and others, originated the absorbing faith of their age; that Reubens, Teniers, and Vandervelde, originated the vulgar tastes, or the circumstances they painted; that Horace Vernet created the thirst for military display in the French, or that Cornelius or Kaulbach developed the "fantasie" of the Germans. The conclusion becomes irresistible in favour of the arts of all periods being impressed with the characteristics of the people among whom they have flourished; they are the monuments which are erected over the past, on which are written, in symbols not to be mistaken, the rank and achievements of the departed.

Reproaches have been too often, we conceive, heaped upon the artists themselves, which were really due to the low condition of public taste, over which they possess but slight, if any control, but who are on the contrary, the controlled and passive instruments, who must respond to its call if they wish to subsist. They must feed the Hydra with food which is palatable, if they do not wish to perish within the bounds of its tyrannical sway. If its tastes are limited to "*genre*"—if it prefer that which furnishes slight matter for contemplation to the higher styles of art, it is in vain that the artist attempts higher class subjects—there may be a few who are capable of appreciating such, but their numbers are not sufficient to give the direction and tone to the profession which would distinguish the English school as one of high aim—and we are speaking of its aspect in the aggregate, and not of the exceptions. The demand even for that quality of art which it chiefly patronizes is inconsiderable and precarious, how much more so then must it be for that style to which it shews no particular regard, the histories of those who have relied upon it will sufficiently attest; and how many have aspired to the highest walks who have been compelled by the strong arm of necessity to the less precarious "*genre*," or to that which is least so, viz, portraiture. The lash which is applied so unmercifully by the discriminating few, becomes the more galling as the artist feels the utter impossibility of escaping it, but by desertion; high art will neither feed nor clothe him, and excellence is not achieved in a day: how then is he to be supported during his probation? every now and then his aspiring hopes are revived, and he thinks a movement is taking place in its favour, but it is only a faint flickering which again subsides, and thus longing in the tedious night for the earnest dawn of day, he falls into the last sleep of death—unpitied and unknown.

Let it not be imagined that we undervalue any class of the fine arts,—they all respond to the varied nature of public taste; but when a nation such as great Britain is found incapable of supporting one or two historical painters, it certainly betrays a poverty either of education or purse, and certainly it cannot be the latter.

If the condition of the arts be regulated by the demand on production, we must examine those circumstances which influence the extent and nature of it, in order to expose the real sources of most of the drawbacks under which they labour. Our enquiries will centre chiefly on the following: Does the demand on production in the arts emanate from those who are termed educated, or from those who are stigmatised as uneducated? Do these conditions affect them? If the demand originates from those called educated, why is it that after taking into consideration the large masses of the uneducated, it still appears so limited in proportion to what it is conceived it might be under other circumstances? and lastly, what are the injurious influences operating within the profession itself?

We will, in the first place, endeavour to ascertain whether that class of the community has any influence in retarding progress, which is stigmatised as the lowest—the lowest because it is uneducated, and therefore unable to appreciate a better state of existence: the means of education are not within its power, it is then a condition of necessity, rather than of choice; and if so, the stigma is unmerited and misplaced.

We are happy to find, however, that the State is awakening to a sense of its duty towards this victim of neglect; the political expediency, too, of educating this class becomes every day more evident and more compelling, for there is an education of evil influences as well as of good—both are at the

* Mr. Auldjo, Mr. Britton, Lord Compton, Mr. Donaldson, Mr. Gaskoin, Mr. George Godwin, Mr. Morris, Mr. Lewis Pocock, and Mr. Zouch Troughton.

public expense, but we believe the former to be the much more costly of the two. It must be remembered in granting it the means, that there is an education of circumstances besides scholastic—that the squalor, filth, and darkness in which it exists, if not remedied, will tend to blight the growth and prevent the fruition of any precept or example which may be implanted in school. Can it excite wonder that human beings trained in the metropolitan purlieus, without having had any moral precepts inculcated, should, like the seed springing up from under fragments of rubbish—the weight of circumstances which have been cast upon it—on reaching the light appear crooked or dwarfed?

It may safely be received as a maxim that education makes the man—as their education differ, so will men differ; as their education may be similar, so will men exhibit alike lineaments of thought and action. The man who follows the plough, or is imprisoned in the dark alleys of the metropolis, is trained by the circumstances incident to his lot, but take a child from either of these castes, educate him as the more fortunate classes educate their children, and finally send him to one of our universities, and doubtless he will be fitted for another sphere, perhaps rank with the noblest of genius. We have already stated that the boon of scholastic education should be accompanied with an endeavour to render outward circumstances — the out-of-school condition— conformable to it; and it becomes an important question whether art ought not, in some shape, to find its way to the dwellings of the lowest class when its condition is raised, for at present it is barely able to satisfy the first cravings of nature: thousands of them eke out an existence in our towns and cities in a state far below that of the uncivilized Indian, who has the freedom of hill and vale—the light of heaven undenied to kindle the glow of sympathy within him—and "the balmy breath of incense breathing morn," instead of dark chambers and pestilential vapours, corrupting the vigorous life-blood, marring all beauty, and begetting a race of crippled and deformed fiends to torment their more fortunate fellow-citizens:—is not this, we ask, the present state of things? What prospect has the fine arts from this class more than the admiration which is probably bestowed on a print of Billy, a famous rat-killing terrier—a woodcut of the last horrible murder—or lithographs of the heroes of the last pugilistic encounter. We cannot do otherwise, on reflection, than come to the conclusion that the taste for refined pleasures does not exist in such a state. Here, then, is the outermost zone of the commonwealth closed, which might, under more genial influences, make considerable demands upon artistic skill; its condition, however, requires amelioration in so many other respects, that the artist cannot expect to be enabled to break ground for a long period to come, as it cannot be wished that the boons bestowed should take the following order of precedence, viz.:—art, education, and food,—it being evident such a system would possess no vitality.

The working class next suggests itself for consideration, that class which of late years has made such a rapid advance in intelligence, thanks to Mechanics' Institutions, and the cheapening of literature; and however some may affect to despise it from being too far removed to comprehend its feelings, or to appreciate its understanding, if they but condescend to observe it attentively they would find that having received scarcely any bias in childhood, it is embracing the recent and enlarged views on most subjects. But having, as it were, obtained its education by stealth, and awakened to a sense of its former degraded position, it is not astonishing that in perceiving the gates of real liberty opening, it should have the tendency to run into extremes, as is the case with all passions of our nature that have suffered too long imprisonment: the longer detained the louder they knock for release. It must be remarked, that with this advance in education, more refined tastes are springing up amongst this class,—the Museums that of late years have been thrown open with less restrictions to answer its demand, amply testify to orderly conduct, and interest taken in the objects presented to view. The price of labour, however, will not enable it to gratify, to a great extent, any desire it may possess of being surrounded with artistic productions, its means being so limited: we think, therefore, that shemes might be devised which would put art more within its reach. Literature has been cheapened—we have witnessed the result; may not an analogous effect be produced by cheapening art also by all possible expedients. Perhaps an extension of the principle of Art Unions might be highly beneficial: the introduction of greater taste in the design of domestic furniture would be a most effectual method of gradually surrounding not only this but all classes with the lustre of the beautiful. It will be of little use, however, to produce fine art manufactures at double the price of the ordinary article; but in suggesting means towards a desired end, it is seen that as circumstances exist there is a very wide field open for artistic exertion as yet unoccupied; and this, therefore, may be looked upon as a retarding condition both to the class and the artist.

It is to be feared that the humanizing tendency of beauty is not perfectly understood; it is not generally known how fruitful are the sources of irritation from ugliness and disorder, or the extent to which these outward circumstances are reflected in the human race: men are usually in so many ways subjected to them, or care not to investigate them, that they are unconscious of the real sources of their deformities both of body and mind. The Greeks were fully alive to the importance of the presence of beauty, and it may be remembered the extent to which it is related they acted upon it.

In a work entitled the "Elevation of the Masses," there are some very just observations which bear closely on the subject. "There are many who would frown, or smile in derision, or regard it as an amusing instance of simplicity, to propose to incorporate the art of drawing in the instructionary course of a school for the poor. Yet the care which the minute and faithful delineation of an object requires is directly calculated to form those habits and tastes which are in intimate connection with private happiness, and are wanting to reform some traits of Vandalism in our national manners. It tends to produce an appreciation of the beautiful in nature and art, an accomplishment usually considered as appropriate only for wealth and station, but a most important acquisition, too, for the humbler classes. Besides placing within their reach the pleasure derivable from the contemplation of graceful forms, it will contribute to secure that attention to the person and the dwelling which is an essential element in domestic happiness; strengthening also that sense of self respect which operates as a principle of repulsion to vulgarity and vice, and of attraction to courtesy and virtue. An elegant taste, according to some wise moderns, should be withheld as a dangerous quality for the poor, lest it should lead to extravagant habits. Sorry logic! contradicted by the stern and sad realities of life. The slovens of society constitute the great mass of spendthrifts. If the imprudent gratification of a refined mind slays its thousands, the opposite mental state numbers its victims by the million. The man who cares for the appearance of his wife, children, and home, has so far a check in operation against squandering away his means at the alehouse or ginshop. Order and cleanliness, two features of elegance, involve no expense; and who that has walked abroad in the world, has not recoiled from the habitation of filth and rags, and seen with pleasure in contiguity to it, in the same humble sphere, the tidy family, the neat house, with its clean hearth and blooming window flowers.

It has been said, that "an Englishman's eyes are in his fingers;" meaning, that not content with the sight of an object, it is one of our national peculiarities to handle it, and leave traces of our handiwork upon its front not of the most agreeable kind: witness the many battered milestones and dismembered guide-posts strewed over the country, images of speechless woe—the innumerable "Joneses," "Thompsons," and "Smiths," who have scrawled their superscription and residence in places of public attraction and resort. Some sculptures in relief and paintings in the Temple of Isis, at Pompeii, have been nearly ruined by names, all English, scribbled on them. The Prince Doria Pamphili closed his villa at Rome against strangers owing to injury done to its objects of art by some of our countrymen, not of course the "*profanum vulgus.*" A great improvement has taken place amongst us in this particular. Our national repositories of art have been thrown open to the masses, promoting an apprehension of the beautiful, which has secured practical respect. This is the chief value of introducing some acquaintance with the imitative arts into elementary schools for the poor. It is not the accomplishment itself that is of moment, but the training of the faculties and feelings incident to it, to apprehend and appreciate "things lovely" that is important. The habit is a security against the formation of vulgar manners and against familiarity with disgusting scenes; and taken into the economy of household life, it may throw an outward adornment over the homes of rusticity and artisan employ, the moral influence of which is an end worth gaining."

It may be remarked here, that we are inclined to believe art possesses but limited educational powers, as regards historical facts and precepts of morality; still, on its more direct influence on mankind generally through the medium of sensation, it produces an echo in their affections responding to the coarse or refined nature of the excitant.

We pass on to the consideration of the middle class possessing the means of obtaining early education, and amongst which a taste for refined pleasures very generally exists. It is this class which contributes the larger portion of the shillings at the exhibitions—guineas to the Art-Unions—which patronises theatricals and concerts—is the largest purchaser of illustrated works—from which the greatest number of artists spring, and in which will be found the best critics; and were it not for the eager competition in trade which is so engrossing, and that besetting sin which belongs to those composing the middle caste upwards, viz., that longing to move in a sphere wealthier than themselves, drawing, as it does, upon the purse to make the greatest possible shew in the outward forms of society—in the size of the house, number of servants and equipage—to ape a somebody or nobody who is better able to afford, or who, perhaps, like themselves, apes another somebody or nobody of another caste; we say, were it not for these untoward circumstances, we doubt not that modern art would meet with the greatest patronage from this class. Whereas a large proportion of the present demand, from this very circumstance, is injurious rather than otherwise; for having already stretched its means to make the most ostentatious display, it is contented with something flashy in the place of highly-studied art, its resources having been already absorbed by those matters which are considered of more importance to the being esteemed "genteel;" its conscience oftentimes being set at ease with regard to art, and at very little expense of purse, by the purchase of doubtful old masters which have been rejected by the wealthier; and in this manner it makes a nearer approach in resemblance to aristocratic appearance, and they still have the benefit of the doubt—it may indeed be an old master: —this is the *animus* which actuates the tradesman, merchant, and wealthy manufacturer. Art is considered of trivial, but horses, carriages, livery-servants, turtle and champagne, of the first importance, and consequently the more-to-be-desired possessions and gratifications.

May not these feelings tend to produce that slovenliness of manner which characterises much of the literature and art of the present day, aiming only at the *ad captandum* in style, content to appear plausible in a showy dress, and thus hiding with gaudy glare of fulsome contrasts the deformities beneath.

The young artist is sometimes victimised by the wealthier of this as well as by some of the aristocratic caste. It is known that he is zealous and enthusiastic in his profession, which renders it probable that he will jump at any offer to execute a great deal for a pittance; he is told how it will bring him into the notice of some great men, their particular friends; his employer meanwhile assuming the title of patron, while the artist is doomed to months of weary and ill-paid toil.

The aristocracy may be described, as a class, in nearly the same words,—for amongst this, the besetting sin of the caste we have just considered appertains in an equal, if not greater,

degree. Here, then, is the zone in which all means for education are at command, as well as for the gratification of the tastes which it ought to awaken if it possessed vitality. The spirit of exclusiveness here exercises its baneful influence; and the noble birth, which, according to its views, is an honour for which there is no equivalent, must also collect around it those aristocratic old paintings which boast a long line of ancestry,—we mean, with all respect, the venerable masters of antiquity, from whom they have been supposed to trace their descent.*

W. Cave Thomas.

CARVINGS OF STALLS IN CATHEDRALS AND COLLEGIATE CHURCHES.†

Among the many objects which have attracted attention, we may reckon among the more curious the remains of the old sculptured stalls, or, as they are technically termed, misereres or misericordes, which are found almost universally in cathedral and collegiate churches, but of which, unfortunately, the number preserved in that of Worcester is very small. A few slight and passing observations on these interesting monuments of mediæval art, of which a very curious series is also preserved in the church of Great Malvern, may not, perhaps, be totally uninteresting.

The sculptures range in date from the thirteenth century to the Reformation, and are distinguished by various degrees of excellence. Sometimes they are very rude, but more commonly, like the illuminations in some manuscripts, they possess a considerable share of artistical skill. They are found on the continent as well as in England, and the general character of the subjects is so uniform, that we might almost suppose that the carvers throughout Europe possessed one regular and acknowledged series of working patterns. Yet there is a great variety in the detail of the subjects, and in the manner of treating them. Writers of vivid imaginations have given them no less a variety of interpretations. Some have conceived them to be satirical attacks aimed by the monks at one another, or at the secular clergy, whilst others have imagined that these strange and grotesque figures embodied in allegorical form the deepest mysteries of our holy faith. Each of these opinions was equally far from the truth. In all probability neither the designers nor the carvers were monks, although it is evident they were men of a certain degree of education, and well acquainted with the popular literature of the day, the different classes of which are here represented in a pictorial form.

One of the most popular branches of this popular literature was the science of natural history, in the shape it was then taught. The treatises on this subject were designated by the general title of bestiaries (*bestiaria*), or books of beasts. They contained a singular mixture of fable and truth, and the animals with which we are acquainted in our ordinary experience stood side by side with monsters of the most extraordinary kind. The accounts even of the more common and well known animals trespassed largely on the domain of the imagination, and therefore much more extraordinary were the fables relating to those of a doubtful or of an entirely fabulous character. I may mention, as an example, the unicorn—according to mediæval fable, the fiercest and most uncontrollable of beasts. A stratagem, we are told, was necessary to entrap the unicorn. A beautiful virgin, of spotless virtue, was taken to the forest which this animal frequented. The unicorn, tame only in the presence of a pure virgin, came immediately and laid its head gently and without fear in the maiden's lap. The hunter then approached and struck his prey with a mortal blow, before it had time to awake from its security. A more popular character was given to these stories by the adjunction of moralizations, somewhat resembling those which are found at the end of the fables of Æsop. The mysterious power of the maiden over the unicorn, the resurrection of the phœnix, the generous nobleness of the lion, the craftiness of the fox, the maternal tenderness of the pelican, are capable of a multitude of mystical interpretations.

* To be continued.

† Read at the Worcester meeting of the Archæological Association.

The bestiaries, of all ages, are more universally illustrated with pictures than any other book: they seem to have contained the first science to be instilled into the youthful mind. Every one who has been in the habit of examining the sculptured stalls of which we are speaking knows that the stories of the bestiaries are among the most common representations. I have to send you no great distance hence to shew you, on the very interesting stalls in the church of Stratford-upon-Avon, the story of the maiden and the unicorn, the latter being made a more cruel sacrifice to the hunter after having fallen a victim to the charms of beauty. The pelican, the elephant, the lion, and the more ignoble monkey, have their place on the stalls of Gloucester. The fabulous objects of the natural history of the middle ages—dragons, chimeras, griffins, and the like, are much more numerous. The syren is seen on the stalls of Great Malvern.

Next after the bestiaries, the most popular books of the middle ages—books which were pictorially illustrated with equal profusion, were the collections of Æsopean fables, known under the titles of Ysoprets and Avynets, from the names of the celebrated fabulists Æsop and Avienus. With these was intimately connected the large romantic or rather satiric cycle of the history of Renard the Fox, which enjoyed an extraordinary degree of popularity from the twelfth century to the nineteenth. The fables and the romance of Renard are frequently represented on the stalls. The fable of the rats hanging the cat is represented in a carving on the stalls of Great Malvern. The man and the ass, the fox carrying away the goose, and one or two other similar subjects, are found at Gloucester. The fox preaching is found on one of the side ornaments of a stall carving in Worcester cathedral, and is not of unfrequent occurrence elsewhere.

Another class of literature, frequently accompanied with pictorial illustrations in the manuscripts, comprises the calendars or ecclesiastical almanacks, in which the domestic or agricultural employments of each month are pictured at the top or in the margin of the page. Such subjects are extremely frequent in the carved stalls. Three stalls in the cathedral of this city represent men employed in mowing, reaping, and sheaving the corn. Another represents the swineherd feeding his pigs, by beating down the acorns from the trees. This last is a very common subject. Scenes of hunting or hawking are also frequently met with. The stall carver has given a still wider range to his imagination in representing domestic scenes, which are very frequent, and very interesting for the light they throw on the popular manners of our forefathers in far distant times. A very curious example may be cited from the cathedral of Worcester, which represents a domestic winter scene. A man closely wrapped up is seated beside a fire, stirring his pot—his gloves, which are remarkable for being two-fingered, as well as the expression of his features, show that he is suffering severely from the temperature. He has taken off his boots, and warms his feet by a rather close approximation to the fire. All the details of the picture are equally curious—even to the side ornaments, one of which represents two flitches of bacon, the winter's provision, suspended to a hook, while on the other a rather gigantic cat is basking in the warmth of the chimney. On a stall in Minster Church, in the isle of Thanet, an old woman—a witch-like figure, is occupied at her distaff, accompanied by two cats of grotesque appearance. One of the stalls at Great Malvern represents a man at his dinner. Another in the same church exhibits a woman in bed, attended by a physician. Others of this class are more grotesque and playful, representing games and pastimes, and practical jokes, not always restrained within the bounds of the delicacy of modern times. Monks and nuns sometimes appear in scenes of this description, of which some curious examples are furnished by the stalls in Hereford Cathedral.

It is remarkable, and especially characteristic of these carvings, that scriptural or religious subjects are very rare. An example of a saint's legend occurs in the representation of the story of St. George and the Dragon, on a stall at Stratford-upon-Avon, the side ornaments to which are not very congruous grotesques. The stories of the great mediæval romances also find a place in these representations. A foreign example represents the fabulous Aristotle subdued by the charms of his patron's wife—the subject of a well known poem—the *lai d'Aristote*. A stall at Gloucester, no doubt taken from one of the old *romans de geste*, represents a knight in combat with a giant. Subjects that may be considered as strictly allegorical are also rare; perhaps the figure of a naked man enveloped in a net, with a hare under his arm, and riding on a goat, in the stalls of Worcester Cathedral, may be considered as belonging to this class. A figure of a fool riding on a goat occurs on the stalls at Gloucester. The subjects most commonly supposed to be of this allegorical character are mere grotesques copied from those fantastic sketches so often found in the margins of manuscripts of the thirteenth, fourteenth, and fifteenth centuries.

My object in thus comparing the carvings on the stalls with the illuminations of manuscripts, and with subjects of mediæval popular literature, is not only to show how easily the subjects peculiar to other stalls are to be accounted for, but to impress on the minds of archæologists the necessity of extending the field of their inquiries beyond the immediate limits within which the particular subject under consideration appears at first sight to be contained. An extensive study of the literature of the middle ages is necessary to the understanding of its objects of art, and, indeed, of all its monuments, as much as for its history. The sculptured stalls, besides their value for the study of manners and costume, form also a practical illustration of the kind of scientific and literary information possessed by society at large. It was restricted to the bestiaries and the fables, with a less extensive acquaintance with the romances of chivalry.

Thomas Wright.

DISTRICT SURVEYORS' CHARGES.

AWARD OF OFFICIAL REFEREES.

With regard to certain fees charged by the surveyor of the district of Lewisham for certain building operations by Mr. W. H. Whittell, Albert-road, Sydenham, it appeared that a "stable, patients' room, and surgery had been built at the same time, but after the dwelling-house to which they belong had been finished," and had then been connected with the house by a corridor or passage. Notice relative to the stable was given on 2nd February, and the works were finished on 20th March; the notice for the passage was on the 10th of March, and the works finished on the 29th of the same month. The district surveyor contended that the stable, surgery, &c. could not belong to the dwelling-house class, being part used as a stable, and that the passage, as an addition to the dwelling-house, was a distinct work.

He therefore charged—

Fee of second-class fourth-rate building (stable, &c.)	£2	2	0
Fee of addition to first-class second-rate building	1	10	0
	£3	12	0

The owner had also put up a forcing pit for plants about 10 feet square on plan, and 6 feet high on one side, and 2 feet 6 inches high on the opposite side, with a stove and flue; "and the district surveyor stated that the said erection is not a building expressly assigned by the said act first herein mentioned to any class and rate, and that therefore he had, under the provisions of the eighth section of the said act, assigned the same to the fourth-rate of the second-class;" and for this he charged 1*l.* 1s., as "reduced fee."

The referees determined, "first, with regard to the said stable, surgery, patients' room and corridor, that the same constitute one building only belonging to the said dwelling-house, and attached thereto by means of the said corridor, and to be distinctly rated as a building of the second-rate of the first-class, and that only one fee is chargeable by the district surveyor for the supervision thereof, namely, such fee as is by the said Act first herein mentioned imposed in respect of additions to, or alterations of, buildings of the rate to which such attached

building belongs, which fee is 1*l.* 10s., and no more.

Secondly. With regard to the (other) erection, that inasmuch as the said erection is intended and adapted only for the rearing and protection of plants, and not for the entrance therein of any person, the same is not a building within the meaning of the said Act first herein mentioned, and is not to be rated or classed as such under the said Act, and is not, as a building, subject to the rules of the said Act, or to the supervision of the district surveyor; and, inasmuch as such erection is not so situated as to form part of, or to be in connection with any building, or so as to be liable to the rules in respect of projections, or any other of the rules of the said Act, the district surveyor is not entitled to any fee whatever in respect thereof."—Costs to be paid by the district surveyor.

BUILDERS' BENEVOLENT INSTITUTION.

A general meeting of this promising charity was held at the Freemasons' Tavern, on Tuesday last, for the purpose of receiving the report of the proceedings of the past year, electing officers for the year ensuing, and other business.

Mr. H. Biers, the president, was in the chair, and in reading the report and moving its adoption, congratulated the meeting on the still flourishing prospects of the institution, at same time, however, regretting that from some informality in the advertisements announcing the present meeting, its lateness in the season, and other causes, the personal attendance of friends to its objects was not so large as it would otherwise have been.

Having so lately reported progress in the Builder, on a convivial occasion, we need not go over the report at present, further than to state that the committee recommend in it "a careful revisal of the present rules and regulations, especially of those parts relating to the commencement of giving relief, as they have no doubt, by a judicious alteration, assisted by the kindness and liberality of the supporters of the charity, the subscribers may at a very early day commence a distribution of part of the funds." The Chairman complimented the committee on their zealous attention to their several duties, and expressed a hope that even before next annual meeting the institution would be prepared to begin the distribution of a portion of its funds. The annual subscriptions now amounted to 200*l.*, and they only waited till 300*l.* should be reached, which assuredly would very shortly be forthcoming from amongst our metropolitan builders, notwithstanding adverse times. It was thought that 100*l.* per annum might then be distributed. Nearly 1,000*l.* too were now invested in Government securities as a permanent foundation for the superstructure whose stability they were all so anxious to secure.

The adoption of the report was seconded by Mr. George Bird, and unanimously agreed to.

Resolutions were then put and carried nominating patrons, appointing president, vice-presidents,* committee, auditors, &c., for the ensuing year,—a numerous list of names, which will no doubt shortly be publicly announced by the office-bearers themselves; and votes of thanks for past services were at same time cordially passed.

Several painful cases of distress were alluded to by Mr. Higgs and others, in which parties, once presidents, vice-presidents, &c., of trade societies, and respected associates of many present, were anxiously awaiting the opening distribution of the funds of this institution. And it was also impressed upon the remembrance of the meeting, that relief was contemplated not only to such as these, but to journeymen builders, or workmen in the trade generally, who would be entitled to temporary assistance, as these would be to more permanent support. The press was specially thanked for the exercise of its influence, and Mr. Bird took occasion thereupon to hint, *a propos*, that the influence of "the ladies," as sleeping partners in the concern, was not to be despised, and he accordingly recommended the administration of a stimulant, in the shape of an annual ball, &c., which proposal evidently resolved itself into an incipient 'resolution,' voted *sub silentio*, if not by acclamation.

* It was moved by Mr. Todd and seconded by Mr. Norris, that twenty guineas and upwards be the qualification for a vice-president.

RAILWAY JOTTINGS.

The atmospheric system on the South Devon line has been abandoned, by the advice of Mr. Brunel, who had adopted it, it was alleged, at an expense to the Company of 343,535*l.* The Directors, at their late meeting, avoided all discussion of this sore point from "legal considerations." They have resolved, however, to allow the patentees and Mr. Samuda to experiment with the materials, "until the same shall be made efficient."——The last arch of the Dee viaduct, on the Shrewsbury and Chester line, at the vale of Llangollen, has been keyed. The length of this viaduct is 1,508 feet; height, 147 feet; number of arches, 19; span of each arch, 60 feet.——The Shiffnal viaduct, on the Shrewsbury and Birmingham line, is also rapidly advancing to completion. There are twelve large arches of a 6 feet pier and a 40 feet opening, the arch being the segment of a circle. A bold string of Grinshill stone runs along the viaduct, surmounted by a parapet about 3 feet high. The opening across the street is 80 feet between the piers, and 24 feet from the centre of the street to the crown of the arch, which is a light and open construction of iron work.——The Great Western express train lately ran at the rate of 70 miles an hour, for 43 miles, with the *Courier* 8-wheeled locomotive, which has 8-feet driving wheels, 18-inch cylinders, and 24-inch stroke.——The extensive workshops of the North Kent, at the Charlton tunnel, Blackheath, have been almost destroyed by fire, from excessive heat of the shaft of the engine-house.——In a collision which occurred on the northern portion of the North-Western, on Saturday last, Mr. Henry Shuard (?), of Paddington, architect, was seriously injured in the smash of carriages, the remains of one of which fell over him: he was extricated apparently lifeless, with his left leg broken in two places, while two ladies in the same carriage fortunately escaped unhurt, no one can tell how. Mr. Shuard says, the express must have been going at the rate of sixty miles an hour, to make up for lost time. The passengers, it is said, were terrified, and convinced of the occurrence of some fatality, long before the train ran off the line on to an embankment; and the first accident had hardly taken place when a pilot engine ran with horrid force into the prostrated carriages while the passengers were in the act of extricating themselves. Lieut.-Col. James Baird, of Stirling, also was fatally injured, and has since expired; and one of the drivers and a stoker were also dangerously injured.*——In another partial collision at Conway, Mr. R. Stephenson had a narrow escape in a carriage which was smashed, stunning him so, that he fell almost insensible off the steps. The professional readers of The Builder have indeed a deep interest in the prevention of railway accidents, as we can ourselves feelingly testify, though we too have hitherto *only* made 'narrow escapes.'——A portion of the centre of the recently completed abutment to the embankment of the Hoo Brook viaduct has given way. The recent rains are blamed. The slip will render necessary the removal of the whole of the remaining stone work, and of about 4,000 square yards of soil.——On Tuesday week, the high level bridge across the Tyne, between Newcastle and Gateshead, was opened for goods and passengers, with all due formality. The contractors, as we have already noted if we mistake not, are Messrs. Rush and Lawton, and Messrs. Hawks and Crawshay.——The line from Calais and Dunkirk to Paris, has been completed by the opening of the remaining principal branch of the Great Northern of France line, that from Calais to Lille. Calais, it is expected, will thus be much benefited by the opening of the shortest, pleasantest, and most direct line of communication with Belgium and Germany yet established. Whether it will take much from the Boulogne route to Paris is another question, which will depend a good deal on increased speed, as it is not at present contemplated that the journey between Calais and the French capital will be performed in less than between ten and twelve hours.

* Scarcely is this last of *a looked for* series of accidents on the great North Western line recorded, when another, almost equally serious, occurs! And more than that, each accident is *double*, as if there were a superfluity of disarrangements ready for reckless superfetation, one upon the back of another. In this new case, a goods tra n of 40 waggons drove right into a ballast train, near Leighton, while almost at the same moment the Edinburgh mail train "cut its way through the goods train as clean as a knife." Carriages were piled up 30 feet high, on the top of one another; but strangely, shall we say fortunately, no one was *killed* on the spot: the consequences, however, of the *injuries* sustained who will anticipate? Can it be possible that the "new system," which was so heedlessly persisted in till the old was totally disarranged, has had nothing to do with all these successive calamities, so ominously anticipated as they were from a persistance in that very "system." Let us hope, at least, that the wreck thus uselessly occasioned is but the result of the subsiding swell of a storm that will soon, at least, be *fairly* and for ever *past*.

NOTES IN THE PROVINCES.

The wages of the Government artisans in the factory and shipwright departments at Woolwich have been screwed down 28,000*l.* per annum below their previous amount: no less than 20,000*l.* came off the factory establishment. It may shortly come to be an interesting inquiry as to how many Chartists such repressive measures are producing, and how much per annum the repression of the discontent so begotten may hereafter cost the country. Certainly the suppression of only two or three great sinecures would not have caused so much *effect* or stirred up so much *action*, nor would it have produced such a future flow of the circulating medium in *counteraction*.——The shaft for the Government artesian well at Portsea has been sunk, and the boring begun.——The restoration of Holy Rood Church, according to a Southampton paper, has been been finally resolved on, by the adoption of measures for the realization of 2,365*l.*, by rate and subscription, and 2,000*l.* on loan from the Public Works Loan Commissioners: the tower will remain as it is.——The Great-Western Docks at Plymouth are in rapid progress. The inner basin will float and wharf twelve steamers of the largest size, or a number equal to that of the great basin at Portsmouth, recently opened.——The bust of the renowned Christopher North (Professor Wilson), executed by Mr. James Fillans, has been inaugurated in a niche of the public coffee-room of his native town, Paisley. It is said to be a faithful likeness.——A Gothic monument to the Earl of Cathcart has just been erected in the south transept of the abbey at Paisley, executed by Mr. Mossman, of Glasgow.——Some interior alterations and improvements are in progress at St. Enoch's Church, Glasgow. The College, or Blackfriars Church, it appears, has been long in want of like repair.——The foundation stone of the Licensed Victuallers' Asylum at Birmingham was laid on Wednesday week. The building is to be of red brick with stone dressings, in the Elizabethan style, and plain in character. It will consist of ten houses, six to be immediately prepared for use: the houses to contain living rooms, 13 feet by 10 feet; kitchen, 13 feet 9 inches by 6 feet 3 inches; pantry and bed-room, with outhouses; and a large committee room, with open roof. The total frontage, when complete, will be 146 feet in length.

Clerks of Works.—On Saturday, 19th of August, a cause was tried at Chester assizes, before Justice Wightman: "Akehurst *v.* Munt." It appears Mr. Munt holds the situation of clerk of works to the whole of the works or stations now in course of erection on the Holyhead and Chester line. Mr. Akehurst was employed to superintend four of these roadside stations under the direction of Munt, for a period of seven months, or thereabouts. During that time certain extras arose beyond the weekly salary, to the amount of 42*l.* 10s., for horse keeping (the plaintiff being obliged to keep one, and by defendant's consent, part of the time), coach fare, railway fare, stationery, &c. Defendant first objected to the bill as exorbitant; and secondly, that he was not liable, but that the plaintiff must sue the Company. Evidence at some length on the several items was examined, when the judge saw it was a mere waste of time to offer further objection to the charges, and ordered the bill to be paid with costs.

DOORWAY AND BALCONY IN NAPLES.



DOORWAY AND BALCONY OF A HOUSE IN NAPLES.

The streets of the Italian towns offer at every turn a suggestion, a motive, or a detail, worth noting. Above we give a simple, yet elegant doorway and balcony from a house in Naples, with drawings of the more salient parts at large.

THE NATIONAL GALLERY AND COMPETITION.

Sir,—"*On dit*" is such a notorious liar, that we never know when that gentleman speaks truth or not, therefore he probably now *lies* under a mistake when he tells us that to Mr. Barry has been confided the task of altering the present building of the National Gallery, and that his design for the purpose proposes a complete change of Wilkins's *façade*, and the addition of another story to the edifice, which last alteration seems to be one rather difficult to be achieved, the exhibition-rooms being lighted from above. Hardly can they continue to be so lighted, if others are to be erected over them, unless it can be effected by some never-before-thought-of contrivance.

At all events, it seems that Mr. Barry is to be improver-general of our public structures. The only one of importance which has been metamorphosed by another architect, is Buckingham Palace—where it is certainly to be regretted that he was not employed—or, indeed, almost any body who would have avoided what we are now doomed to behold there. Had there been a competition for the new building at the Palace, many very far better ideas would, no doubt, have been offered. Neither would it have been at all amiss had there been a competition—far better regulated, indeed, than such matters usually are—for altering the National Gallery, if that is to be done, instead of an entirely new structure being erected elsewhere. Mr. Barry must have his hands quite full of business already—therefore, although a lion in his profession, he can very well afford to relinquish to others some portion of his "lion's share." Public occasions for it ought to be made public opportunities for the display of talent. In such cases opportunity should be thrown open to all. Such course is obviously the very best way of both stimulating talent, and affording it the means of making itself known; without which it may, perhaps, never be able to emerge from obscurity, owing to the want of a subject upon which to exercise itself adequately, and put forth its powers. If, owing to bad, perverse, and irresponsible management, the advantages of competition have frequently been neutralised or destroyed, they have occasionally, at least, been productive of much good. This is a truth which, of all people in the world, Charles Barry himself has the greatest reason for feeling and acknowledging, since had there been no competition for the Houses of Parliament, he would have stood in a very different position from what he now does.

As another strong instance of talent being brought forward by competition may be mentioned St. George's Hall, at Liverpool. But for competition, the late Mr. H. L. Elmes, then a very young man, and moreover of very boyish appearance in figure and person, would never have been thought of as qualified for undertaking so important a work. But for competition, again, it may fairly be doubted whether the Fitzwilliam Museum would have been, by many degrees, the classical and strikingly picturesque piece of architecture which its *façade*, at least, now is.

Provided there be but good faith and fair play along with it, competition is, in my opinion, to the advantage both of the profession and the public. Nevertheless the public is, it seems, not to have the advantage of it with respect to the National Gallery. Luckily, I have filled up my paper, therefore abstain from some remarks that might prove offensive to some persons, and conclude by subscribing myself, yours, *ad infinitum*, P.

ST. GEORGE'S ROMAN CATHOLIC CHURCH.



ARE ARCHITECTS ONLY TO COPY?

SALFORD ROMAN CATHOLIC CHURCH.

SIR,—The description, in your last number but one, of the new Catholic church of St. John, Salford, Manchester, revived a question which has of late often arisen in my mind, and which, perhaps, you can answer for me, viz.: What are architects employed to do? We read that the *design* was by Messrs. Weightman and Hadfield, of Sheffield, and yet immediately afterwards it is stated that the west end is *copied* from Howden and the choir from Selby. Here we have two of the three most prominent parts of the building pure copies, and I may add, that the third (the tower and spire) is, so far as my powers of comparison go, a copy to the letter of the spire and upper part of the tower of Newark Church, Nottinghamshire. I say to the letter, though it appears to me that the spirit of the design of that structure has been lost sight of,—for the belfry story and spire at Newark, though of a different date from the rest, were made to form part of a lofty erection at the west end of the church, and have there a most magnificent effect; but at Salford this part,—the head and shoulders, so to speak,—has been made to form a complete central tower and spire on a cross church.

I am, however, wandering from the question, which is,—what ought to be expected of architects? And further, if this is to be considered making a design, what is the use of the fine-art education and studies of the architect? If nothing beyond a good copy be required, any respectable builder who thinks fit to employ a draughtsman to throw together into the necessary general shape, copies of portions of existing buildings, and who has, by reading your excellent paper and a few other publications, gained a smattering of the different periods of Gothic architecture, will answer the purpose perfectly; and his will be the only assistance necessary for the erection of our churches, &c.

These remarks are not by any means intended to apply personally to the firm named, who, of course, only follow the fashion of the day; but they are directed against the *system* of slavish copyism which now prevails among architects to such an extent, that if they do not soon contrive to make themselves of more use than to erect mere copies of old buildings, the public will begin to take it as a proof that they can very well be dispensed with altogether.

X.

IRONWORK FROM STOWE.

FOLLOWING the prevailing fashion, we must needs give our subscribers something in connection with the current topic,—the dismantling of *Stowe*, and so have engraved a portion



of ironwork on a curious ancient chest there, described as having been brought from the Jerusalem Chamber, Westminster, and which was to be sold this week.

ST. GEORGE'S ROMAN CATHOLIC CHURCH, ST. GEORGE'S FIELDS.

ST. GEORGE'S Church, recently opened, is the most important structure which the English Roman Catholics have built in modern times, and a very satisfactory evidence of the skill of Mr. A. W. Pugin, its architect.

It consists of a nave and aisles, a great tower, as yet only carried up to the height of sixty feet, a chancel, and two chapels, one dedicated in honour of the Holy Sacrament, and the other in honour of the Virgin. The extreme length of the church is 240 ft.—the width 72 ft. The body of the church is calculated to seat about 3,000 persons, and the nave is filled with low open benches, of deal stained, about 2 ft. 9 in. high, with tracery ends and quatrefoil backs. There is no clear story, but each of the roofs is gabled. Every bay of the nave is divided externally by buttresses terminating in rich pinnacles, recently added: in each alternate bay is a confessional, projecting as far as the buttresses; the heads of the doorways leading to which are carved with appropriate emblems. The style we may say at once is the "decorated."

The principal entrance is in the great tower, and consists of a deeply moulded doorway surmounted by a gablet: on either side is a niche: immediately over the entrance is a great window of six lights, with rich tracery in the head—each light filled with painted glass, representing St. George, St. Michael, and other saints, under canopies: above the window is a row of niches, which will contain the images of angels, with trumpets, while in the stone blocks in the spandrils will be sculptured the dead arising, and when the tower is completed, this portion will contain a representation of the last judgment. The whole height of the tower as designed will be 180 ft., and the spire 140 ft., making a total of 320 ft.

The walls of the tower are 8 ft. in thickness, and the foundations are based on a mass of concrete.

The organ (without a case, and kept low so as not to interfere with the great window) is placed on a loft erected within this tower, and which is composed of solid carpentry, with clamped beams and carved enrichments: a very clever design. A great arch, 11 feet thick and 40 high, opens the tower to the nave, and renders this one of the most effective portions of the structure.

The font is at the west end of the south

aisle: raised on an octagon platform of stone, ascended by steps on four sides, and enclosed with a brass railing. The font is octagonal, eight angels spring from the angles of the shaft and support the bowl, divided by pinnacled buttresses into eight compartments, containing images of the four Evangelists and the four Doctors of the Church. [The font is to be inclosed with open screens hereafter, and have a carved cover.]

The pulpit (cleverly executed) is placed against the third pillar from the chancel end, and has been designed from some of the early Italian examples, as at Pisa. The form is hexagonal, supported by marble shafts, the centre one resting on a base, sculptured with the emblems of the four Evangelists; on four sides of the body of the pulpit are four *bassi relievi* in panels, representing the Sermon on the Mount, St. John in the wilderness, and St. Francis and St. Dominick preaching. The ascent to the pulpit is by a series of *detached* steps, each supported by marble shafts and richly-carved capitals, to which is attached a wrought-iron railing; somewhat coarse in execution, but still effective. The pulpit is of Caen stone, and the shafts are of British marble.

The Rood Loft.—The nave is divided from the chancel by a double stone screen supporting a rood loft. The front is composed of three open arches, resting on marble shafts, with richly-carved foliated caps, surmounted by a string course, with carved bosses and angels supporting an open parapet. The back is likewise composed of three arches, the centre serving for the doorway, and the two others are filled with light open tracery: oak-ribbed ceiling is fixed between the two screens, and immediately over is the loft on which is fixed the great rood. The cross, an original work of the fifteenth century, was purchased in Belgium, and restored. The image of the Saviour is by M. Durlet of Antwerp, the architect of the new stalls in the cathedral of that city: the whole is elaborately gilt and painted. The loft is ascended by two staircases, which are terminated by pinnacled turrets (seen in the accompanying engraving).

The Chancel is forty feet long, and about the same in height; the space between the screen and the sanctuary is panelled with oak tracery, and fitted with seats and richly-carved desks of the same material, capable of seating forty clerks. Crocketted arches, springing from shafts resting on a stone seat, are built round the sanctuary; three of these, deeper than the rest, serve for the sedilia, and contain the appropriate emblems for the priest, deacon and sub-deacon; the remainder are intended for the assistants. The floor is laid with encaustic tiles. The ceiling is divided into three compartments by carved principals, resting on angel corbels: each compartment is subdivided by moulded ribs into square panels, which are intended to be enriched by painting on a gold ground.

The great window, and the three side-windows, contain stained glass: the glass in the former is not so harmonious as might have been desired.

The High Altar is composed of Caen stone, surmounted by a slab of marble: the front is divided into three quatrefoils, filled with bas-reliefs. On the centre of the altar is placed the tabernacle, worked in Caen stone, consisting of four clusters of pinnacles, supporting a canopy. The whole is richly gilt and painted, and the doors of the tabernacle are of metal, gilt, and enriched by large crystals. Immediately behind the altar is a carved stone reredos, composed of ten small and two large niches, filled with images.

The furniture of the High Altar, including two high-standing candlesticks of brass, supporting coronels of lights; six large candlesticks of brass, and of hexagonal form; and a large corona of iron, painted and gilt with brass enrichments, shields, inscriptions, and crystal knops,—are admirably designed and wrought; indeed, it is in these matters Mr. Pugin's chief excellence consists.

On the left of the chancel is the *Chapel of the Sacrament*, divided off from the church by a richly-wrought iron screen, painted blue, enriched with lambs and chalices alternate, in brass. The floor is laid with encaustic tiles; the walls and ceiling are entirely covered with painted decorations; the ribs of the ceiling are gold, with red panels, relieved with cherubims, vine leaves, and grapes; the walls are covered with diapered work, interspersed with angels bearing scrolls, on gilt grounds. The altar reredos and tabernacle are of rich design. The windows are filled with stained glass.

On the right of the chancel is the *Chapel of our Lady*, which is also entirely painted and gilt, only here the colour of blue is most prominent. The ribs of the ceiling are gilt, with blue panels, containing the monogram of the Virgin, surrounded by white roses and stars. The walls are diapered in blue, with gilt fleurs-de-lis. The altar is elaborately carved, and the reredos is surmounted by niches and tabernacle work. The chapel is divided off by a carved oak screen.

The nave is at present devoid of decoration. The open roofs are not wholly satisfactory.

Annexed we give a section of the church, for which we are indebted to the proprietor of *Dolman's Mayazine*,* shewing the rood loft, chancel, screens, and the two chapels.

The church was built, under Mr. Pugin's direction, by Mr. Myers, of Lambeth, to whom praise is due. The metal work and furniture is by Mr. Hardman, of Birmingham, and the greater part of the stained glass by Mr. Wailes, of Newcastle. The total cost up to this time is stated at 33,000*l.* The first contract was for 16,000*l.* For the sake of comparison, we may mention that the pulpit, including the ironwork and steps, cost 250*l.*; the font, 50*l.*; and the iron screen across Chapel of the Sacrament, 150*l.*

The materials are yellow brick (which gives a mean appearance) and Bath stone. Some portions of the latter, at the east end, we observed with regret, are already in a rapid state of decay.

* An organ of the Roman Catholics, ably and liberally conducted.

CONSTRUCTION OF EGG OVENS.

There are many accounts of the above invention. The principle, however, upon which they are all constructed is simply this, that they consist of chambers, one above the other, either in long or short ranges, but never more than two divisions high. The heat is invariably generated in the upper division, and is contrived to descend and act upon the top of the eggs at a temperature of 106 deg., which are placed below on a mat, opposite the hole through which the heat descends. It will never do to place the heat in the lower division, and the eggs in the one above, for that would violate the law of nature. The egg, which contains great liquid properties, would thus become agitated by that mode of the application of it in the wrong direction. The hen sits upon her eggs, and by that means warms them to the highest degree upon the top, and they are always cooler on the side next the ground. The heat, therefore, to bring forth a chicken must be a descending heat, and that of the proper temperature, namely, 106 deg., and not 96 deg. of Fahrenheit, as some authors have it. The principle is very old, and has been applied to the purpose of hatching eggs in this country to a great theoretical extent, but some how or other it has never been carried out as a practical measure.

I saw a Mamal, or Egyptian egg-oven, on a small scale lately, and some poultry which had been produced by it. The owner told me he had used it for the last seven years, with greater or less success, for hatching out chickens for his own use and amusement, but he never once thought of taking out a patent for a thing so well known.

There are so many plans of producing a regular steady heat at any given temperature, and on any one point, that no one need now feel any difficulty in constructing a Mamal or egg-oven of brick, wood, felt, zinc, or other materials. Water kept warm by gas, or a lamp, coal, or coke, will produce warm air at 106 deg. All that is required is merely to arrange the heat to descend, and play upon the upper half of the eggs at that temperature, placing them on a cool or trellised sole, as the hen lays her eggs on the ground. These ovens may be made one or two feet square, or much larger. The shape may even be that of a vase. All that is required is to construct the apparatus so that the heat will strike down on the top of the eggs at 106 deg. The expense o very trifling.

In the "Library of Entertaining Knowledge there are some excellent plans and drawings o artificial mothers for rearing the chickens; on is of a circular formation, and has a pond in for ducks. Another represents a sort of i verted box, lined with sheep skins, the lon wool of which hangs down for the chickens t set their backs against. The principle mu invariably be attended to of a descending hea both upon the eggs and on the chicken Never put either above the fire until you wis to cook and eat them. The chickens alway stand on the cold ground, with their heads an backs buried under the hen's wings.

To meet the conflicting vicissitudes of th variable climate of Britain, glass frames, or hi houses, will be requisite to rear the young, an warmed houses for all in winter, particularl the laying hens. The houses which are use for rearing the poultry would be admirabl adapted for producing grapes at the same tim

Looking at the accommodation afforded fo poultry generally throughout the country, n one need wonder that few are produced, an that at all times the article is so dear and scarc in England. I feel confident it would pay t build comfortable places for poultry, and thi it would afford employment for many of th least able-bodied about a farm, to look afte the fowls and the stoves in the hen-houses It would help to keep down poor-rates, an would also employ children.

A letter can now be received from Egypt i less time than a chicken can be hatched out c an egg, and probably further information ma transpire on the subject of American, Chinese Egyptian, and other poultry, produced by arti ficial heat. W. M. F.

INCREASE OF TRAVELLING BY INCREASED FACILITIES.

In the course of a paper by Mr. W. Hardin on the Railway System, read at the last mee ing of the British Association for the Advance ment of Science, the writer shewed among other things that, when the railways now i contemplation are completed, and it is probabl that the greater portion will be so in th course of the next five years, we shall hav upwards of 10,000 miles of railway open, o which, judging from the numbers employe on lines now open (viz., fourteen per mile 140,000 persons will be permanently em ployed, at good wages,—representing, at fiv to a family, three-quarters of a million of th gross population. The third-class passenger who have increased in number since 184 from six millions annually to twenty-on millions, now form nearly half of the whol number travelling, whereas in 1842, the formed only about one-third. A number c experiments on the Glasgow and Greenoc line, of which the writer is the manage shewed,—1st. That a reduction of fares t ½d. per mile, even from so low a rate as ¾ per mile, increased the number travelling b nearly a quarter of a million, or by two-third of the whole population of the district. A these people were generally of the less affluen classes, it appears that they were actuall drawn out of the noisome streets of Glasgow to the north of the Clyde, by the temptation of a very low fare, and immediately that th fare was raised they were driven back agai into the city. 2nd. That under the circum stances of the line in question, cheap an rapid travelling increased the number trave ling: but improving the lower priced carriage did not, however, appear to act in the sam way, but merely tempted passengers fro the higher class carriages—those from th second-class into the third-class carriages, an from the first to the second class:—of cours it by no means follows that similar result would ensue on lines in other localities; eac case must be determined by its peculiar con ditions. 3rd. That no limit can be assigne to the number of travellers which cheapenin and quickening the means of conveyance wi create. The introduction of the railway, eve where steam-boats already afforded a mos pleasant, rapid, and cheap communication increased the number travelling from 110,00 to 2,000,000—2,000,000 being five times th whole population of the district. "I doubt,

said the writer, "whether either at home or abroad so large a proportion of travellers to the whole population is to be found. The traffic between Glasgow and Paisley is probably the most remarkable instance on record of the increase of travelling caused by increased facilities. In 1814 there was only one coach a week between Glasgow and Paisley conveying about 2,000 passengers per annum: if we multiply this by 5 to allow for the greater number of gigs and private vehicles then in use, we only get 10,000 passengers per annum conveyed between the two places. In 1842 the numbers travelling by public conveyance between Glasgow and Paisley were upwards of 900,000. Now, as the population between 1814 and 1842 had only about doubled itself, while the traffic, as we see, had multiplied itself ninety-fold, it follows that the increased facilities of transport had increased the number travelling relatively to the population 45 times: that is to say, that for every journey which an inhabitant of Glasgow or Paisley took in 1814 he took 45 journeys in 1843. These results, I conceive, place it beyond a doubt that we should spare no effort to make railway travelling cheap and within the reach of all classes."

SOCIETY OF ARTS' PREMIUMS.

Notice that the new list of prizes offered by the society is published has appeared in our advertising columns. We give such of the items as will more immediately interest the majority of our readers.—A gold medal, offered by Prince Albert, for the best cement for uniting glass, particular attention being made to perfectly cementing glass pipes or glass roofing. It must be clearly understood that this prize will not be awarded unless a cement should be produced which will bear the strongest test and trials.—Prize of fifty guineas offered by Mr. T. Twining, jun. For the best series of experimental researches on and specimens of the application of slag or other allied products to new purposes, useful or ornamental. Candidates for this premium will find a detailed account of the views of the donor, together with many useful suggestions, in his paper entitled "Pyrolite," read before the society, and printed for distribution by order of the Council.—Prizes (in money or books) for the encouragement of studies for decorative designs, open to competitors of either sex under twenty-one years of age. For the best original studies from nature. Of the hop, and the bindweed or convolvulus major, and the red-berried bryony. For the best group of oak and ivy leaves, arranged together ornamentally. For the best drawing of an ornamental arrangement of the honeysuckle and passion flower.—In the designers' class, open to competitors of either sex, and all ages. For the best cartoon, being an original composition, of a group of the rose, shamrock, and thistle, arranged ornamentally. A silver medal and 3*l*.—For the best cartoon of an arrangement of the hop as a paper hanging. Silver medal and 2*l*.—For the best drawings of a series of British wild flowers, to be treated for printing on china, as ornaments. The silver medal and 5*l*.—For the best design of a stained-glass window, to suit a room or passage, in the Italian style of architecture. The silver medal and 10*l*.—For the best ornamental design for an open-work pannel, in cast or wrought-iron, and suitable for an entrance gate. The silver medal.—For the best specimens of wood-carving, the production of an artisan (male or female) who is not a wood-carver by profession. Two silver medals. The object of this prize is to encourage wood-carving (which is a home occupation) as a means of employment subsidiary to other occupations.—For the best specimen of die-cutting of the human figure for stamping medals for ornamental purposes. The dies to be produced. The gold medal.—Medals of gold or silver, and honorary testimonials will be given to manufacturers and others, who shall exhibit at the society's house, in the year 1849, fine and original specimens of paper hangings. Iron and brass casting, applied to ornamental purposes. Metal figure casting. The most beautiful novelty in earthenware, marble, and slate. Best work of art applied to paper hanging.

For the best design for a labourer's cottage in the country. The large gold medal or 31*l*. 10*s*. The drawings to comprise a general plan, elevation, and section, drawn to a scale of three-eighths of an inch to the foot, together with the requisite working drawings to a larger scale, and a general specification of the internal finishing and fittings proposed. The design must provide a living room, a scullery, and three bedrooms. Presuming that in structures of this description, where the outlay must necessarily be very limited, both with a view to economy of material, and likewise to external effect, it will be considered desirable that the cottages should be erected in pairs, the wall between them containing the flues; in such cases, the details of one only will be required. The cost of a double cottage erected in Middlesex, when completed with the requisite landlord's fixtures, must not exceed 200*l*. All designs in competition for the above design must be sent in on or before the first Monday in January, 1849.—

For the best essay on the mode of arranging and constructing a farmstead, homestead, and the complete requirements of an agricultural establishment for 300 acres, comprehending the best system of convenient arrangement of the farm-yard and offices, as to draining them most simply and economically, and especially with reference to the reception of a steam-engine capable of performing the various duties of threshing, cleansing, bruising, cutting, grinding, and steaming with economy, safety, &c. The essay to be illustrated with drawings or models, to shew what degree of picturesque effect might be given to such design, subservient to strict economy, and a specification, describing the materials such buildings would be constructed with, and the reasons for their propriety. Separate drawings of the elevations of the homestead and offices, section of the ground-plans and plans of the liquid manure tank and drains are required. The gold medal.—For any material improvement in the manufacture of crown glass, with special reference to the transparency and durability of surface. A gold medal.—For the plan of a roof, composed of wood and iron, circular or octagonal, to cover the largest area without pillars, with details, specification, and estimates, and the cubic quantities of timber, with the weight of wrought and cast-iron employed. The gold medallion, the Acton premium.—For the design of the arrangements for the interior of a building to accommodate the largest audience, with the most perfect arrangement for hearing. A gold medal.—For the best essay on the means by which the roofs and walls of large buildings may be constructed so as to prevent echoes or sounds that would interfere with the voice of a speaker, also pointing out the position in which the speaker should be placed so as to be heard by the largest number of persons. The silver medal.—For the best design for a conservatory, to be executed in carpentry, combining firmness and strength of construction with lightness and elegance of form. The structure to be suitable for the gardens of a botanical or horticultural society, and adapted to the present improved state of the glass manufacture. A gold medal.—For the most simple and efficient field-gate. The silver medal.

Limpet Shells in Cromlechs.—Mr. Lukis, in the course of a paper read before the British Archæological Association, described a cromlech discovered in Jersey, and excavated by him a few months since. In it were earthen vessels, and an immense quantity of limpet shells. Referring to the latter, he said there was a difficulty in solving the question why such a mass of limpet shells should invariably be found in these abodes of the dead in Brittany, as well as throughout the Channel Islands. They were discovered in every sepulchre, in the earliest as well as in the most recent. Was this species of food sacred to the dead? Or did the devotees and pilgrims to the sepulchres of their fathers share with them their scanty fare? Certain it was that the enormous quantity of limpet shells found within the tombs, and covering the bones and skulls sometimes two and three feet in thickness, and this at considerable distances from the haunts of man, renders this subject one of curious inquiry to the antiquary.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday, the 31st ult., in No. 23 Committee-room, New Houses of Parliament; the Right Hon. Viscount Morpeth, M.P., in the chair.

Lord Morpeth rose and said,—Before opening the regular business of the day, he was called upon to mention that the Bill for Consolidating the Metropolitan Commissions of Sewers had passed both Houses of Parliament, and would in a short time receive the Royal assent. He entertained a hope that the result of the measure would be to confer upon them important advantages in carrying into effect the labours in which they had been engaged with economy, convenience, and efficiency. However, as in all human affairs, disappointment might ensue on the best-grounded calculations, he would not indulge in those calculations for the future, but would offer two or three observations on the past. He believed that seven months had elapsed since the gentlemen who had served on the united commissions commenced their labours. He need not say that many eyes were necessarily turned upon them, some of whom, no doubt, would not have been sorry to have found that their exertions for the public had failed, as it was incumbent on them that they should interfere with the old settled order of things and with existing interests. At their commencement they certainly experienced the effects of the newness of their duties, and not having possession of the legal powers to perform those duties that devolved upon them with promptitude and efficiency. Under the circumstances, therefore, it was a great tribute to their ability and zeal to find that the Bill to confirm, consolidate, and extend their functions had passed both Houses of Parliament without even the shadow of opposition. To justify this result, he had drawn up a short summary of their proceedings during the past seven months, which, with their permission, he would read to them. (This document set forth that at the outset of their labours they stopped works which were being carried on on a principle wasteful of the public money, and required the officers to give their undivided attention to the service of the commission. On the first day of their meeting, also, they took steps to obtain an accurate and authentic survey of the metropolis, to put a stop to the waste that had been incurred by works carried on in separate districts without regard to any common system of levels. This survey was now in progress with all speed, 250 men being engaged on it; and when completed, it would also serve as an aid in all new building operations, for the identification and valuation of property, assessment of rates, construction of roads, distribution of gas and water, and other important public purposes; and concurrently with this work was a subterranean exploration of the old sewers and drainage works, to ascertain their condition, and how far they may be available for future operations. Attention had been given to the worst drained places, and a new and improved mode of cleansing cesspools had been adopted, the offensiveness being diminished, the time reduced to one-sixth, and the expense to one-third. The sewers, too, had been cleansed by flushing,—on 163 miles of sewers upwards of 139,000 cube yards, or about 250,000 tons of refuse, having been removed at a saving of 38,000*l*. on former charges; but the operations had not been so extensive as might have been desired, in consequence of the unfavourable state of the weather, and the deposit in the sewers being generally copious, offensive, and injurious. Plans had been offered for the ventilation of sewers by ascending shafts; but the evidence obtained as to the diffusion of vapours from chemical works, appeared a very doubtful remedy, and did not justify their recommendation of them, considering the most effectual course to be the prevention of deposit by proper arrangement of drains and appropriate supplies of water. The system of house drainage had also largely engaged their attention, and their consulting-engineer and the surveyors had been directed to prepare approved plans of house-drains and cleansing apparatus, and their report will shortly be ready for public circulation. The application of manure and sewage-water had also received their serious attention; but they had at present only sanctioned trial works. However, arrangements had been made for supplying agriculturists with manure and sewage on the most liberal terms for the purpose of further trials; and it was hoped the progress of these works would influence the extension of others throughout the empire.) The noble lord, in conclusion, trusted that the new board to be formed would continue in the course that had been so well begun.

The state of the River Thames Water.—Mr. Chadwick drew the attention of the court to remarks that had been passed on the state of the Thames water now and formerly, and contended that no increase of injury had been experienced. An analysis of this water had been made, and it had been found to be less unfavourable than it was twenty years ago, when Dr. Bostock analysed it and reported the result to Parliament. There was, too, an absence of deposit on the banks now, for the accu-

mulation of the night, by the action of steam-boats was cleared away in the day, and in this respect they had a salutary effect not experienced at the former period. The removal of Old London-bridge had also been attended with good results, as it had increased the flow and sweep of the river. At any rate, the removal of deposit to the Thames was a less evil than keeping it under the houses.

A vote of thanks was passed to the water companies who had gratuitously supplied water for the service of the sewers for twelve months.

The Ordnance Survey of the Metropolis.—Mr. Chadwick reported, in reference to this subject, that the whole of the Westminster district had been surveyed and plotted, and that a great portion of other districts had been chained and surveyed.

In addition to the whole of the city of Westminster, they had surveyed Surrey and Kent, the lower part of Finsbury, and a great part of the Tower Hamlets divisions, embracing five-sixths of the most crowded portions of the metropolis. In fact, he might say, that five-sixths of Davis's Map of London was now covered with the works of the survey.

Sanitary State of Christ Church Parish, Blackfriars-road.—A report having been received from the surveyor on the sanitary condition of this district, and complaints having been made as to nuisances arising from the works of this commission, which had been done at the request of the inhabitants themselves, the following resolutions of the General Purposes Committee were agreed to :—

"That an application was made to this commission in January last, representing the condition of the inhabitants adjoining the boundary ditch, Blackfriars-road, in consequence of noxious effluvia arising from it, the commissioners in consequence ordered it to be covered in, and have relieved the inhabitants of that district.

"That some of the parties who signed the memorial are the parties who now complain of their prayer having been complied with.

"The commissioners having caused an examination to be made by their surveyors of the state of the sewers of Christ Church, find that those sewers contain a large amount of deposit—that noxious emanations must necessarily arise from deposit—that from representations made to the commissioners, it appears that the inhabitants have long been subject to grievous annoyances from this source; that the sewers in question have not been flushed, and, consequently, that the operation of flushing cannot be the cause of the evils complained of—that the commissioners think it right to guard the public against these attempts to attribute old evils to new operations—that the commissioners are considering the means of placing the sewers and drainage of the district in a satisfactory state, which, however, cannot be effected on any general plan until the metropolitan survey is completed; but in the meantime, the commissioners have directed their surveyor to do whatever may be practicable to afford immediate relief, though it may only be partial and temporary."

Miscellanea.

Bursting of a Reservoir.—At Over Darwen, Lancashire, during a storm of lightning and rain, one of the embankments of a water lodge, near the town, burst, rushed through the town, and into inhabited cellars, where twelve persons were unfortunately drowned, and others terror stricken, and fully persuaded that the whole world was at an end. The reservoir was constructed about four years ago, for Messrs. Shorrock, cotton-spinners. In evidence, Mr. John Isherwood, who constructed it, stated that the embankment was 14 feet high, 100 feet wide at the bottom, and 8 feet wide at the top, with a puddle wall in the centre 5 feet at the bottom, and 3 at the top. It was almost entirely swept away, carrying off the earth, stone, and sand, about 80 feet long, 50 or 60 feet in width, and 30 or 40 feet in depth. Having thus forced an outlet, the torrent rushed over the precipice in front falling about 40 feet, into a stream, conveying the water from the bye-wash to the town, and which it suddenly raised to a height of 10 or 12 feet, rushing furiously onwards to the town —tearing up the banks, uprooting trees, and carrying away hedges, pieces of timber, large stones, &c.—till it reached the village, where the more serious disasters occurred. Mr. Bury, a surgeon, stated in evidence, that he had always suspected the bank was insufficient, and that he had seen water oozing out of the bottom of it; but Mr. Evans, railway contractor, considered it equal to its situation, and its ordinary purposes. The enlargement of the bye-wash and culvert in the town, however, was recommended by a jury.

Projected Works.—Advertisements have been issued for tenders for the erection of the College of the Church of England Training Institution, at Cheltenham; by 25th inst., for the erection of a bridge, &c., over the river Bure, Great Yarmouth; by same date, for the erection of a workhouse, at Wokingham, Berks; by 19th, for the erection of a number of houses and carriage sheds for the South-Eastern Railway Company; and by 22nd, for the building of a police station and lock-up house, Shotley-bridge, Durham.

Great Destruction of Buildings by Fire.—At Albany, the capital of the state of New York, on 17th ult., most of the commercial portion of the city, with fifteen or twenty densely populated streets and squares, were in five hours reduced to ruins, extending to more than half a mile, and covering an area of 200 acres, every foot of which was densely covered with buildings. Four-fifths were brick, most of them large and substantial; many three and four stories high. The latest accounts represent that 439 valuable houses were destroyed; besides a great many canal boats, and the Columbia-street bridge, and market. Many lives were lost, and the destruction of property amounted to more than 3,000,000 dollars, or 600,000*l.* sterling. —— Constantinople could not be behind hand of course, while so splendid a conflagration was in progress; so we have now, as usual, to add to the preceding another of those indeed tremendous fires which are the perpetual curse of this wooden city: in truth, it is wonderful to find it still among the list of existing cities at all. On the present occasion 2,500 shops and bazaars, and 500 houses, have been utterly consumed, and property to the value of three millions sterling destroyed. There were a number of fine buildings, palaces, mosques, khans, baths, and granaries, among those burnt, besides thirty laden vessels, the Government woodyard, and wax manufactory, &c. A great many lives were lost, and many wealthy people ruined. ——The great comet, we perceive, has appeared! it will have much to answer for, no doubt, ere it vanish.

How they Build Houses in New York.—There was once a gentleman who, having moved into a house in Hudson-street, tilted his chair backward against the front wall after dinner, as all Americans do, to enjoy his cigar. The dining-room was on the second-floor. The wall gave way behind him, and he was spilled into the street. He was an alderman, and luckily pitched upon his head, or perhaps he might have been hurt. He had a two hours' headache as it was. When he sought damages at the Court of Common Pleas, he was nonsuited, on the ground that living in a house in New York he must have been aware of the peril, and was not entitled to compensation for harm of his own wilful or careless seeking.—A washerwoman in Canal-street, going to drive a nail into the brick wall of the next house, thereto to attach her clothes line, struck the iron through into the skull of the tenant, who happened to be taking his afternoon nap in the posture of the sufferer of the preceding story, and killed him as dead as Sisera. She was tried for manslaughter therefor.—*Boston Herald.*

Timber Stealing in the New Forest. —A thorough investigation appears to be going on into the disposal of the timber in the New Forest, which is surrounded by ostensible timber-merchants, some of whom have been little better than receivers of stolen timber. It is rumoured that Government mean to disafforest the district altogether. The election of vacant offices is in the meantime suspended, and the books of the deputy surveyor, it is said, have been seized, and various other inquisitive measures adopted. There seems some mystery about the transaction.

Caen Stone.—Several correspondents have addressed us on the subject of Caen stone (its value or otherwise), and we are disposed to give consideration to their inquiries at a convenient opportunity. A visit to the *quarries* will alone enable us to reply as to the inquiry, "Is Mr. A. able to send us as good stone as Mr. B.," and this we may be led perhaps to make. We quite agree with the very eminent architect who is amongst our correspondents on the subject, that it is one of very considerable importance. Like most other stone, it needs great care in selection.

A Pattern for Employers.—At t dinner annually given by Mr. Pemberto Leigh to his workpeople at Hindley, ne Wigan, Mr. Leigh has announced a plan which he shall endeavour to instil a prudenti spirit of saving into the minds of his d pendents. On the Monday following, should place to the credit of every one of h workmen, in the Wigan Saving Bank, 2 and when he had done so, they would ha perfect control over that sum. Further should not interfere, as every man had a pe fect right to do what he pleased with his ow They might draw it out and spend it if the thought proper; for, after he had given it t them, it was their own, and he wished n further control over it. But he advised the to add to it; and as an encouragement to d so, for all sums deposited by the people durin the first year he would add double the amoun as a gift. He said he should interfere n further in the matter, but leave his agent t carry out the plan he had described.—*Bradfor Observer.*

Novel Application of Glass.—We hea that a glass manufacturing firm at Birmingh ham are now engaged in the manufacture of pair of glass doors, the framework of which i of course, wood. On either side are two pilas ters composed of crystal glass, fluted with gold The lower panels are of silvered glass, each ornamented by a centre star, richly cut. Th upper panel is of the large dimensions of fou feet by two and a half, and is of plate glass with an etched border. The upper portion o the doorway is inlaid with richly cut glass, and the entablature is composed of crystal and plain glass. The whole is surmounted by a large shell, and on either hand are vases with flowers &c. The dimensions of the work are seventeen feet by ten.

The Fire Annihilator. — The "Inventor and patentee" of this machine has addressed a letter to us in reply to "Philanthropist," but does not give any sufficient reason why, if the invention be really useful (as it seems to be), it should not be made available at once. He says: "But, Sir, how, if after due knowledge of the existence of the discovery of easy means of subduing fires, nay, conflagrations, we should again hear repeated the discouraging decision in a powerful quarter I will omit to name, 'We are perfectly satisfied with our own means of extinguishing fire?' Then surely the people's ire will rise, and then will be understood how the 'slings and arrows of outrageous fortune' have been wielded against the 'fire annihilator.'

Landlord and Tenant.—Mr. Clarke, a sculptor, rented a house in Manchester of a Mr. Holford, agreeing to pay rent in advance on due notice. During the tenant's absence at Sheffield, however, the rent was called for in advance, without due notice, as alleged; and the property on the premises was sold at a great sacrifice by an auctioneer, said to be ignorant of its worth, sculpture and other articles, valued at 400*l.*, yielding only 60*l.* In an action brought by the tenant at the Northern Circuit, held at Liverpool, such was the plaintiff's case; while the defendant alleged that due notice had been given, and the property fairly appraised, though few purchasers could be found. Verdict for plaintiff, on the ground that no rent was due, and that the value of the property taken was, with the fixtures, 275*l.* The plaintiff being entitled to double value, the amount received will be 550*l.*

Marble Capitals.—A number of Corinthian capitals (both of columns and pilasters), sculptured in marble, have been sent to England to find a purchaser, and could be had cheaply. They were originally made, if we are rightly informed, for the mausoleum of Marshal Vauban, but were not used.

Fatal Accident.—At the new University hall works now in progress at Gordon-square, London-wall, seven workmen having suddenly seated themselves, on Saturday last, on some boards resting on a pole 7 inches thick, let 4½ inches into the wall, and attached to a like vertical pole at the opposite end, their weight, added to that of a number of bricks, broke the horizontal pole near the end attached to the vertical one, and precipitated the poor fellows a depth of 40 feet, together with bricks, scaffolding, mortar, &c., and killed one on the spot, fractured the skull of another, and more or less injured all.

"DAVIES'S MAP OF THE BRITISH METROPOLIS" is now before us, and, from the style of its execution and the labour and care evidently displayed in shewing all the recent alterations and improvements made in this vast city, is entitled to praise. It has not only many novelties, but it is clearly and beautifully executed, and reflects great credit on the industry, skill, and enterprise of the engraver and publisher.

BLIND BUILDERS,—VERY BLIND.—Tenders for works to be done in repairing a house, Russell-street, Bloomsbury, for Mr. Kirby:—

Lawrence	£218
Masters	181
Wood	174
Johnson	172
Potter	165
Gowing	145
Jones	139
Lee	95 ! !

[Advertisement.]

TO THE EDITOR OF THE BUILDER.

SIR,—In reference to Nos. 284 and 285, pp. 343 and 351, of your papers of the 15th and 22nd July last, in which Messrs. White and Sons, of Millbank, point out the extraordinary strength attaching to their cement, designated by them as "Portland;"—that no doubt may be entertained as to the originator of the Portland cement, I beg to state my father first introduced it in 1813, and afterwards patented it, as "The Portland Cement," in 1824, and that no other patent has ever been obtained for manufacturing the article.

Since the experiments alluded to have been advertised, I have been induced to make a few experiments in the Portland cement, as patented by my father, and now manufactured exclusively by him at Wakefield, and by me at Northfleet. Messrs. White and Sons profess that their cement—which, if I am correctly informed, should be called "Frost's Cement"—is very superior to the Roman. Be that as it may, they cannot claim any invention of their own in cement; their knowledge of manufacturing has been either bought or borrowed, and no merit is due to them in the manufacture of the article.

As regards the experiments publicly made by me this week at the works at Northfleet, a block of cement manufactured by me, at fourteen days old, of the same size as Messrs. White's, bears a pressure of 89 tons, and without being at all affected by the pressure; whereas the cement manufactured by Messrs. White and Sons is announced to have gone, for all practical purposes, at 56¼ tons, at the age of thirty days. I have also made blocks, from one cement to ten of sand. The one of cement and three of sand, at the age of fourteen days, bears a pressure of 5 tons more than Messrs. White's cement, as described in No. 12, at fifty-two days old; and as an experiment of the strength and adhesiveness of the patent Portland cement, I recently attached forty bricks to a wall, one after the other, and exhibited the same, on the 29th ultimo, to Mr. Homan, of Upper Thames-street, and other gentlemen.

The building public will have an opportunity, on Monday, the 18th inst., at twelve o'clock at noon, of judging which is the best cement, as experiments of the cement manufactured by me will then be publicly made at the wharf of myself and partners, in Great Scotland-yard. I trust Colonel Pasley, who has written on cements, Messrs. White and Sons, and their friends, and yourself, will do me the favour of being present thereat.

I am, Sir, your obedient servant,

WM. ASPDIN.

Northfleet Cement Works, September, 1848.

TENDERS

For the Holborn Union Workhouse addition.

Havnes and Co.	£1,797
Crane	1,587
Copper	1,553
Corby	1,529
Ward	1,496
Pilbeam	1,489
Glenn	1,424
Burton, Thomas (accepted)	1,371
Willson	1,297

TO CORRESPONDENTS.

"*J. T.*"—The exhibition of the drawings at the Government School of Design will probably take place about Christmas.

"*D. R.*"—Glue is better than paste.

"*P. A.*"—The material of the glaze used in pottery is very simple,—we believe a preparation of lead; but we cannot say where it is procurable:—probably of any operative chemist.

"*Received.*"—"S. W.," "J. R.," "A Learner," "S. W.," "W. G.," "B.," "J. B.," "M.," "C. T." (shortly), "R. S. W.," "Lectures on the Nature and Use of Money," by John Gray (Edinburgh, Adam Black; London, Longman and Co.); "The Assistant Engineer's Railway Guide," by W. D. Haskell, C.E. (Williams and Co., Strand); Osmond's "Christian Memorials," Part V. (Masters, Aldersgate-street).

*** Through the carelessness of a messenger, a parcel containing several communications (including notice of Remington's bridge) was lost. Correspondents who have received no acknowledgment will find a reason in this circumstance.

ADVERTISEMENTS.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. & W. H. JACKSON beg to call the attention of builders to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding Crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, and ORNAMENTAL GLASS supplied at the lowest terms. Lists of prices, and every information, can be had on application at their warehouse, 317, Oxford-street.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about 15 per cent. has been made on the usual Glazing sizes.—Sheet, Crown and Ornamental Window Glass.—Warehouse, 35, Shoreditch, London.—ROUGH PLATE GLASS.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet Glass on hand, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.

THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s. per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper hangings from 1s. per piece upwards, of very superior description.

STAINED GLASS.—To the Clergy and Architects.—MR WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other Saints some having canopies and pedestals, with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tablets.

Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 13, Foley-place, Langham-place.

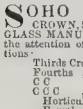
SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:—

Thirds Crown, per crate 18 tables			£3 2 6
Fourths "	"	"	2 7 10
C C "	"	"	2 1 0
C C C "	"	"	1 18 0
Horticultural, 13 oz. sheet,	per crate,	24d. per foot.	
Fourths,	ditto	ditto 24d.	"
Horticultural, 16 oz. ditto,	ditto	28d.	"
Fourths,	ditto	ditto 32d.	"
Horticultural, 21 oz. ditto,	ditto	42d.	"
Fourths,	ditto	ditto 54.	"
Ditto,	26 oz. ditto,	ditto 64d.	"
Ditto,	32 oz. ditto,	ditto 80d.	"

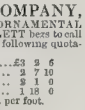
Ornamental Glass of very superior patterns, from 1s. 3d. per super. foot, cut to order; or 1s. in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate ¼, ⅜, ½, and ¾ inch thick.

CHAS. WM. WATERLOW,



MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

VENTILATION.—The attention of Architects, Builders, and the Public is solicited to GRANT'S PATENT SELF-ACTING VENTILATING APPARATUS, and also the ROTARY WINDGUARD, for the prevention of downward draft and cure of smoky chimneys.—Manufactured solely by the Patentees, LAMBERT and GRANT, 21, Elizabeth-street, Eaton-square.—L. and G. warrant the above in all cases where they fix them

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot, cannot be deranged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized, 25s each; ditto, for kitchens, 40s. To slip on chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 31, Great Russell-street, Bloomsbury, where it may be seen and tested.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 30, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch. to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

REDUCED PRICES.

WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickmakers' Arms. SEASONED FLOORING, MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panelled, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of fine HONDURAS and SPANISH MAHOGANY and WAINSCOT always on Hand, suitable for Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all persons requiring well seasoned materials at moderate prices, at T. C. WILSON'S Timber-Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon working the same it has proved otherwise.

MUIRS PATENT  PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle, Boarded, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment, for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Deptford. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad street to No. 41, GRACECHURCH-STREET, CITY.

TO ARCHITECTS AND BUILDERS.

JENNINGS'S WATER-CLOSETS have given the greatest satisfaction to all who have tried them; they are in set sum, lie in their construction. The water is retained in the bowl by the compression of an elastic tube, the raising of the clo-et-handle releases the tube, and the water falls with force from the basin through the tube direct into the trap. As no container, or valve chamber, is required in the construction of this closet, all displacement of impure air is avoided when the closet is used.

JENNINGS'S INDIA-RUBBER TUBE COCKS have been tried in Government and other Works, and found to answer most satisfactorily.

The charge for JENNINGS'S SHOP SHUTTER SHOE and FASTENER is 3s. per Shutter, about half the cost of the clumsy Bar.

Apply at 29, Great Charlotte-street, Blackfriar's-road,

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 98, REGENT-STREET and 131, CHANCERY-LANE. Patent sealed on the 11th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hanging and Sheathing the Edges of Wood Lathe with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantee the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel work and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c. FOR SHOP FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards, handsomely engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price.

Designs furnished and estimates given.

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Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

RICHARD A. C. LOADER respectfully solicits all parties about to furnish, to inspect his stock, which will be found to consist of the newest designs of furniture, of the best seasoned materials.

	£ s. d.
Spanish mahogany easy chairs, in real morocco leather, spring seats, with continuation mahogany mouldings to the backs	2 12 0
Mahogany sweep-end chairs, with Trafalgar seats, stuffed with all best horse hair	0 14 6
Sets of six and two elbow mahogany roll-over top Trafalgar chairs, in hair seating	5 5 0
Solid rosewood cabriole drawing-room chairs, all hair stuffing	0 18 6
Rosewood couch to match, with cabriole front, spring stuffing	4 17 6
Solid rosewood chairs, stuffed, and covered in damask	0 13 6
Four-foot solid mahogany loo table, French polished	2 12 0
Four-foot fine mahogany loo table, with star top, very elegant	4 14 6
Five-foot ditto or sacking bottom four-post bedstead, with eight-foot mahogany pillars and cornices, or poles	4 14 6
Four-post mahogany bedstead, without cornices	2 12 6
Japanned French bedsteads, all sizes and colours	1 3 6
Superior ditto	1 9 0
Mahogany half-tester bedstead, with cornices	3 10 0

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ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, Buildings, Plants, and Views of every description. Lately published, a superb manner, by GEORGE CHILDS, 12, Arundel-street, Pentonville.

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MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "Lond n as it is," offers his services in Tinting Elevations, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

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WANTED, a large Quantity of SECOND-HAND WHEELING PLANKS and BATTENS, in good order, delivered to any station on the Great Western or Bristol Railways. The same to be from 10 to 12 feet long. Application to be made to Mr. READ, at the Railway Works, Cow bridge Wells.

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THE Advertiser would take, weekly, from 500 feet upwards of the FLAMBRIAN PINE TIMBER of a respectable merchant or consignee who would accommodate him with the LOAN of 500*l.* on the security and for the interest of ample value in the 3½ per Cents, and a life policy for 1,000*l.* in a first-rate assurance office, kept up about twelve years. This is a *bona fide* affair, and well worth the attention of any party who can meet the advertiser's views.—Address, D. C. A., Deacon's Coffee-house, Walbrook.

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THE Advertiser intends to erect five attached Houses a short distance from town, on a frontage of 145 feet by 200 feet deep, at a cost not exceeding 2,200*l.* for the whole, including garden walls and finishing; the five houses to occupy a frontage of 120 feet, the centre one being recessed 15 feet from the others; each house to have a basement, with the usual offices; the ground floor good front and back parlours; the first floor, two bed rooms, a large dressing room, and bath; the attics, one good floor. Any gentleman having a set of drawings of the above description, with good brick elevation, and disposed to furnish the Advertiser with a set at moderate price, if approved, will please to apply, by letter only, to G. X., 124, Leadenhall-street, City.

WM. LAWRENCE and SONS, Builders, Pitfield-street, Hoxton, 30 Broad-street, Cheapside, and Pitfield Wharf, Wharf-road, Regent's-canal, beg to acquaint their friends and connections that they have REMOVED their Manufactory and Counting-house to the Wharf. All communications are requested to be addressed, Pitfield Wharf, Waterloo-bridge.

UNDER an Assignment from the Sheriff of Middlesex.—To BUILDERS and PLUMBERS PLUMBERS' BRASSWORK of every Description.—4 Cocks, 2ds. per dozen; 4 Ditto, 17s.; Pan Closets, complete, 27s.; 2½ Pumps, at 12s.; 3 in., 42s. 6d.; Best Spring Valve Closet, blue bason, 2*l.* 10s. Every article warranted best London manufacture. Apply Mr. J. READ, 30, Brownlow-street, Drury-lane.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 30, Hammersmith-road, 67, 84, Mortimer-street, and 18, Cross-street, Finsbury, begs to remind the public that for eight years past he has been the only Meter-maker who has ever had the honour of receiving a Premium at the Great Exhibition, and that he has received the same honour at every Exhibition since. Testimonials of the highest character may be obtained at either Factory.

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RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and square Pipes for Warehouses, Stables, &c.; Soil Pipes, Sash Weights, and other Castings; Iron Work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Pipes cut and fitted together. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gas-fitters, and Manufacturers generally.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and sends without injury—do not become hard or stiff in any temperature that can be applied to them, and therefore require no protection of colder pipe, as is usually done with pipes for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass screw-pipe and jet complete, each 1*l.* Copper and Lead Pipes, Sash Weights, and other Castings; Iron Work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Pipes cut and fitted together. Contracts taken to any extent.—JAMES LYNE HANCOCK, Goswell-road, Finsbury, and Basinghall-street, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hotels, and sheet pipes, 1 inch and upwards, manufactured in thicknesses for all kinds of joints, and other purposes.

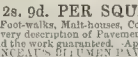
GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to draw the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which has been found perfectly sound and BUILDING PURPOSES, especially for hospitals, gutters being cheaper and more durable than zinc, and free from other metals, called nails and screws. It has also been found the best material for roofing the new Houses of Parliament, ship building and timber sheds in her Majesty's dock-yards of Deptford, Woolwich, Chatham, and Pembroke, and for many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for Hoarding for Fences, temporary purposes of buildings, chain and wire rope bridges, corrugated floors, shutters, &c. &c. Specimens and prices may be had, and orders received at the Offices of the Company, No. 3, Mansion House Place, City—London, Works at Millfield, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

FIRE-PROOF DWELLING-HOUSES, &c. —This important desideratum is secured by the use of DIXS' PATENT PERFORATED FLOORING and CEILINGS which are applicable to private houses, warehouses, mills, and all descriptions of public and large buildings, and are the cheapest and most effectual fire-proof materials ever brought into use, by the use of which the ravages of fire are effectually prevented, while the security and durability of the building is much increased. Plans, specifications, and estimates for fire-proof buildings of every description, and for the application of the Patent, are prepared by Messrs. DIXS and BARRETT, Architects and Surveyors, and Patentees, and every information and assistance rendered to Builders and Surveyors desirous of introducing the system into buildings about to be erected. Prospectuses, Messrs. FOX and BARRETT, Leicester Chambers, 4, Leicester-square.

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BIELEFELD'S IMPROVED PAPIER MACHÉ, which has almost universally adopted for architectural purposes, is now in extensive use for the Houses of Parliament, Buckingham Palace, and other Royal residences, and has received the approbation of Her Majesty's Commissioners of Board of Works, both for its durability and economy, as the most complete substitute for stone, as will be seen by the new Throne Room, the Royal Gallery, and Prince's Chamber, at the Houses of Parliament, and the Royal Library at Buckingham Palace. Many other of the Royal Palaces and Houses, as well as at the British Museum, and Pantheon, Oxford-street, have been decorated for some years, and have proved to be as well adapted for the most severe climate of this country, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the paper maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PLAYSTOW, 1, LONGCAUSE BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering roofs and arches.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Fire Proof purposes, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c.—Manufactured only by Messrs. ORSI and ARMANI, Sculptors and Decorators, by whom it may be obtained at the Offices, 6, Guildhall Chambers, Basinghall-street, City.

VASES.—To Noblemen and Gentlemen requiring VASES and GARDEN ORNAMENTS. J. M. BLASHFIELD, Commercial-road, Lambeth, has a few fine Vases, Pedestals, &c., which are to be disposed of at a very moderate price; they are manufactured in the best manner, and well stained.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform the Public that he has made arrangements for the SUPPLY of the ANSTONE STONE for all public purposes; and which can be had on the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.

August 9, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone is composed in the quarry in the finest state. This valuable stone, so celebrated for its durability, colour, and texture, is still known under the name of Anston Stone, and is preferred by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone Quarry, belongs to the same Estate from which the New Houses of Parliament are being constructed, a Bed or above being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

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SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK in all its branches, and of the most fashionable and modern manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the highest degree of skill and correctness.

FONTS from 5*l.* upwards.

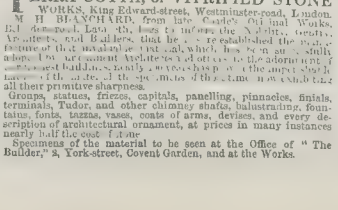
MONUMENTS and TOMBS in great variety of design.

The most Extensive Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-bar Chimney-pieces from ..... 12s.
Vein-Marble ..... 40s.

RUSTICATIONS Executed for in which Branch S. C. has had considerable practice. Fairings fitted up, &c. &c.
Goods Landed, Housed, and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, in the great improvement made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.

Westminster Marble Company, Earl-street, Millbank.

WELSH SLATE SLABS of the Finest Description, and planed both faces, supplied to the Trade at the same prices that rough-dressed Slabs are being sold at the principal Slate Wharfs in town. A large discount is also allowed, or, in lieu of discount, parties ordering 150 feet and upwards may have them delivered at the Slate Wharf, Lambeth, free, to any canal or railway point within fifty miles of London.

N.B. Whole cargoes direct from the Quarries. Enamelled Slate Chimney Pieces, Slate Mural Tablets, Baths, &c. &c.

Address, Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London. M. H. BLASCHARD, from late Coade's Original Works, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has established the manufacture of that invaluable material, which has been in use about 100 years, and retains its colour as the adornment of buildings, totally unaffected by the atmosphere, and is now in the first class of the principles of the time in existence, all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

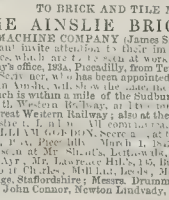
Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

THE GROTTO in OATLANDS PARK will be OPENED for TWO DAYS at the end of the month for the Benefit of the Weybridge Parochial Schools. Particulars of the Tickets, &c., will be advertised, as it may be had, when read at the Schools, Weybridge; and of the Pewsleys at the Westminster Oatlands is situate half a mile from the Weybridge station of the South-Western Railway. Trains leave the Waterloo-bridge station at 30 minutes past Ten, 90 minutes past Twelve, 10 minutes past Two, and 40 minutes past Four; and return from Weybridge at 30 minutes past Three, at Four, 27 minutes past Five, and minutes past Eight.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the first description, 2s. 2d. per square foot; "Seconds," at 9d.—N.B. These Tiles being manufactured upon the principles of the ancient encaustic, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for the future manufacture of the Tiles to be limited to specimens to be seen in London, at Messrs. GRIFFIN and GRELLIER'S Marble Wharf, Bridge-road, Waterloo-bridge; and in the country, at the Works, Palace row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) have the attention of brick and tile makers to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193a, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scott has been appointed manager in the room of Mr. John Ainslie, and will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, or at the temporary shed at the Ealing station of the Great Western Railway; also at the Polytechnic Institution Regent-street. Illustrated Circulars may be had, and orders received by Mr. WILLIAM GOODWIN, Secretary, at the offices of the Company, London, Post, Pipe-lith, March 1, 1848. The machines may also be seen at Mr. Shanks, Lothian-road, Edinburgh; Mr. Roberts, Bodles, Ayr; Mr. Lauchlan, Bodles-hill, Dalkeith; Messrs. Graham-street, Glasgow; Mr. Rod k Charles, Mill-hill, Leeds; Messrs. Dean and Faulkner, Bridge, Staffordshire; Messrs. Drummond and Son's, Dublin and Mr. John Connor, Newton Limavady, County Derry.



No. 15.

	In Lots	At Tenfold
Best and Red Copings, 6 and 9 inches	2*l.* per yard, and 1*l.* 5*d.*	3*l.* 5*d.*
Ditto ditto 12 inches	2*l.* 10*d.* per yard, and 1*l.* 5*d.*	3*l.* 5*d.*
Ditto ditto 18 inches	3*l.* per yard, and 1*l.* 5*d.*	4*l.* 5*d.*

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is peculiarly superior to every other for the purpose of making glass, or artificial glazes, save for colours, purposes, tables, and every part of house, for plain or ornamental paving, for erecting sea-walls, harbour and other strong works, &c. To be had GENUINE of THOMAS PEAKE proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tile-yard, Stafford-street, Dublin, where could be supplied in any extent, and best delivered to any part of the world. Price lists contain prices by rail, steam vessel, or other. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

79, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS During Repairs. SCAFFOLDING and every description of ROPE used by Builders supplied on the lowest terms. Marquees and temporary Awnings on hire. Horse Clothing. Orders punctually executed at WILLIAM PEARCE'S, 16, Princes-st., City, Manufacturer to Appointment, to Her Majesty's Honourable Board of Ordnance.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Ornamental Pleasure Grounds Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Ornaments, Chimney Shafts, Parapets, Balconies, Terraces, and Garden Walls, Capitals, Trusses, Consoles, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at Half the usual Prices.—25, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

TO THE BUILDING PUBLIC

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perfect in Relief, Trusses, Consoles, Trophies, Wreaths, Medallions, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Scrolls, Bed-moulds, Paterne, &c., &c., 36-inch Centre, Flower, Bead moulds, &c. Every description of composition. An assortment of Sand always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parkers-street, Drury-lane.

UNDER BRITISH AND FOREIGN LETTERS PATENT.

VALUABLE INVESTMENT, by Partnership or otherwise. Absorbent and soft Stone indurated, rendered impervious to wet, frost, vermin, &c., and polished as high as Marble, for all purposes. Chalk, Sand, Plaster, Wood, Carton-Roof Sheeting, &c., treated equally as successfully.—Established Works, a la Malmaison, near Caen, and at Tonbridge Wells; where orders are executed much cheaper than other Stone, &c.—HUTCHINSON and Co., 6, Clement's Inn Passage, Chambers, 2, Whitefriars-street, Fleet-street, London.

N.B. Licenses granted.

TO BRICKMAKERS, PLATTERS, AND LIMEBURNERS.

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in a third the period, the saving in Manufacture, from the great saving of Fuel and Labour, will enable the Consumer to purchase considerably Reduced Price, and realise a Larger Profit himself.—Particulars may be obtained by application to Mr. CHARLES J. BAKER, 18, Lower Brook-street, Grosvenor-square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

The Builder.

No. CCXCIII.

SATURDAY, SEPTEMBER 16, 1848.

BRIDGEWATER HOUSE, a new residence for the Earl of Ellesmere, was long talked of, but through a variety of circumstances was not commenced till the month of July, in 1847. The increase is now completed; the chimneys are being capped, the carving cleaned off: and we to-day lay before our readers an engraving of the west front,* and proceed to give them some particulars of the structure, premising, for the sake of our country friends, that it stands on the east side of the Green-park, adjoining the well-known Spencer-house, and that at its south, or entrance front, is in Cleveland-row, so called from "that beautiful lady," Barbara, duchess of Cleveland, to whom the worthless Charles II. presented Berkshire-house, which formerly stood there.

The situation is one of the finest in the metropolis,—the view from the state rooms of the new house, over the park and towards Buckingham-palace, is perfectly beautiful, and, in point of locality, the house is not to be matched, including amongst its neighbours, together with the buildings already named, Lansdowne-house, the residence of the tasteful and excellent Duchess of Sutherland, St. James's Palace, and Marlborough-house.

The plan of the Bridgewater House approaches a square; the south front is 133 feet 6 inches, from east to west; and the west front, shewn by our engraving, 132 feet from north to south; and there are two small courts within the mass to assist in lighting the various apartments. It was originally proposed to erect a square tower at the north-east angle of the building, but this is abandoned, at least for the present, and probably without detriment to the effect of the building, excepting as seen from Piccadilly. The palace-residences of Rome and Genoa furnish the general types for the elevations, skilfully combined in good proportions: the details are mostly very elegant, and the general effect good.

The projection of the wings, it will be observed, is very slight: the reticulated rustication of the coins is wide, and, being most carefully drawn, gives considerable richness without coarseness. It is by the careful outlining of every moulding, and the repeated study of every ornament, no matter where it is to be placed, that Mr. Barry succeeds in giving to all his buildings that degree of finish and completeness which distinguishes them. And we would here advise our younger readers to take a leaf out of the same good book. Don't be too soon satisfied, either with your first design for the whole, or your after drawings of the parts. Try again; weigh and compare; don't be afraid of time or trouble: orders or bad taste in stone remain long to reproach and annoy. And, further, remember the says what Michelangelo said to an acquaintance, who, finding him, some weeks after a statue had been apparently finished, still touching upon it, reproached him for wasting his time on trifles. This, or something like it, is what he said,—"My good friend, these trifles of which you speak, are the little matters which make all the difference between excellence and *perfection*; and perfection, surely, is *no trifle*."

The chimneys are brought to the angles, and made to form architectural features. The main cornice is very rich. The dolphins' heads in the corona are scarcely what they should be: they are too skull-like. The string-course under the two-pair windows, a folded ribbon, is very elegant. The dressings of the windows of principal floor include rich swags of flowers: the shield in each window-head displays two E's entwined *dos-à-dos*; and in the panel beneath is the suggestive but not very luminous motto of the Duke of Bridgewater, *Sic donec*.

The south elevation differs from the west in having no projections of the front wall, the rusticated coins at the extreme angles only, and a series of nine windows, exactly like those in the centre part of the west front. Vases surmount the dies of the balustrade. The entrance-porch, not yet built, will be in the centre, and be surmounted at the angles by similar vases. The whole of these fronts, and part of each of the other fronts, are faced with Portland stone.

In examining the interior of the building, when finished, one point will particularly force itself on the attention, and that is the care which has been taken so to plan it, that the freedom of access to his fine gallery of pictures, which Lord Ellesmere proposes to grant the public, may not be interfered with by the private requirements of the liberal owner. The ground-floor, 20 feet 6 inches high, contains within itself a perfect residence—drawing-room, dining-room, library, ladies' rooms, chamber and dressing-rooms, &c. The first floor, with the exception of part of the east front, is wholly appropriated to state rooms,—dining-room, drawing-rooms, and a picture gallery which will scarcely have an equal in the metropolis. Visiters will pass through the hall from the south entrance, and up the grand staircase (we hope this will be light enough, by the way) to this gallery, which is quite on the opposite side of the building, without in any way interfering or trespassing on the residence of the family.

The gallery occupies the whole of the north side of the house, and is carried out a few feet beyond the east wall of the ground floor, additional length being wanted, and the ground below being confined for the stable purposes. This extension is carried on stone landings and iron cantilevers, which come through at least 20 feet, and are there securely tied down.

The height of the gallery is 32 feet, and the width is the same. The roof is formed with iron principals, elliptical outside, with a horizontal tie about midway to form a flat ceiling inside, with coved sides, from which the gallery is lighted. The walls will be perfectly flat from the level of the dado up to the cornice, and in order that no hanging chandeliers may obstruct the view in any part, an arrangement will be made to illuminate the gallery at night, which is somewhat peculiar. A burner (probably gas) will be fixed *outside* each light in the cove with a strong reflector, by which means, further, the heated atmosphere consequent on the number of lamps required to shew the paintings properly will be avoided. A telescope tube will admit of the standards being put out of sight from within the gallery during the day, and avoid the obstruction of sun-light, and a gallery is formed externally to give easy access to them.

On the east side of the building previously referred to a mezzanine is introduced, which is appropriated wholly to the ladies' maids, and over this story are the washhouse and laundry. The accommodation and separation of the different classes of servants is a matter of some difficulty in a large establishment.

We will only further mention at present that air shafts and ventilating flues appear to be provided in abundance; that there is no timber bond or plates used; that the ground-floor is wholly arched with brickwork (4 inches in cement), and that the corridors both on the ground and first-floor, which promise to be successful in effect, are also vaulted with brickwork, instead of having the vaultings formed unreally, as is usually the case, with lath and plaster.

The Messrs. Baker are the builders employed, and we may mention that the work is being done, not by contract, but for agreed prices by measure.

The coachhouses will be on the east side of the residence, and the stables will be *above* them; the mode of access for the horses being an inclined plane.

The ground next the park front will be laid out as a garden in geometrical beds, with a terrace next the house paved ornamentally: and we have now probably said enough to shew that Bridgewater House promises to be both a commodious and noble residence, and a fitting receptacle for that important collection of works of art, in which, thanks to the liberality of its owner, the country at large will have an interest.

* See p. 451, in present number.

ON THE INFLUENCES WHICH TEND TO RETARD THE PROGRESS OF THE FINE ARTS.*

When we reflect how many thousands of pounds have been spent within these last few months on old paintings, and the length of time it takes under the ordinary patronage of modern art to disburse an equal amount, we cannot but deprecate to the utmost extent in our power this most unpatriotic procedure, especially when it is known how much is disbursed on the veriest rubbish, which cannot boast originality even in their canvass. It is, we consider, as culpable as that one should fill his conservatories with choice exotics, leaving all without that is indigenous to his native soil to waste and ruin. Is it at all probable that English art would have been in a more flourishing condition had the thousands or the hundreds of thousands that have been spent upon old masters been devoted to the encouragement of young scholars to become new ones?

To collect the curiosities and remains of the art of former times in museums or galleries may be well enough, but to surround oneself in daily life with such objects is nothing less than to abide in the tomb of the past. For our own parts we would prefer dwelling among those images which should laugh as they kept time to the jocund yet earnest steps of progress. Fashion, however, makes a sedate countenance,—for who dares to laugh at the tyrant?

Let us, then, since we have intrenched ourselves against antiquity, endeavour to remove this barrier against progress—for such we consider this propensity—to which the archæological taste, which has made so many converts of late years, is very nearly allied. This certainly may be serviceable to history, and afford lessons that we may profit by, but we believe it to be oftener detrimental to progress. It may be observed that the earth in past times was pervaded with a life differing in its features from the present, and when its circumstances changed, vitality also assumed new forms of being: think you that the petrifaction from which our inferences are drawn would be adapted to the new conditions of existence? So in the old world of human affairs the stratum of circumstances, and the ideas which

* See p. 434, *ante*.

were rooted in it, have undergone change. Ancient art, too, obeying the mutability of things, only leaves its fossil impression after it has performed its part; and if the real intention of archæology be the revival of the past, we predict that the attempt will be abortive: it will at most possess the feebleness incident to the imitator. In order to invest it with vitality we must again recall the spirit to the lifeless body, which we conceive to be utterly impossible. This, as all other fashions, must have its day, and clip the wings of progress; weariness, however, will come upon antiquarianism at last, and that spirit which for a time appears to retard, will but perhaps ensure in the end the universal conviction that all our energies must be directed forwards.

In briefly reviewing the various zones or lines of demarcation in society which constitute, in the aggregate, the public, it was found that in the lowest, all the education it receives is the discipline of evil influences, and no demand upon the fine arts emanates from it. From this melancholy condition we passed to consider the working class, in which such rapid advances in education have been made, and whence, there can be little doubt, a demand upon the arts would issue if means were devised for cheapening them by all worthy expedients.

In the next class that came under our consideration,—viz., the middle, we found an appreciation of the fine arts very general; the demand which it makes on them is the most considerable of any, yet its extent and character were both limited and lowered, to what it is conceived it might be, were it not for the striving after ostentatious displays.

And lastly, the aristocracy, in which this characteristic also prevailed, and to which may be added, as an aggravation, another of the follies of fashion, we mean the connoisseurship which can only affect to admire and purchase that which is beyond the means of the vulgar, which seems to partake very much of the feelings and consequential air of the schoolboy with his watch, more for show than any need he has of it. We see, then, that in the educated classes a taste for refined pleasures is observed—whether it be vital, or only that they feel they ought, for a similar reason that the waist of the English and the feet of the Chinese women are pinched, may create a doubt in the minds of some, but for our own part we lean to the latter hypothesis, and believe that the general routine of public education, though improved of late, is not, as yet, vital. It is directed more to the burdening of the memory than the development of the rational, and raising the æsthetic faculties.

What does the education in the fine arts amount to, in any class of the community, but to imperfect copying? Principles are, for the most part, quite out of the question; and what more is it than this that the aristocracy receive in particular, that it should assume the legislation of taste for others? There are numbers of the middle classes whose callings must necessitate a greater degree of practical knowledge in the arts.

We have never been able to discover that our great scholastic institutions have been famed for the instructions which they communicate in the arts; why, then, should the nobility assume superiority of judgment in this respect? The course of study which obtains the degree of connoisseur is something like the following:—To have attended, annually, sales of, and to be the purchaser of, old masters, Etruscan vases, Egyptian mummies, and Elizabethan furniture; to have inserted in one or two windows of the mansion, a few pieces of old painted glass, and halfway up its principal staircase may perhaps be seen a little ornamental painting, surrounding medallions or panels by Boucher, immediately over a niche containing a fragment of a Grecian statue on a carved pedestal of the Renaissance. Such are the conditions which render him eligible to committees, which, self-elected, legislate on matters of taste. The artist himself encourages this state of things, by assuming too much of the "Pollonius" bearing. Were the artists boldly to assert the undoubted right which they possess, as the most competent tribunal to legislate in these matters, the system might, in a short time, be crushed.

We should be much amazed if the same folly were exhibited in a parallel case. If a body of men *un*educated as medical practitioners were called together to decide whether a medical man had treated a certain case in a judicious manner, we should not place much confidence in their decision—yet this is exactly the treatment to which the professed artist and the public tamely submit. Most men are supposed to know best what pleases them; and, in so far as these committees are considered the representative parliaments of public taste, we believe them faithful to their purpose. But if, on the other hand, they think they possess the talent to improve the painter, except by improving themselves, it appears very much like the pupil attempting to teach the master. If they knew their true position, and felt the humble spirit of learners, it might be beneficial to all: it would go far towards entertaining the notion of establishing professorships in the universities and great public schools, to which the most able artists would be called to take upon themselves the office of teachers. This would be, we conceive, the true way of raising the standard of taste; and while still responding to the demands of the public, there would be a mutual reaction tending to the advancement of both; as in all other branches of education, the master in raising the critical faculties of the pupil is himself compelled to move forwards, or hazard his title to respect.

In looking back to past ages, we feel that the arts must suffer while society is in a state of transition, broken up as it is into sects, and divided by bitter feelings. We say in looking back, we cast an anxious glance at the unity of feeling which pervaded society, "for (to use the words of a journalist), in the brightest periods of Grecian and Roman history, there was a distinct national life visible. There was an unmistakable national character brought out, educed from a system of training which owed its strength to a unity of faith, of race, and political objects. Society was simply constituted—there were none of the thousand springs of action which split up modern society into such numerous elements. There existed then, naturally, a standard traditional form—to the likeness of which, all good citizens should be moulded.

The whole inner man was to be brought out and developed in this shape. There was one national religion, one national morality,"* of which the artist was the illustrator and expositor. But let it be remembered that we sigh only for the unity of purpose, which we do not doubt there will be again—more powerful, more enlightened, and more lasting. Then will the arts attain their culminating point and be endowed with a new life. What has been said with regard to combined critics calling themselves committees of taste, is equally applicable to the occasional critics of the press—they, most of them, discover to those learned in such matters, that they are but shallow, and require to be taught, rather than to teach; they do no more, as one of the public, than to be expositors of public taste, and the flatterers of their particular friends. Artists are seldom misled by their opinions, directly; but doubtless they are to some extent, through their influence on public judgment.

It is not considered essential by many that he who assumes the authority of critic should have a practical acquaintance with the art he is to control. We believe, however, on the contrary, that in the highest fulfilment of such an office the most eminent artist would perform it best—the only doubt that could be raised is the probability of the effects of prejudice; but both the man of theory, and he who adds practice thereto, are equally liable to the same objection, which, if valid, would totally disqualify them for the censorship.

Freedom from prejudice, then, is absolutely demanded. When this condition is fulfilled, it is obvious that he who, to his perfect knowledge of the laws of the empire adds the constant practical observance of them, is best fitted to preside over it in the character of judge. There is, however, a delicacy of feeling which must prevent an artist, screened or otherwise, from acting in the public capacity of critic on his compeers. We have no doubt that incalculable mischief has arisen, that many a young artist and poet has been ruined, by a few printed lines of a spiteful critic, f they do not possess the charity of mercy; a the variety of ages and temperaments is dis garded, which ought to be intimately know before reproof is administered. The you require a different admonition to the old. T conceited must be humbled—the diffident e couraged—the rash curbed: these are circun stances concerning the reviewed which cann for the most part, be known to the journali The only remedy that we see against m criticism is the panacea—educate—educate; and we shall conclude this portion of our su ject in the words of Burke: "And as for thd so called critics, they have generally soug the rules of the arts in the wrong place, th sought it among poems, pictures, engravin statues, and buildings. But art can ne give the rules that make an art."

It would necessarily happen on the pr ciple laid down in the commencement of t essay, and experience must, we think, test to its truth, that art in the aggregate is the flection of public taste, having in its vari professors the representation of its prevaili ideas and tastes. The various usages of soci which have been recently descanted on will them, be witnessed in their effects. It is, fact, the master who is perpetually educati and training the painter, sculptor, and arc tect, either to pander to its vices, evincing language eloquently false, the harlotry genius, or to respond to its more eleva feelings.

It may at first appear paradoxical to det minate, at the same time, both the artist a the public as masters reciprocally, the over the other; and perhaps it may be plac in a clearer light by comparing the public the masters of capital who employ the mast or proficients in any craft to produce. T master of the craft is, although a servant the former, the possessor of the talent a skill of performance which he adapts in manner his employer has directed him.

In this portion of our subject which devoted to the exposition of the injurious ten encies within the profession itself, we can do much more than enlarge on some of points previously discussed, under the for which they assume in the educational rout to which the artist is subjected, endeavour to rescue him from the burden of the anti and venerable picture-precedents with wh he is oppressed in constructing his ideal thec It would not, however, be important to no this, did it not offer an opportunity of attack a false principle, for it has seldom, we belie been observed that any theory of the arts t deduced has ever been vitally productive.

It is as effete as the attempts of the Rom ticist poet so admirably described by Strau "who endeavours poetically to renew faded fiction-world of the faith of the mid ages, as the deepest wisdom. The histor periods in which Romanticism and Roma cists arise, says he, are those epochs in wh an antique of society is placed in opposition a modern form, which, as yet unprepared undeveloped, appears in comparison with developments of the other as merely ve tative.

"At these boundary lines in the history of world, men in whom feeling and imagina overpower clearness of thought, souls of m warmth than transparency, will ever turn b to antiquity, out of the infidelity, the pro state, which they see prevalent about th they yearn for the world of the old faith, in glorious forms and kindly feeling, and t seek to reproduce this for themselves, and far as possible, for others. Since, howe they are sons of their own time, they are th selves interpenetrated to a greater degree t they are aware of with the new opposing p ciple.

Antiquity, as it is resuscitated in them by them, is no longer the pure primeval a quity, but one mixed up in various ways the modern principle. Faith is no longer genuine spontaneous faith which governs being in whom it dwells, but a faith to w the being attaches himself arbitrarily and tentionally. The conscience is prevented fr seeing the contradiction and falsehood of state of things, by fantastic clouds of its weaving. Romanticism is essentially my cism, and only mystical spirits can be rom ticists; only the opposition between the

* *Daily News.*

id the new, must, in part, be seen through
e thickest cloud; the untruth of an arbitrary
ith must, moreover, be felt in the deepest
cesses of the conscience. On this account
lf-illusion and inner falsehood belong to the
ry being of romanticism."

After such a type would the romanticist por-
n of the public form the romanticist painter,
ulptor, and architect? They are told to do
the ancients did; they fancy also, them-
lves, that such a consummation is devoutly
be wished; but they know full well, if they
empt it, that although it meets with the
tronage of the revival enthusiast, that it will
caviare to the multitude, who will declare
ch attempts to be lifeless imitations. How
ould it be otherwise? for as Schelling justly
serves,—"But as in the great progress of
each gradation follows the other, until in
e highest they all become one; even so can,
the particular, no pure culture arise that has
t developed itself in conformity with the
w of nature, from the very seed and root.
ue demand that art, like every other living
ng, should proceed from the first begin-
igs, and that it may vitally reproduce
elf, should ever return back to these, may
m a hard doctrine in an age to which
is so often said, that it may take the
ost perfect beauty from existing works of
, already at hand, and thus, with one step,
ive at the last excellence. Have we not
eady the excellent—the perfect?—why then
ould we return to the imitative and unde-
loped? Had the great founders of modern
thought thus, we indeed should never have
en their wonders: before them also stood the
rks of antiquity,—around, statues and bas-
iefs,—which they might have directly trans-
red to their pictures. But this appropria-
n of a beauty, not earned by itself, and so not
derstood, satisfies not an instinct of art,
ich tends directly to the original, and from
s, in freedom and primal energy, develops
itself the beautiful.

They shunned not to appear simple, artless,
d dry beside those exalted ancients; nor to
urish art in the unapparent bud, until the
ie of grace arrived. Whence comes it, that
still behold the works of those ancient
isters, from Giotto to the teachers of
ffaelle, with a kind of worship and even
rtiality, if not because the faithfulness of
ir endeavour, the grand seriousness of their
iet and voluntary confinedness, receives
m us our esteem and wonder? The mind
ich is accustomed to rigorous investigation
l never rest contented with the ideas of
other till it has verified and found them
nsonant with nature. To know the prin-
le thoroughly on which the ancient painters,
ulptors, and architects worked, would cer-
nly, if acted upon, produce works which
uld be equivalent in merit; as it is the great
ture of a principle, that it may be applied in
reat variety of ways, and renders no neces-
y for copying;—but "art (let us repeat it)
n never give the rules that make an art."
is no use looking through the antique or the
l masters to deduce principles of nature:
ese did not precede nature, therefore the prin-
les must have been either innate or founded
the producer's experience of nature; and it
he conviction of some of the most careful
uirers on the sources of human thought,
t we have no ideas independent of experi-
ce: if so, they must have been derived from
s source. *Let us therefore endeavour to*
derstand nature, as the most effective course
discerning and destroying all fallacies and
*r the revival of truth.**

W. Cave Thomas.

Suffolk. — Archæological Excur-
on.—We understand the ensuing meeting
Clare of the Bury and West Suffolk Archæo-
ical Institute is likely to prove one of great
erest. It will be under the presidency of
lonel Baker, of Clare Priory; and the mem-
's will be conducted by the Clare committee
inspect the Roman encampment; the very
eresting Norman mound, keep, and earth-
rks of the castle; the remains of the priory,
house and grounds of the president, the
rch, &c. &c. Previous to the meeting, we hear
t excavations will be made in connexion with
Motte, or Castle Mound, to ascertain some
ubtful points in Castle Archæology.

* To be continued.

ARCHITECTURAL REFLECTIONS.

Amongst the innumerable causes for meditation which the stirring incidents of modern times present;—amid the conflict of jarring opinions upon questions of deep import to peace and happiness, which agitate the civilized world; amid the note and preparation of war, where peace, but a few months since, seemed permanently secured, and the fall of monarchies not less powerful and supreme in their politics, arts, institutions, and civilization, than were those of Assyria, Persia, Macedon, or Rome, for extent, absolute sway, and invincibility of arms;—when the standard of revolt seems erected throughout Europe, to summon the disaffected from their allegiance, or to urge the loyal and devoted to rally round the banners of their sovereign;—in short, when the ear is daily assailed with marvels that no longer create wonder, and the eye fatigued with the perusal of strange events, palling, from their frequency,—the calm consideration of questions of art and improvement, becomes doubly grateful, and the change of thought from the discord of politics to the harmony of proportion, a theme of more than ordinary pleasure and profit.

In a former article, under the above title,* the writer called attention to the importance of the due consideration of the state of art of our own time and country, so as to institute comparisons between the existing specimens of our own skill with those of our contemporaries,—to balance the respective merits of native with foreign, of modern with antique.

And perhaps a period more momentous than the present could not well be selected for such contemplation. Whether we look at painting, sculpture, architecture, music, literature, mechanics, chemistry, jurisprudence, physic, or divinity, or any of the innumerable subdivisions of the same extended range of varied pursuits that furnish occupation for the industry, and infinite scope for the invention of the enlightened of mankind, we shall find features as striking, characteristics as important in this our own time, as ever dignified those eras in the history of our forefathers which have received from the general fiat of posterity the title of "learned."

It is true that the extreme eminence of some of the leading characters of those distinguished periods may scarcely now be found; but recollect that it was partly by their rarity they became extraordinary, and that standing alone, as it were, amid a general dearth of proportionate learning, they derived additional brilliancy from the singularity of their position.

Numerous, indeed, are the subjects relating to art that arrest our attention, and difficult is it to say wherein one claims pre-eminence in interest over another; but perhaps it may not be too much to aver, that architecture is a subject of more importance in a nation's history than either of her sister arts. The mouldering painting may be uncovered, the sculptured fragment may be exhumed, and evidences of a refined state of art in ages past thus adduced, but the resources, power, wealth, and greatness of a by-gone nation can hardly thence be ascertained. Not so with her architecture. The fallen column, the deserted amphitheatre, the moss-grown aqueduct, the silent forum, the roofless temple, and the prostrate tower; the crumbling arch, with its half-effaced yet still legible inscriptions; the sumptuous palace and the vast and princely thermæ; the ponderous pyramid, and the taper obelisk; the sculptured mausoleum and the sepulchral excavation, all bear testimony to the extent, power, and grandeur of the people who required them, the intellect that designed them, and the munificence that reared them.

More captivating, perhaps, to the untutored eye of the unlearned in art, more sensually gratifying to the imagination of the general observer, may be the contemplation of the productions of the painter. His is an art which appeals to the senses of the most ignorant as well as the most intellectual of mankind. His advantage over the architect is, that his skill consists in depicting the works of nature, therefore of perfection; whilst the productions of the latter are purely of human origin, therefore of necessity imperfect.

The painter ransacks the elements of their treasures, and combines them upon his canvas according to his genius and his power. His province is, to exhibit nature as she is, with liberty to select her most striking beauties and most strongly-marked characteristics; to embrace her when her elements combine to suit his purpose; to reject her when devoid of strong interest, whether of detail or in combination.

The eternal works of nature are his subjects, their varied phases under opposite circumstances his study. The pathless ocean, lashed to fury by the raging tempest, darkened to hue of midnight by dense clouds, and bearing destruction upon each white-crested wave,—or calm, azure, glorious, and serene, as motionless and extended beneath the rays of the summer's sun it mocks and reflects its brilliancy in myriads of coruscations;—the broad expanse of country, hill and dale, field and forest, the misty mountain and the glassy lake, the deep umbrageous shelter of the silent greenwood and the stately majesty of the oak and chesnut, with their leafy brothers of the forest, clothed in tints as varied as harmonious,—the lowing herd and fleecy flock, with their rustic guardians, and all the numerous classes of rural life;—these, and hundreds such as these, are grateful subjects for his study and attention.

But how vast a field is yet unnoticed in our category,—the human figure!—the perfection of proportion—the beau-ideal of intellectual beauty. And here the sculptor participates in advantages with his brother of the easel. But though the primary principles of painting and sculpture are the same, their subsequent course is very different, for though they both appeal to the sense through the same organs, yet it is through different materials. The painter has the advantage of perspective, colour, chiaro-scuro, and a thousand appliances to aid him in his work of illusion,—the sculptor that of actual form alone: the one pourtrays nature as she appears, the other as she really is,—yet they are both admirable, both most captivating, and though differing widely in character, tending to the same effect upon the human mind.

But architecture is a science differing most essentially from its sisters; not that she falls short of them in beauty, far less in interest, but that her beauty is more the effect of study than of nature, her interest less relying upon sudden effect than upon attentive contemplation and profound judgment.

Whilst painting and sculpture minister to the elegancies and refinements of civilized life, architecture is absolutely and indispensably necessary to its comforts, its most ordinary, most essential wants. All are interested in its progress, all have a greater or less stake in its well-being. Its beauties are geometrical. Unlike the fluctuating attractions of form and colour, they are permanent and fixed. Yet, though her geometrical principles are her most essential springs of action, even here she does but copy from her great original,—for how clearly may the principle be traced in nature's choicest treasures. In some instances the quality is still more highly developed, even to a positive law of numbers, as in the brilliant and perfumed flower, infinite in hue, in odour, and in form, the bright and glittering crystal, &c. &c.

The history of the progress of architecture, from its earliest and rudest specimens to those of this present period of intellect and refinement, is a study of surpassing interest and unbounded extent.

To read the annals of by-gone nations by their ruins, to draw deductions of greatness, wealth, and power from their crumbling monuments, when they who raised them have entirely passed away from the face of nature,—to unite the broken chain of early history, and supply its long-lost links of evidence by attentive perusal of the silent remnants of antiquity, is a mental exercise of the highest order.

Fortunately for the world, the love of deep research has never been found to slumber or decay. The noble spirit of adventure, the ardent love of inquiry and contempt of danger, toil, and privation, have ever incited some of the most enlightened of all nations to explore, in all regions of the known world, the hidden relics of antiquity. To the mind once penetrated with the burning desire for foreign tra-

* See Vol. V., p. 407.

vel and research, no obstacle seems sufficiently great to present an insuperable impediment to the cherished object. Neither the chilling influence of the north, nor the relaxing climate of the south, the fathomless depths of the Atlantic ocean, nor the pathless waste of the sandy desert, the knife of the savage, nor the still surer chance of pestilence and fever can deter the adventurer from his noble but hazardous purpose.

Great is the debt of gratitude the world owes to the noble-minded men who have thus devoted their best years and energies to the sublime task of elucidating the mysteries of the past, who have boldly risked their safety and their fortune upon the chance of unfolding the page of knowledge to their less adventurous, less inspired countrymen at home.

Exactly one century has elapsed since Messrs. Stuart and Revett conceived, at Rome, the idea of undertaking an architectural crusade to the mother of elegance, art, and refinement,—the city whose treasures of form and proportion, though reported and known to exist from the imperfect accounts of the few and unqualified travellers who had visited her, yet were almost chimerical to the existing world of letters,—the city, whose style of architecture, though understood to be the parent of that of ancient Rome, and germ of those of all the modern nations of the world, was but imperfectly known as to its real proportions and actual characteristics,—the city that gave birth to the wisdom of a Solon, the devotion of a Miltiades, the virtues of an Aristides, the ill-requited merits of a Cimon, and the elegance, policy, and splendour of a Pericles; the birth-place of Phidias, Ictinus, and Praxiteles; the parent of Socrates and Demosthenes, Xenophon and Plato, Sophocles and Thucidides,—Athens!

The achievement of this most interesting proposal, forms an important era in the annals of modern architecture. A new and superior system of proportion was to supersede the adaptations of that of ancient Rome, which, with few exceptions, had been the prevailing style following the Revival.

About the same period, Messrs. Woods and Dawkins published their excellent work upon the Ruins of Baalbec and Palmyra,—the ancient Heliopolis and Tadmor of Syria, whose gigantic remains for ages unnoticed and unknown, had only served as inclosures for the rude huts of the ignorant and wonder-struck natives.

The rubicon thus passed, the bright example has been followed up by numbers of zealous and skilful artists, whose labours have enriched the treasury of knowledge with spoils from all quarters of the globe.

Assyria, in her vast and imperishable foundations, seat of the once proudest monarchies of the world, but now so fallen that the site of some of her mightiest cities can hardly be ascertained; Egypt, in her pyramids, her temples, her obelisks, and her hieroglyphics, imposing memorials of her Pharaohs and her Ptolemies, for two thousand years enshrouded in a dense darkness which wrapped in mystery her time-worn monuments, ancient people, religion, arts, history, and dominion, till the cannon and genius of Napoleon burst the chain that closed the volume of the past, and by promoting the production of the superb "Description de l'Egypte," paved the way for the labours of Denon, Letronne, Champollion, and many others; Greece, in her temples, statues, and altars, of sublime proportion, whose sacred ruins in Italy, Sicily, and Asia Minor vie with those of the mother country in interest and high excellence; each and all of these have furnished ample matter for the deep research of the scholar and enthusiast.

Italy, cradle of the arts, undying source of poetry and music, painting, sculpture, and architecture,—within whose sacred realms are centred the springs of refinement and civilization,—to whose classic cities and azure skies a yearly crowd of ardent and aspiring artists, from all nations of the globe, flock and throng, that they may drink deep at her fountains of inspiration, inhale the ætherial atmosphere of her genial clime, and gaze with reverence upon her palaces and temples, her paintings and statues,—how wide a field for study does she disclose! Tuscany and the Papal States, the ancient seat of the Etruscans and Umbrians, still present the traces, in gigantic foundations, of the cities that flourished ere Rome existed.

The Greek colonies that settled in Sicily and the coast of Italy, and which from their power and splendour obtained for the land of their adoption the name of "Magna," still exhibit numerous fine remains of temples and sculpture, as at Pœstum, Agrigentum, Selinus, &c.

Rome, conqueror of the world, once mistress of an extent of dominion, centre of an amount of population and luxury that has never been equalled before or since, presents to the enthusiast a study that is never completed,—a river of delicious inspiration that can never be exhausted. Her treasures form the magic dream of childhood, the burning hope of youth, the brilliant reality of maturity, and the grateful memory of old age. Her temples and basilicas, palaces and thermæ, aqueducts, bridges, amphitheatres, and hippodromes, her columned fora and stately arches of triumph, her sculptured capitals and enriched friezes, cornices, and acroteria of porphyry and marble, would seem to be the labour of a life to examine critically and effectually.

But the wonders of art inclosed within the limits of the eternal city alone form but a very small portion of the works of genius and power that owned Rome for mistress and inventor, and whose gigantic ruins, scattered over a large portion of the globe, astound the beholder by their grandeur and extent. The proud monuments of their extended sway and boundless resources, which are scattered through Spain, Italy, Gaul, and Germany, have not been unnoticed by the architectural pilgrim, though numbers of specimens yet remain to be described and illustrated.

Athens herself, in her temple of Jupiter Olympus, and Egypt, in her pillar to the memory of Pompey, add fresh tributes to the munificence of their conqueror. The sacred ground of the Decapolis of Palestine is rich in Roman structures yet to be explored.

Baalbec, once famed for the worship of the sun,—the chaos of ruins of whose gigantic temple, dedicated to that luminary, defied the graphic powers even of a Lamartine to describe,—and Palmyra, hallowed by the memory of Zenobia and Longinus, have been already exhibited to the world by our indefatigable countrymen. The northern coast of Africa, for a length of 600 miles, presents a vast number of important ruins, which have not yet been properly examined, though well known to exist; indeed, to cite the individual cities of note that present ocular proofs of Roman occupation, or to enumerate the most important of those vast constructions that tell of Roman wealth and enterprise, would far exceed the limits of our present intention.*

Alex. Fred. Ashton.

IMPROVEMENT OF THE NATIONAL GALLERY.

We doubted very much the statements which have been the round of the papers, that Mr. Barry had submitted a design and estimate for enlarging the National Gallery, and the inferences therefrom deduced that the matter was settled, and therefore avoided quoting them. We have now great gratification in being the first to lay before the public the following

REPORT,

From the Select Committee of the Commons,† appointed "to consider of the best mode of providing additional room for works of art given to the public or purchased by means of parliamentary grants," which, with other facts in our possession, shews we were right.

"In considering the matter submitted to their attention, your committee were naturally led to turn their first thoughts to the valuable collection of pictures just presented to the country by Mr. Vernon. They have been gratified to find that temporary accommodation can be at once provided for them within the precincts of the National Gallery itself, although the amount of room, now but barely sufficient for this single purpose, and the early prospect of greater demands upon it, render it most desirable that additional space should be pr vided as soon as may be possible.

Your committee are unwilling to pass fr this topic without recording their sense of t public spirit and considerate liberality whi have prompted this living bequest on the pa of Mr. Vernon, and they entertain no dou that the public gratitude will furnish the mo powerful incentive for eliciting further instanc of munificence similar in kind, as well as t most honourable reward to him who h afforded this noble example. To this en however, the means of adequate receptic seem to be an indispensable requisite.

The likelihood, therefore, of fresh suppli to the National Repository of Art, whethe derived from individual generosity, or gradual purchases from the public fund renders it advisable that the best mode of de ing with the National Gallery should promptly taken into consideration. Yo committee cannot but regard the prese building to be not only deficient in the requ site space, but, whatever may be the merit particular portions or details, to be also ve much wanting in the dignity and elevation d both to its purpose and its site. They ha not omitted to consider the question, whethe it would be expedient to erect an entirely ne building upon another spot, and with this vie they gave their attention to the most obviou situations in the metropolis; but, after caref deliberation, they unanimously concurred i the opinion, that taking into account—

The commanding nature of the site occ pied by the present building, to which perha it would be difficult to find a parallel in o own or any other capital:

Its accessibility, and nearness to the ch thoroughfares, and centres of business, whi are fed by what has been described in a wel known phrase as 'the fullest tide of huma existence:'

The aids to economy, which, without sacr ficing the beauty of effect which a new fro and additional height may confer on the stru ture, would be furnished by the rare circum stance of only one ornamental front being re dered necessary from the disposition of t ground, and by the means which are at han for making use of the whole of the prese interior, due regard being paid to the co venience of the Royal Academy in procurin suitable accommodation elsewhere:

The space for further enlargement, whic in the process of time, and concurrently wi the exigencies of the collection, might be sup plied by occupying the uncovered ground no in the occupation of public establishments, the rear of the present building,—

For all these combined reasons, witho presuming to indicate the precise period f the commencement of such a work, the dete mination of which may be governed by oth considerations, your Committee would recom mend that whenever it is undertaken, the e larged and improved National Gallery shou be on the same site as the present; and for t completion of such a work, which ought to not unworthy of the age, the country, and i own destination, *they would gladly see the mo eminent talent of the nation invited to compe in designing an appropriate and enduring m nument.*"

September 1, 1848.

Brass Letters on Glass.—According the specification of Mr. J. L. Lamenaude, wh has secured a patent for cements, for affixin brass letters on panes of glass, the following a his recipes:—First, 15 parts of copal varnis 5 parts of drying oil, 3 of oil of turpentin 2 of essence of turpentine, 5 of animal glu dissolved in a water bath, and 10 parts hydra of lime.—Second, 15 parts of sanadrach an galipot resin varnish, 5 of drying oil, 5 of and essence of turpentine mixed; these a first mixed, and then 10 parts of Spanish whi and dry white lead are added.—Third, 15 par of copal varnish and gum lac mixed, 5 parts drying oil, 3 parts of a solution of caoutchou or gutta percha, 7 parts of tar oil, and 10 pa of Roman cement and plaster of Paris, powder, mixed.—Fourth, 15 parts of copal va nish and colophane resin, 5 of oil and essen of turpentine, 2 parts isinglass in powde 3 parts iron filings, or blacksmith's cinde ground and sifted, and 10 parts of washe earth, ochre, or rotten-stone.

* Conclusion next week.

† Lord John Russell, Sir Robert Peel, Mr. Hume, Viscount Morpeth, Mr. Goulburn, Mr. Baring Wall, Mr. Charteris, Earl of Lincoln, Sir Benjamin Hall, Marquis of Granby, Mr. Tufnell, Mr. Wakley, Mr. Disraeli, Mr. Vernon Smith, Mr. Banks.

THE STONE QUESTION.

ST. GEORGE'S ROMAN CATHOLIC CHURCH.

We have received a statement from Mr. Myers, the builder of St. George's Church, in respect of the premature decay of some part of the stonework there, with an urgent request that we should give publicity to it. It is to the effect, that although the stone used there externally is, for the most part, indeed with a very trifling exception wholly, Bath, as we stated, still that a small quantity of Caen stone was used with it (as, for example, the cornice and embattled parapet of the lower portion of the Chapel of the Sacrament, at the east end), and that it is *this*, and this alone, the Bath stone being at present sound, which is decaying. We have not been able yet to see for ourselves the truth of the statement, but give it as the assertion of the builder. Admitting it to be correct, it must of course not be taken as proving Bath stone good and Caen stone bad. It simply shews that these particular blocks of Caen stone were bad: and the quarry whence they came (the particular part of the quarry it should be, for in every quarry there is both bad and good), and other circumstances in connection with them, would be legitimate objects of inquiry.

We have inquiries and statements on the subject of stone from all quarters: every one seems at sea about it, and confidence is greatly shaken. So far as Caen stone is concerned, we have determined on an immediate personal examination of the quarries, with the view of afterwards testing some of the specimens of stone which we shall obtain, and giving, if possible, some sound information on the subject.*

HUTCHISON'S PATENT FOR THE INDURATION OF STONE.

In connection with the important subject, the preservation of stone, we have recently examined specimens of soft sandstone from the Calverley quarries, Tonbridge Wells, after being subjected to the indurating process practised by Mr. Hutchison under a patent, and the change effected in them is very striking. The effect of the process, according to the patentee, is not merely to indurate soft stone, but to render all kinds of stone, &c., impervious to atmospheric action, vermin, &c., which important qualities cannot be too highly estimated for hydraulic, paving, building, decorative, and monumental work. He professes to transform the Caen, Bath, and other stone, into materials invincible to destructive agents, to equal marble for beauty and durability, and says, for water pipes, reservoirs, cisterns, mangers, troughs, sinks, &c., neither iron nor other material can equal the indurated stone for cheapness and strength.

We need scarcely say that time is the great test for such an invention, but are bound to add that the specimens we have seen entitle the process to the considerate examination of those who are interested in the matter.

THE GAS EXPLOSION IN REGENT'S PARK.

Dr. Arnott has addressed a long letter to the *Times*, of which we think it right to record the main facts.

A destructive accident of a new kind or degree, as he justly remarks, becomes often a very valuable lesson by attracting attention to a subject previously ill understood. The late gas explosion in Albany-street—the most disastrous, perhaps, which has taken place since gas lights have been used—appears to be an occurrence of this kind. Parties wished to make it appear that gas could not have been the explosive agent, but that gunpowder or gun cotton must have been in the house. It was of consequence that no doubt should remain on this point.

Such is the relation of ordinary coal gas to atmospheric air, that if the lighted gas be allowed to issue uniformly and to mingle always with a sufficient proportion of fresh atmospheric air, it burns with a safe and steady flame, combining gradually with the oxygen of the air; but if, before being kindled, any considerable quantity of the gas be allowed to issue and to mix completely with just ten times its volume of atmospheric air, on a light being then applied, the whole mixed mass kindles at once as a flash, like gunpowder, and dilates with violent explosive force. The strength of such explosion is shewn in coal mine accidents, where sometimes more than 100 men at one time have been destroyed, and horses have been thrown up from the shaft like bullets from a gun. It may be experimentally exhibited by filling a bag with the required proportions of gas and air, and then blowing soap bubbles from the bag, each of which, when set free and touched in its ascent by the flame of a candle, explodes like a pistol shot. The degree of the expansion of the airs when thus fired, and which is caused by the sudden heat of the chemical action, is held to be at least tenfold; or such that 1 cubic foot, which weighs something more than an ounce, becomes for the time more than 10 feet, while an ounce of gunpowder during explosion is known to expand only to about three-fourths of 1 foot of gaseous matter. It is to be remarked, however, that gunpowder shews its prodigious force, not when allowed to explode in a wide or open space, but when confined to the bottom of a gun-barrel.

Gunpowder, too, consists of fixed proportions of nitre, charcoal, and sulphur, intimately blended: all the things necessary to the explosion are present in the powder itself, waiting only the spark which is to inflame them, and the smallest spark can inflame the largest magazine. But far different is the case of coal gas considered as an explosive agent. The gas itself, like the charcoal of gunpowder, is only one of the elements of a fulminating mass, and can no more explode alone than the contents of a coal cellar can. Before it can burn at all, every particle or measure of it must find somewhere, and mix perfectly with, two particles or measures of oxygen gas. A lighted taper plunged into mere coal gas, instead of exploding the gas, is itself instantly extinguished by it.

The series of faults committed to bring about the Albany-street explosion was extraordinary indeed.

1. The gas meter with its pipes and cock—a delicate apparatus, likely to be damaged by a rough touch—was placed in an enclosed dark space under the window shelf, which was made to serve also as the receptacle for the numerous heavy window shutters pushed in and dragged out every morning and evening.

2. It was not a careful person of the shop who managed the window shutters, but a thoughtless boy, who came night and morning for that purpose alone.

3. It had been often observed that gas was escaping, and examinations and repairs about the meter were frequent; yet the hazardous arrangement remained unchanged.

4. When at last, on the night of the catastrophe, the boy, as was to be expected, struck the meter forcibly with a shutter, he had in reality left a leak at the meter, apparently by breaking the main cock and pipe, which in one hour and twenty minutes filled with explosive mixture the shop, where shortly before the three lamps had been burning in safety.

5. Smell of gas was felt almost immediately near the shop door, and before long at the top of the stairs. Mr. Loten, taking a candle in his hand, went towards the shop to examine it.

6. The shop, with so many lights in it, had no fire-place to favour ventilation, and the doors had been edged with leather to make them close. Then the complete mixture of escaping gas with the air of the shop was brought about by the fact that the gas did not escape from the burners high up, but entered the sh- low down, and through the chinks of the shutter-box.

From what has now been said, it will appear that the means of safety for persons using gas in their houses are—

1. To have the apparatus made and fixed by competent workmen.

2. If any leak be perceived by the smell, to have it promptly attended to, and to open doors or windows to prevent accumulation.

3. On no account to carry a lighted candle to where there is a strong smell of gas.

4. To have the room or rooms in which gas is burnt ventilated from near the ceiling. The balanced chimney valve, which I proposed some years ago as a means of maintaining a healthy state of inhabited rooms generally, and which, having been mentioned in a clause added to the Metropolitan Buildings Act expressly to direct the mode of fixing it, is already extensively used, would, I believe, make it almost impossible for a dangerous accumulation to take place, even if the burner cocks were purposely left open; and wherever gas is used in an inhabited place, this valve is not more important as a security against explosion than it is to guard inmates against the deleterious effect of breathing the burnt air of common gas illumination or of any other. There is no patent right for the valve, and an adroit workman any where may make it.

With these precautions, gas is, in a majority of cases, not only the most beautiful, convenient, and cheap means of lighting, but, as shewn by past experience, rendered still more assuring by the explanations of scientific men, is also on the whole the safest; and gas may therefore be regarded as one of the precious boons which advancing science has bestowed of late on the human kind.

The learned doctor omitted to add that the gas companies themselves have been the main hindrance to its much more extended and economical use in England.

BILL OF A BUILDER-ARCHITECT.

Some time ago we referred to the state of St. Mary's Church, Bridgewater, and urged the parishioners to do such repairs as were necessary, under proper advice. A Mr. Hutchings, a "builder and architect," was employed on the part of the parish; tenders were advertised for and three received, which ought to have placed one of the parties tendering in our list of "blind builders," unless, indeed, he saw further than honest men. They were as follows:—Stockham, 285*l*. 11s.; Tottle, 192*l*.; Hurford, 165*l*. The lowest tender was taken, and a contract was entered into. The work was done, and Mr. Hutchings's bill was sent in; and here it is,—a pretty specimen, as most of our readers will admit:—

The churchwardens of St. Mary's Church to T. Hutchings—

1846.—Oct. 10 My attendance to surveying, directing the taking off the mortar, and certifying for same	£3	0	0
Man one day preparing and making mortar for pointing, for specimen, 3s.; lime, 2s. 6d.; sand, 2s. 6d.....	0	8	0
Oct. 17. Three men and labourer six days to pointing on north side of tower for specimen	4	16	0
Man half-day ditto, 1s. 9d.; paid for water, 2s.....	0	3	9
Myself attending to ditto.....	1	10	0
Loan of scaffolding	0	15	0
Stone for repairing quoins, and for walls	0	12	6
Quarter cwt. hair for mortar	0	2	6
Oct. 24. Man and labourer three days cutting out and fixing base	0	18	0
Man ditto four and half days, 13s. 6d.; eight barrows mortar, 6s.....	0	19	6
Man one and half ditto.....	0	6	0
Fifty-eight feet of base to north side of tower, at 1s. 8d.	4	15	8
Oct. 31. Man and labourer one and quarter day fixing ditto	0	7	6
Man ditto two and half days	0	7	6
Nov. 7. Specifications and instruction for advertising and letting the work	3	10	0
1847.—March 26. My attendance daily for twenty weeks, surveying the progress and directing of the different works, under the specification, at 30s. per week	30	0	0
	£52	12	11

Pretty well this, for superintending work to the amount of 165*l*.

The churchwardens paid the account, but the parishioners are not well disposed towards re-imbursing them the amount of this amusing charge, and thereupon issue is joined.

The *Bridgewater Times* says:—"No architect, no regularly-bred man, would for a moment have thought of sending such a bill to any public body. The nature of the work to be executed being of the simplest character, comprising the removal of the stucco and pointing, and making good the walls of the church, the usual professional fee or per-centage would have satisfied a regularly qualified practitioner. Mr. Hutchings, however, valuing his services at a much higher rate than any architect would charge for his advice and survey, sends in to the parish a bill amounting to the above enormous sum, which, by a most unfortunate oversight, or culpable neglect, is paid to him by the person who is employed to collect the rates." The gist of the matter, however, is to come:—"It is rumoured—in-

* We shall be happy to receive the results of personal experience of stone from any of our readers, especially from practical men.

deed it is generally believed—that Mr. Hutchings *was himself the contractor for this work*, though in another's name, the party who nominally was the contractor being known to be a subaltern under Mr. Hutchings on many occasions. If this rumour be true, then the grossness of the whole proceeding becomes more and more disgusting. A man beats his brother contractors by the lowness of his tender, and makes it up by charging upwards of 30 per cent. for overlooking his own work!!"

If the rumour be correct, this is a nice illustration of the "running with the hare and hunting with the hounds," consequent on the "builder and architect" system pursued in many of our provincial towns, and to the evils resulting from which we have felt it our duty to direct attention on previous occasions.

MATTERS MECHANICAL.

PATENT LAWS—PERPETUAL MOTION—BRICKWORK.

SIR,—Although unconnected with building, I unaffectedly declare I would rather "lose a meal" than miss a sight of THE BUILDER. First, because I take an interest in the information it contains; and secondly, because of its *truthful* sympathy in the interests of, and understanding of, the English workman,—the sympathy of *heart*, and not of vocation: I earnestly entreat, therefore, your attention to that which materially concerns his interests,—I allude to the present state of the patent laws. Yes, Sir, the country whose prosperity depends more than that of any other country in Europe on its manufactures, and its manufactures on its machinery, is the country that throws by its laws all the obstacles in its power in the way of the poor but ingenious improver of that machinery. Let him be a 'Brindley,' a 'Watt,' or a 'Stephenson,' unless he can procure a patron to advance some 400*l.* or 500*l.* merely to use his own, he may die as he lived, unknown and uncared for. I speak feelingly: I am one of the many who, with a passion for mechanical invention, is debarred by these laws and his poverty from (perhaps) benefiting himself and family, and possibly his country, by the due use of those faculties with which Providence has endowed him. For myself, I give up hoping against hope, and resign myself to my fourteen or sixteen hours' labour per diem for a bread and cheese pittance; but others would benefit by the change, which *I* scarcely hope ever to see, unless the "press" take the question in hand. Would that they did so: I should not then despair of seeing those odious laws (which I firmly believe are retained *solely* for the patronage and bureaucracy the fees maintain) abolished, and replaced by a just and equitable enactment.*

While I am writing, Mr. Editor, I shall venture two or three observations on paragraphs that have appeared in THE BUILDER. I will take, first, your note on the (rumoured) discovery of *perpetual motion*. I have always entertained the same opinion as yourself, that the thing was a delusion, and utterly *impossible*; and yet in the face of that belief, I have been compelled to retract and come to the conclusion that it *is* possible. I will give you the cause of this belief. One of my first inventions was a system of atmospheric propulsion, in the course of which the phenomenon of atmospheric pressure was naturally forced on me; and in the course of my investigations on the subject, *I hit on a method of obtaining a vacuum, and keeping that vacuum* CONTINUOUSLY *for working purposes*, being practically, in fact, what is termed perpetual motion. I have said I was no believer in perpetual motion, and therefore I threw the subject aside, feeling that there MUST be some undetected fallacy in the plan. Some time after I met in some scientific journal (I am not sure, but I think your own) with a notice addressed to a "Perpetual Motion" correspondent, in which, after impressing on him that the pursuit was a fallacious one, it goes on to say, that till he could discover some means of obtaining a vacuum, and keeping it, he might give up all hope of succeeding. The means indicated so singularly tallied with the means by which I had imagined the given end could be obtained, that I again resumed the idea, and consulted all the authorities I could get hold of on the subject, the result of which was, that as no natural or mechanical law was violated, but on the contrary, that it was the natural result of such laws, and therefore perfectly practicable, I was led to believe that perpetual motion is no delusion, but *a fact*. I should not be at all surprised if the discovery alluded to by your foreign correspondent proves authentic, and possibly identical with my own, the more so, that I do not think it well suited to marine navigation, though *possible to be so used*: leaving all this out of the question, and right or not, I think our scientific men have singularly neglected the atmosphere as a working power.

The method proposed by a correspondent of yours in a late number of THE BUILDER, of applying vulcanised India rubber to the longitudinal tube of the atmospheric railway has objections: the India rubber would, as you observed, be forced into the tube by the pressure of the external atmosphere, and thus fail. There are, however, other means by which this singularly valuable material could be satisfactorily applied, but at present, and probably for some time to come, NO PLAN of air propulsion, *however simple and economic*, has any chance of being adopted by any railway company, in the face of the abandonment of the system by the South Devon line. I much regret the failure of Samuda's system, as, had it succeeded, other systems would have had a fair chance of being tested. I cannot say I am much surprised at the result, as Mr. Samuda was either too confident or too proud to receive any hint from any quarter. I am, however, still convinced the *principle* is sound, and will yet supersede the locomotive.

Your last number but one has a valuable article on the use of brick moulding, &c., and exemplifies another instance of our wise fiscal laws in preventing the proper use of material in building, but rail as we may we can scarcely alter, but must put up with them; all we can do is to seek the best means of obviating them, and I therefore take the liberty of giving an idea on the subject. Some time ago, while casually looking on at some bricklayers at work, I was struck with the great waste of material and time, in the most skilful workman frequently destroying two or three bricks before he could get one to some particular size or angle. Thinking over the subject, I devised a modification of the *common lathe*, by which an ordinary bricklayer's labourer could cut a brick to any given size or angle in less time than the most ready workman could hack it into rough form with his trowel. I thought, after the accident at the Birmingham Railway station, of submitting the plan to the contractor, for the rebuilding the columns, piers, &c., on the plan of first cutting the bricks to a geometrical form to dovetail into a *solid* mass—but expecting it would prove, as usual, trouble in vain, I abandoned the idea altogether. The article in question has brought the subject again to my mind, and I perceive the subject has greater scope than I had imagined. By the means I have indicated a common brick may be *readily* cut to almost any form for ornamental purposes, the surfaces being nearly as accurate as though ground by hand labour; in fact any form, *circular, angular, or plane*, could be given it, at a moderate cost. I should be glad if any builder would give me an opportunity of practically testing the merit of the plan (if it have any); but, Sir, as I have said, I have given up hoping against hope, and this brings me again to my earnest wish that the press, and more particularly THE BUILDER, will take the question of reform of the patent laws in hand, in the hope that the poor workman may have *some* chance of bringing before the public, and obtaining for himself, the fruits of his invention.—I am, Sir, &c.,

City-road. R. G. BARRATT.

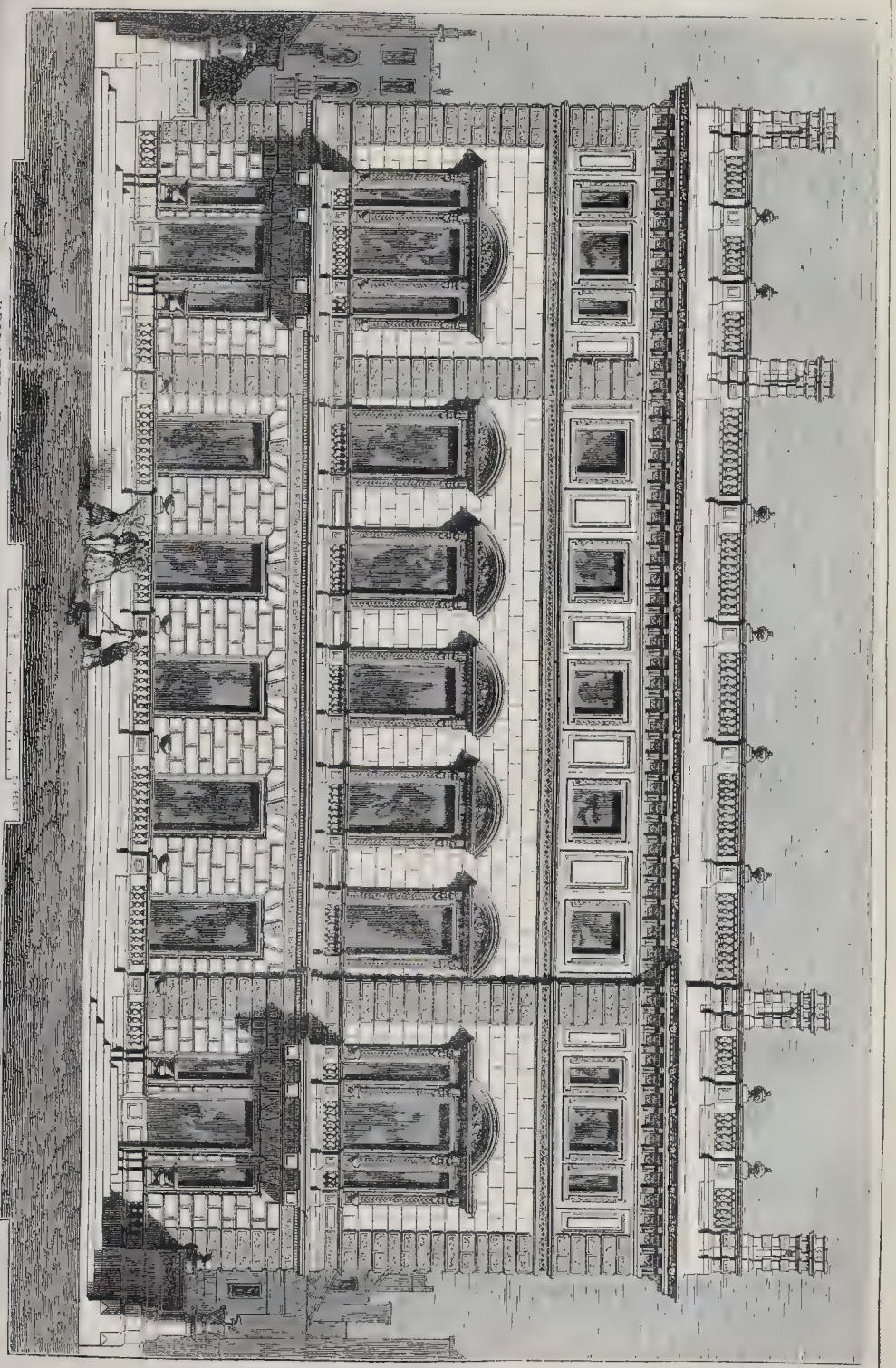
* A Government inquiry into the operation of these laws is pending.—ED.

FINE ARTS IN NORWICH.—Amongst the preparations for the forthcoming musical festival in Norwich, is a collection of modern works of art, nearly 400 in number, comprising pictures by Turner, Eastlake, Maclise, Etty, Bright, Danby, Pyne, Stanfield, and other good artists. It is said that so fine a collection has never been seen in Norwich before.

NOTES IN THE PROVINCES.

A TENTH window in the restoration of King's College Chapel, Cambridge, has been finished. The colours are said to be more subdued than in many of those already restored. The expense of the whole restoration will be nearly 6,000*l.*——The Grimsby Docks, according to the *Lincolnshire Times*, are proceeding satisfactorily, under their chief engineer, Mr. Rendell, and resident engineer, Mr. A. Smith. In inclosing the area of 150 acres from the sea, 10,000 tons of chalk have of late been weekly conveyed by a railway for the embankment. The 'blow sands,' however, have been interfering with the progress at one part, where there has been a sinking or defect in the piles in consequence. The first stone of 'the Royal Albert,' 37-acre dock, will be laid, it is still expected, by H. R. H. Prince Albert, next month.——At Whimple Church, Devon, which has very lately undergone expensive renovation, the dry rot, it is said, has seized on the new wood work, the whole of the wainscoating or wall boarding of which calls for immediate renewal.——At a meeting of the Monmouth Town Council last week, tenders were received for a trifling job of plastering and repairing some houses, the highest of which was 14*l.* 17s. 6d., and the successful one 4*l.* 15s.!——A site near Birmingham has been given by Mr. Adderley, M.P., to the Worcester Board of Education, for a training institution on a large scale. The same public spirited gentleman is shortly to lay the first stone of a church in Saltley, near Birmingham, to which he appears to have also presented a site and 3,000*l.*, with 150*l.* per annum for endowment. It is to be in the Gothic style, with tower and transept; sittings 1,000, two-thirds free. Exertions are being made for the erection of a district church and school at St. Jude's, Birmingham. General Howard Vyse, who gave a large site for the National School-rooms at St. Paul's, Birmingham, has given a valuable site for a school in St. Thomas's, to the erection of which 400*l.* have been contributed by the association for extending infant schools.——Some of the nailers in the district round Rowley Regis, being out on strike for old prices, a meeting of those in Rowley Regis has been held, and resolutions have been come to to support them, and to parade the district and meet every day till the masters yield to their demand.——In the engineering department at the Birkenhead Dock works, preparations are in progress for the recommencement of the construction of the docks forthwith. Coal from the Welsh mines can be brought, it is said, to Birkenhead Docks, and put on board vessels at very considerably less cost, and with far greater facility, than from the Lancashire coal-field.——The foundation-stone of the schools in connection with the Independent chapel, Cavendish-street, Manchester, was laid on Monday week. They will be in the Tudor style, and will comprise entrance-hall, library, and lecture rooms, private class rooms, &c.; estimated expense, upwards of 5,000*l.*——Some masons at Glasgow have struck work on a demand of 12½ per cent. advance on 1*l.* a week's wages. According to the local papers there is "a shoal of unemployed masons from the country" quite ready to take their places.——The *Belfast Northern Whig* says that Government has resolved to establish three schools of design in Ireland; namely, at Belfast, Dublin, and Cork.

NEW CORN EXCHANGE, LEWES.—Another, and yet another! The new Corn Exchange at Lewes is the largest room in the county of Sussex: the dimensions are—156 feet long, 33 feet wide, and 36 feet high. On other days but Tuesdays it is used, if required, for assemblies, concerts, &c.; in fact, it is belonging to the Star Hotel, and the principal entrance is through a lobby leading from a very beautiful carved staircase, which many years ago belonged to one of the largest mansions in the county. It has a light iron roof (railway station style), from which it is lighted on both sides, and though quite plain and without pretence, the apartment has a character, if we may judge from a lithograph of it, which is creditable to the taste of its architect, Mr. William Dunk.



BRIDGEWATER HOUSE, LONDON.—MR. BARRY, R.A., Architect.—(See page 445.)

RAILWAY JOTTINGS.

Among the plans which these pinching times of poverty have suggested for the economy of working expenses, one of the most curious and important seems to be the Lilliputian system of Mr. Samuels and Mr. Adams, now about to be tried in the branch traffic on part of the Eastern Counties and Bristol and Exeter. To diminish the unprofitable weight of a train, and increase the tractive power of that weight to the utmost, are, of course, the objects of this invention. They propose, says the *Railway Chronicle*, to form a single large carriage, like those at present made by Mr. Adams for the North Woolwich branch of the Eastern Counties, capable of carrying sixty passengers, and to carry on the front of it a small locomotive engine. The tender will form part of the carriage. Of course the weight of the whole is to be placed extremely low. There will also be a small additional carriage, so as to take on the whole 100 or 120 passengers, with engine and tender. The weight of engine and carriage will not exceed some 12 to 15 tons, and with passengers, will weigh perhaps 20 tons. ——Eighty-three railway Bills, authorising the raising of 14,887,270*l.*, viz. :—10,794,660*l.* by shares, and 4,137,610*l.* by loans, are stated to have received the Royal assent during the session.——The viaduct at Liverpool, for the Liverpool and Bury line, is nearly complete. The Walton and Upholland tunnels are finished, and all the bridges between Liverpool and Wigan are built. From near Wigan to the junction with the Bolton and Preston the bridges are all built. The large viaducts near Bolton are in a forward state. The masonry of the Darcy Lever viaduct is complete, and two-thirds of the iron-work is fixed. The stone viaduct at Bury is finished. The permanent way (double line) is far advanced throughout. Several of the platforms and stations are built, and the line may be opened next month.—— The temporary wooden bridge across the Tweed, on the north-eastern line from Newcastle has had a carriage on it, but it will not be ready till the 1st of next month.——On the under part of the Kelso and St. Boswell's branch line little progress is being made, if we except the bridge over the Teviot, at Roxburgh, where they are casting the arches. More time has already been expended on two miles here, it is said, than might have constructed a railway five times the length.

TO EXTINGUISH FIRES.

Dr. Reid has proposed a plan for extinguishing fires in ships. He says, in the *Daily News*:—"Flame or combustion cannot go on where there is carbonic acid gas. This is one of the elementary principles of chemistry. It may be shewn in various ways. A lighted taper plunged into a jar of carbonic acid gas is instantaneously extinguished; or, if we take the glass of a common argand burner, and close the upper end of it by a flat plate of glass, or even by a piece of card or pasteboard, firmly, so completely as to prevent any current of air through the tube, on introducing for about an inch or so the flame of a candle at the other extremity (the glass of the argand burner being held upright), it will shortly, usually in the space of little more than a minute, be extinguished, merely by the accumulation of the carbonic acid gas produced by its own combustion. The production of carbonic acid gas is completely at our command, for on adding dilute sulphuric acid to chalk, we can set at liberty, in the space of two or three minutes, enormous volumes of the so-called fixed air. The cost of material for a ship of 1,000 tons would not exceed, at the utmost, 15*l.* or 20*l.* sterling. By means of tubes proceeding from the upper deck, in connection with a cistern containing the dilute sulphuric acid, to the quarters below where there is most likelihood of danger from fire, or moveable hose (made of gutta percha), which can be introduced into any part of the vessel,—the oil of vitriol, previously diluted with water, can be at once poured over the chalk (which is to be thrown down in the place where the fire rages), and immediately, the carbonic acid being set at liberty, the fire is extinguished; for combustion cannot go on in an atmosphere of carbonic acid gas. I have been much occupied experimenting on this subject, and I find that from five tons of chalk as much carbonic acid gas may be obtained as will be sufficient to completely fill a vessel of 1,000 tons burden. The expense of laying the tubes will not exceed 30*l.* or 40*l.*; and, once laid, there is no further trouble or expense." The principle of the "Fire Annihilator," to which we have referred several times, seems here involved, but the apparatus would apparently be cumbersome, and application comparatively difficult.

Since the foregoing was in type, we have received the following letter from Dr. Reid:—

Sir,—As the patent of the "Fire Annihilator" does not seem to be capable of being immediately used, and as fires nevertheless occur daily or nightly, I beg leave to direct your attention to the plan I have proposed for extinguishing fires at sea; and if you feel disposed to notice it, may I beg that you will subjoin that I have ascertained the expense may be reduced to fully one-third of what was first named, by a peculiar adjustment, and that I only require a nominal fee for superintending the arrangement of the tubes, and a small allowance to my assistant for directing and explaining the manipulations necessary; so that the plan or scheme may be successfully wrought by the humblest capacity.

I am, Sir, &c.,

William Reid, M.D.

4, Salisbury-street, Strand.

TRIAL OF THE BOWSTRING RAILWAY BRIDGE.

On Wednesday week, one of the new wrought iron bowstring bridges, constructed for the Blackwall extension line, under the superintendence of the engineer, Mr. Locke, was publicly tested at Messrs. Fox Henderson and Co.'s works, near Birmingham, in the presence of the Government Inspectors of Railways, the secretary to the Government Board of Commissioners for inquiring into the strength of iron, the mayor of Birmingham and others. The bridge-rib presented a clear span of 120 feet between the bearings. It is constructed entirely of wrought-iron, and consists of an arch of boiler plates and angle-iron, tied across at the ends by horizontal bars, and the tie-bars are connected with the arch by vertical standards and by a double system of diagonals, with the view of distributing over the whole curve of the arch the action of weights placed on or passing over any point of the bridge. The proof was applied by loading the bridge-rib with 240 tons of rails, bars, &c., and it produced, as we are informed, the following results, as the weight was gradually applied.

Weight in tons of rails, &c. placed on the cross girders. Tons.	Extreme amount of deflection produced at centre of arch. Inches.
31½	0 1/8
68¾	0 3/8
102¾	1 1/8
137	2 1/8
171¼	2 3/4
205½	3 3/8
240	3 1/2

The proof weight was fixed at 240 tons, as being double the greatest load which the bridge can be required to bear. A heavy goods train weighs less than half a ton per foot lineal: a train consisting entirely of locomotive engines (which would be the heaviest of all possible trains) would only weigh one ton per foot lineal, and consequently would place a load of not more than 120 tons on a bridge of 120 feet span.

We were not present, but have no doubt as to the correctness of the results reported to us.

The Diorama in the Regent's-park, with the two pictures now exhibiting, and thirteen large pictures of former years, has been sold by auction for 6,750*l.* The building is said to have cost 10,000*l.*, and is held for an unexpired term of 74 years.

Dinner to a Sculptor.—In the week before last, a public dinner was given in the cottage of Burns, Ayr, to Mr. Fillans, sculptor, on the occasion of his sojourn in the neighbourhood after the "inauguration" of his statue of the late Sir James Shaw, Bart., at the cross of Kilmarnock, and the bust of Professor Wilson, at Paisley.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday in last week, at the Sewers-office, Greek-street, Soho-square; the Rev. W. Stone in the chair. The court was held for the purpose of hearing appeals against the sewer-rates for the Westminster district of the commission.

Appeal of the Vauxhall-bridge Company.—The chairman of the Vauxhall-bridge Company, and a deputation of the Directors, attended the court for the purpose of appealing against the sewer-rate charged upon the Company for the bridge, and also for a house belonging to the Bridge Company.

The Chairman of the Company being called upon to shew cause why the rate was objected to, said, in the first place they received no benefit, and avoided no damage by the works of the commissioners, as the bridge was considerably above high-water mark, and there was an excellent causeway leading to the Houses of Parliament. If any benefit was received, however remote, the law might be so strained that the party benefited could be called upon to pay the rate; but even on this ground the liability of the Company was entirely out of the question. As regarded this Company, the commissioners were utterly powerless, as they had no jurisdiction over the bed of the river; for when the Act was obtained a large sum of money was paid to the corporation of the city of London for interfering with their property. He was aware that a dispute was pending between the Crown and the city of London as to that right, yet still that did not affect the present case, as the Commissioners of Sewers had no power over the bed of the river. The bridge stood upon eight piles in the river, and if there was any portion in their jurisdiction it was the abutment, which could only be liable to a small proportion of the charge levied, according to the charge for the eight piers. In support of his argument he referred to "Challis on Sewer Rates," and the case of "Masters *v.* Stall," where Lord Tenterden laid it down in his judgment, that if a party receives, or is likely to receive benefit, he was liable, but not otherwise. He also cited the cases of "Neave *v.* Werther," and "Tracy *v.* Taylor," as to the non-liability of the Royal Chelsea Hospital and the Millbank Prison; and the opinion of Lord Denman in giving judgment in the former case, who then said that there was an inconvenience, expense, and trouble in taxing public buildings, and that such taxes ought not to be imposed on public property. This bridge was public property, for by the terms of the Act of Parliament the Directors had only powers to levy tolls till the debt originally incurred was paid off, when the bridge would become the property of the public.

Mr. Hutton wished to know whether the Company paid the poor-rates?

The Chairman of the Company said most undoubtedly they paid poor-rates, being general rates for all property, but a sewer-rate was a very distinct case. It had been laid down that the commissioners might decree lands in default of payment of rates, but could it be argued that in default of payment they could seize upon Vauxhall Bridge?

Mr. Leslie.—Most certainly.

The Chairman, in conclusion, remarked that although former rates had been paid, yet they had always been paid under a protest, and on one occasion a distress had been put into their toll-house for the amount. As each rate, however, became a separate debt, they could not be prejudiced by any former transaction. He then recapitulated his arguments, and said that under the circumstances he humbly and confidently submitted that this species of property was not liable to sewers-rates, intimating at the same time that the Company had taken the opinion of counsel, who assured them they were justified in their resistance to them and were not liable.

Mr. Hutton was of opinion that the Company did receive benefit from the works of the commission, and held a beneficial occupation. The question as to bridges had been settled long ago.

Mr. Leslie said that even the Act for building Vauxhall Bridge, and under which the gentleman now before them held his office, contained a clause, that nothing therein should tend to alter or diminish the powers of the Westminster Commissioners of Sewers. If the approaches to the bridge were overflowed, the bridge itself would be useless.

Mr. Hertslet (the Clerk) said the Vauxhall Bridge approaches crossed one of the most expensive sewers in the Westminster district; and one part of the Vauxhall Bridge-road was three feet below high water, and but for the works of the commissioners this would be overflowed. If their sewer fell in the approach to the bridge would be stopped.

The Chairman of the Company wished to know, as the bridge stood in the river Thames, for what part they were to be rated? Surely, they would not call the Thames a sewer?

Mr. Leslie—Certainly it is, and the principal sewer of the metropolis. (Laughter.)

After a few words from Mr. Chadwick, and other

commissioners, a motion was proposed and seconded "That the rate be confirmed."

The resolution was put and unanimously carried. A vote of thanks was passed to the Speaker of the House of Commons for the accommodation he had afforded for the meetings of the court for the last seven months.

New Books.

Principles of Geometry, Mensuration, Trigonometry, Land-Surveying, and Levelling. By THOS. TATE, Mathematical Master of the National Society's Training College, Battersea. Longman, Brown, and Co., London.

WE have already had occasion to speak with commendation of Mr. Tate's labours in simplifying arithmetical and mathematical studies. The present little work is intended by the author "to supply teachers and practical men with a simple and concise, yet comprehensive system of theoretical and practical mathematics, embracing geometry, trigonometry, mensuration, surveying, and levelling,"—and appears to us, to a very considerable extent, to answer the intention. We can conscientiously recommend it to those who wish to acquire the description of knowledge of which it treats,—and of the importance of this knowledge, and the necessity for acquiring it, we cannot speak too strongly.

The chapter on the principles of estimating the value of artificers' work will be found very useful. The author remarks with truth:—

"The custom of estimating and contracting for work by the 'lump' is very little better than a modified form of gambling, by which the contractor may either make himself a fortune, to the injury of his employer, or render himself penniless, with all the moral evils resulting from hopeless and irretrievable pecuniary embarrassment. Teachers of elementary schools and mechanics' institutions would confer a great benefit on society, by teaching the simple and fundamental principles of estimation, rather than waste the time of their pupils in giving 'sums' which are only calculated to amuse the curious, without conveying any satisfactory information to the man who is engaged in the business of life. It is true that some of these 'sums' may exercise the mind, but it is an important fact, which should never be lost sight of, that those investigations which have the greatest practical bearing invariably form the most healthful and instructive exercise to the intellectual powers."

The Treasury of Natural History; or, a Popular Dictionary of Animated Nature. By SAMUEL MAUNDER, author of "The Treasury of Knowledge." Longman, Brown, and Co. London, 1848.

BY 800 closely-printed pages, in double columns, and 900 wood cuts, Mr. Maunder has given in this cheap "Treasury," an amount of information, "in which the zoological characteristics that distinguish the different classes, genera, and species, are combined, with a variety of interesting information illustrative of the habits, instincts, and general economy of the animal kingdom," that cannot elsewhere be obtained for double the cost.

The whole of the articles are printed in alphabetical order, so that the name of the animal being known, its character and habits can be instantly ascertained, while those who wish to study this branch of natural history according to system, will find an introduction containing Cuvier's arrangement, with alterations to meet the present advanced state of the science, and references to the different genera described in the body of the work. It has all the advantages of a dictionary without its dryness, for it is interspersed with characteristic anecdotes and reflections, and is as pleasant for desultory reading as it is useful for precise inquiry.

The value of the book, which is really a monument of industry, will be increased to a large class of readers, if, in succeeding editions, the names be *accented*.

Rambles about Bath and its Neighbourhood. By JAS. TUNSTALL, M.D. Simpkin and Marshall, London; M. Pocock, Bath. Second Edition.

THIS is a very pleasant little book about an interesting neighbourhood, and is illustrated by a number of woodcuts. As it will doubtless become the standard local guide, it is desirable that the architectural descriptions should be a little more full and precise. A map of the environs of the city accompanies the work, and greatly increases its value.

Dr. Tunstall has worked *con amore*, and has thrown into his book much vigour and spirit.

Miscellanea.

THE SMOKE QUESTION.—A writer in the *Kentish Mercury* refers to an article on the smoke nuisance, which appeared in THE BUILDER a short time since. Speaking of the argand furnaces, he says—"It is a curious circumstance, which chemists can all well understand, that supposing we lived and moved in an atmosphere of coal gas, instead of one of oxygen and nitrogen, as at present, our gas manufactories would have to use not coal but manganese, or some other product yielding oxygen. Imagine two gasometers, one filled with coal gas, and having a gas chandelier hung from the roof, inside, and this connected by a flexible pipe with the second gasometer, filled with atmospheric air or oxygen; it is evident that the air or gas might be pressed from this second gasometer through the flexible tube, down the tubes of the chandelier, into the coal gas occupying the first gasometer. If flame, or the electric spark, were then immediately applied to the jets, on the instant of their so issuing from the chandelier, combustion would proceed as at present; only apparently atmospheric air would seem to be a combustible! This is just what is taking place in the argand furnaces; the air, so to speak, is showered into the volumes of coal gas, in innumerable small jets, ensuring a complete admixture, and rendering combustion so perfect, as entirely to avoid those dense clouds of smoke which disgrace the funnels of every steam-boat on the river, and all the large works in and about our otherwise favoured town."

THE COLOSSEUM.—We alluded some time ago to the magnificent panorama of "Paris" at this establishment, but scarcely said so much as its merits warrant. The striking events which have occurred in that city have been so minutely described by the daily papers, that the names of the streets and buildings of the once "gay" capital are become as familiar to our readers as those of our own city, and this renders a visit to the colossal panorama, where we at once recognise the localities of these scenes, doubly interesting. They are so vividly brought before the spectator, that he may fancy himself amongst them. The correctness of the picture is perfect. It is to be hoped that the exertions of the proprietors in producing such a subject of interest at the time, have been amply repaid by crowds of visiters. The extraordinary panorama of "London by Night," which was formerly exhibited there, is about to be removed to Liverpool, and we believe eventually to New York. It was displaced earlier than was intended, the exciting events in Paris having induced the proprietors to bring forward the present panorama of "Paris by Night." Mr. Bradwell is now engaged in preparing in their extensive new building in Albany-street, an entirely novel exhibition, to be called the "Cyclorama," in which a colossal moving panorama of great historical interest will be exhibited.

CHINESE CARVING.—The means by which the concentric balls which come from China can be carved one within the other, have long been matter of dispute. No join is to be discovered, but a recent traveller states positively that each ball is constructed of two pieces, the edges of which are so finely scraped down, that the edge of one hemisphere is made to overlap its counterpart with the greatest nicety. Thus one ball is easily inclosed within another. The joinings are then united by a peculiarly strong cement, aided by the employment of steam and pressure. He says that any one who wishes to make the expensive trial will soon ascertain the fact by applying a very powerful heat to one of these balls, which will open at the joints in due time.

VISION OF OBJECTS DURING RAPID TRANSIT.—At the meeting of the British Association, Sir David Brewster mentioned some curious facts relative to the vision of objects during rapid travelling. On looking out of the window of a railway carriage, for instance, if the eye be fixed on a row of stones or of palings, the image seems confused, and to be rapidly moving away; but if the axes of the eye be suddenly turned to some nearer spot, then the stones or palings are for an instant distinctly seen stationary. Sir David Brewster said he could not yet account for the phenomenon. Dr. Whewell and other members mentioned similar instances of optical illusions, with a view to explain the cause, but Sir David was of opinion that the cases mentioned were not parallel.—Of course it is merely by the rapidity with which one changing impression succeeds another in the eye that confusion of all appears in the endeavour to realize any one of them separately or distinctly. But is it not merely because, in the act of turning the focus of forcible impression from the more distant towards the nearer object, the impression of the last direct glance at the more distant is vanishing quietly without a repetition of the confusing succession of impressions on the same points, that the object engaging the attention is for an instant distinctly seen? And, morever, is it not more particularly by sudden *comparison* with the more rapidly shifting *relationships* of position in which the eye stands *to nearer than to more distant and more relatively fixed* points or objects, that the more distant do thus appear for an instant to be altogether *fixed*, the more so, of course, when *the attention* is fixed upon such objects, *distinctly seen*, or realised by the mind, in the midst of a field of confusion? We are convinced, however, that the *re-member*-ance of visual composite impressions *from within*, through the optic apparatus (*as in optical illusions*, which we some years since discovered the possibility of evoking at will, in susceptible persons, by the mere exercise of their own fixed attention, through the eye, upon the centre of a clear external surface, such as that of polished metal, or even a mirror, and especially in the gloom of the evening), has much more to do with such phenomena, and, indeed, with vision in general, than is ordinarily conceived.

COMPRESSED-AIR LOCOMOTION ON COMMON ROADS.—Another exhibition of Baron Von Rathen's locomotive took place on Thursday week, on the road between Putney and Wandsworth. This trial was for testing the apparatus for working the air expansively, which, however, was unfortunately leaky, and much of the power was lost. The carriage weighing 3 tons, and carrying 25 to 30 persons, is said to have started in good style, and kept pace with former experiments, as to time and distance. The patentee considers he has now solved the problem of the practicability of employing compressed-air in locomotion, and regulating it as to distance, speed, load, nature of road, &c. He is prepared, says the *Mining Journal*, to shew to mathematical demonstration, that he can embody sufficient power in this model air-carriage to carry $4\frac{1}{2}$ tons, including carriage, 10 miles in one hour on common roads, or a train of 45 tons in the same time the same distance on a railway; but if carried out on a large scale on the latter, he contends that the system would effect a saving of 75 per cent. over the steam locomotive.

PROJECTING SHOP-FRONTS.—Last week, at Bow-street, Mr. Deane, a shopkeeper residing at 316, High Holborn, was summoned for having erected a shop-front which extended beyond the distance allowed by the 57th George III., sec. 72.—Mr. Parry, for the commissioners of pavements, stated the facts, and called Mr. Robert Southgate, the surveyor of pavements, who stated that one end of the shop front extended $11\frac{1}{2}$ inches beyond the house, and the other end was $13\frac{1}{2}$ inches. It was a new front, and he had given notice to Mr. Deane to alter it, but the notice had not been attended to.—By Mr. Bodkin, on behalf of Mr. Deane.—He gave notice that the front projected too far before it was finished. The old front had extended the same distance. In fact, the new one occupied exactly the same position. It was not the practice of the commissioners to interfere with old fronts which

exceeded the width allowed by law, as it would put many tradespeople to inconvenience; but when a new front was erected, they gave notice to have it so constructed as not to infringe upon the foot pavement. The old front at Mr. Deane's might have existed for more than twenty years. It was originally a gunmaker's shop, and witness remembered the old front as long as he could recollect anything in the parish.—Mr. Henry, on hearing this, said that, as the commissioners admitted that the front had existed for years in the same position as the new front complained of, the present one being in fact equivalent to a repair of the old one, he did not think they had any right to require Mr. Deane to remove it; he therefore dismissed the case. Mr. Parry wished to know whether he could appeal against this decision, but was informed by Mr. Henry that there was no appeal.

Transmutation of Metals.—Although the days of the alchemists are gone, the alembic of nature is still in operation, and changes in the material of which this globe is composed are continually going on; perhaps, in many instances, unobserved. We are led to these remarks from a specimen we saw lately of an umquhile cast-iron pipe, that had been used in this neighbourhood for carrying gas, and had been laid some years in a peat soil. The cast-iron was completely changed into black-lead or plumbago. It stained paper the same as a pencil. Its specific gravity had been reduced from the common gravity of cast metal, say 7.7 to 2.06. The original thickness of the pipe we have no means of ascertaining, but we should think it a good deal increased. Whether the carburetted hydrogen alone can produce such changes, or if it is a combination of that and the peculiar soil, we cannot tell; but as we believe the pipes in many places here have given way, those connected with the gas management should look into the matter, and see if something could not be applied to the pipes before they are put down, to prevent the constant loss and trouble attending this natural source of decay.—*North of Scotland Gazette.*

Cutler's Patent Lap-Welded Iron Tubes.—[Patentee, Job Cutler, C.E., Birmingham. Patent dated January 13, 1848, for certain improvements in welded iron pipes or tubes to be used as the flues of steam-boilers. Specification enrolled July 13, 1848.] The patentee states that the object of his invention is to produce lap-welded iron tubes or pipes, so formed as to give increased strength to those parts which are exposed to wear, without additional weight to the entire length of the tube, and thereby to obviate the evils to which boiler tubes are at present exposed. He proposes to effect this by making the internal diameter of the tube greater at one end than at the other, instead of its being the same or uniform throughout, as has hitherto been the case; the external diameter remaining, however, the same, and uniform throughout the entire length of the tube. The tube will, of course, be cylindrical upon the exterior, and conical upon the interior surface. The increased thickness of metal at the one end is to be drawn from the remaining portion of the entire length of the tube. And further, the operation is effected at one heat, so that the ductility of the iron of which the tubes are composed shall remain unimpaired. The *modus operandi* is as follows:—The patentee employs a series of grooved rolls, moved by suitable toothed wheels and a mandril, with a conical bulb or head, the stem of which is of increasing diameter towards the opposite end. The skelp, after being properly prepared, as is usual in the manufacture of lap-welded iron tubes, is heated and passed between the first of the series of rolls. It is then welded over the conical bulb, and forced at the same time over the stem of the mandril. This mandril is held by a grip, attached by a hinge thereto in a stop, so as to allow of its being lowered and passed, after the conical bulb has been removed, between the second series of rolls, the diameter of the groove of which is smaller than that of the first series. The tube, with the mandril still inside, is passed through the third series of rolls, the groove of which is smaller than that of the second series. The object of these successive rollings, after the skelp has been welded on the mandril, is to remove any irregularities upon either of the surfaces, and to make the edges of the tube perfectly smooth and uniform. The tube is then taken to the drawing bench, in front of which is a stop, and against which the pipe rests. The stop is furnished with a hole to allow of the passage of the grip of the mandril, which is held tight by a pair of pliers: and the bench being made to move while the pipe remains stationary, the mandril is withdrawn. When it happens that the mandril adheres too tightly to the tube, it is proposed to heat it in a muffle or furnace, then to cool the end which rests against the stop, and repeat the above operation, or to roll it cold between three rollers, as is usually done in straightening shafting.—*Mechanics' Magazine.*

The new Railway Works at Newcastle.—In their account of the late opening of the high level bridge across the Tyne, one of the local papers gives a description of the new works, to which we are indebted for the following particulars:—The approaches from the south and north are themselves extensive works, comprising bridges, viaducts, and embankments: the whole works contain upwards of 1,200,000 cubic feet of masonry. From the southern approaches the line is carried over a platform supported by cast-iron pillars, which rest partly upon sleeper walls, carried up to the height of the carriage roadway; and also upon three semicircular arches of 22 ft. 9 in. span, and one of 36 ft. 3 in., the north abutment of the latter being at Pipewellgate, and from which the cast-iron arches of the bridge spring: the cast-iron pillars are bound together at the top by longitudinal and transverse trough-girders. Between this point and the river pier on the south side, the cast-iron arch and roadway are nearly completed. From the middle of the first arch the line curves to a temporary timber viaduct erected along the west side of the intended bridge. The height of this viaduct is 120 ft. to the level of the rails; it is built upon piles, which are driven between thirty and forty feet into the bed of the river. On reaching the north side of the river the temporary line is curved into the permanent line at the bridge over the Close, there being a strong abutment, from which the cast-metal arches spring. The height of the arch over the Close is 103 ft. to the level of the rails, and the span is 36 ft. 3 in. This is the highest point of the line, on either the south or the north shore. The line then curves to the west, along the south side of the Castle Garth to Clavering-place, which is crossed by a skew bridge; and there is another skew bridge over the deviation of the Postern. The retaining walls of the embankment here form one side of the Postern and Bailiff-gate. The permanent line will run westward into the general station at the Forth as soon as it is completed. There is room all the way along this part for five lines of railway. The junction between the temporary and the permanent line is a little west of the Norman Keep, by the north side of which the permanent line proceeds eastward. The viaducts on the north side, as well as the high level bridge, are under the contracts of Messrs. Rush and Lawton, who have here set as much as 22,000 cubic feet of ashlar work. Having upwards of 200 parties to treat with, the works were set out in detached portions, yet no alteration or reconstruction was required at any one point.

Projected Works.—Advertisements have been issued for tenders by 21st inst., for the building of a Presbyterian Church at South Shields; by dates not specified, for the erection of two martello towers in Pembroke dockyard; and for the erection of a workhouse at Wokingham (extension of time); by 26th inst., for the erection of houses and carriage sheds for the South-Eastern Railway Company (extension of time); by 18th, for the erection of a coal store for the Poplar Union; by 20th, for paviours' and masons' works in St. James's, Westminster; by 29th, for the building of a police station and lock-up at Shotley-bridge (Durham); by 9th proximo, for making an oval sewer with branches, &c., at Bristol; by 3rd, for the construction and erection of a wrought iron swing bridge at Belfast; by 20th inst., for a supply of 70 tons of iron rails for the Cornwall Railway Company; by 20th, for a supply of British iron, best plate iron, &c., for the East-India Company; and by 28th inst, for a supply of stone ground or plate glass for the navy.

Prevention of Boiler Explosions.—Mr. Heath, C. E., and mine surveyor, of Hanley, in the Potteries, thus describes a regulator which he has adopted:—A water tank, formed of iron water-pipes—say 12 inches diameter—is placed conveniently to the boiler, with a cover bolted down steam tight, and from the top a communication with a reservoir. From the bottom a pipe proceeds into the side of the boiler above the usual water line, terminating in a rose end, and a valve opens outwards from the tank, weighted to any required pressure. The boiler is furnished on its top with two special valves, with weights inside, and covered by a box, to be kept locked. From this box a pipe proceeds to the upper part of the tank above the water line. Should the usual safety-valve become fast, or incapable of letting off sufficient steam, the valves in the box admit a rush of steam to the surface, when the pressure acts on the column of water, forcing a stream in the form of rain through the steam in the boiler, which it condenses, taking off the pressure, and the valves immediately close. The whole is thus self-acting, and only needs regulating the weights to the power required.

The New Suspension-bridge at Niagara Falls.—It makes the head dizzy to look at it, says the *Albany Journal*, and yet it is traversed with as much security as any other bridge of the same width. We were present while the workmen were engaged in hanging the planks over the fearful chasm. It looked like a work of peril, but it was prosecuted with entire safety. Not an accident has happened since the first chord was carried across the river at the tail of a kite. It is impossible to give the reader a clear idea of the grandeur of the work. Imagine a foot bridge 800 feet in length, hung in the air, at the height of 230 feet over a vast body of water rushing through a narrow gorge at the rate of 30 miles an hour. If you are below it, it looks like a strip of paper suspended by a cobweb. When the wind is strong, the frail, gossamer looking structure waves to and fro as if ready to start from its fastenings, and it shakes from extremity to centre under the firm tread of the pedestrian. We saw the first person pass over it—Mr. Ellet, the builder. His courageous wife soon followed him, and for two days hundreds, attracted by the novelty of the thing, took the fearful journey. Strange as it may seem, there were those who had no hesitation to slide over the awful chasm in a basket, upon a single wire cable, who could not be induced to walk over the bridge. When you find yourself suspended in the air, with the roaring, rushing, boiling Niagara 250 feet below you, if your heart don't flutter, you will have nerve enough to swing over Vesuvius!

Gas in Cheltenham.—A correspondent writes as follows:—The Cheltenham Gas-light Company make the following charges—Under 5,000 cubic feet, 7s. 6d. per 1,000, 5 per cent. dividend; if 5,000 and under 10,000, 10 per cent.; if 10,000 and under 50,000, 15 per cent.; if 50,000 and under 200,000, 20 per cent.; if 200,000, 25 per cent. The company charge 10s. per annum for the meter; and all service-pipes and fittings are executed by a person authorised by them. Their customers are obliged to pay upon their estimated consumption each half-a-year in advance—as good as a 5 per cent. added to the charge. The multitude of smaller consumers have no deduction of per centage, though they equally would be obliged to pay in advance. The Cheltenham Gas Company would no doubt declare a small dividend upon their outlay, and attempt to prove the justice of plundering the public by charging highly for a *costless article*. So did the gas makers in Liverpool, where the charge, I believe, was 10s. per 1,000 cubic feet, till they reduced the price to 4s. 6d. per 1,000 cubic feet; and now they receive 10 per cent. on their capital. The price of the best coals at Cheltenham is 16s. per ton.

Oaks.—The following are said to be the largest British oaks which we have on record:—The Cowthorpe, in Yorkshire, which measured 48 feet in circumference at a yard from the ground; the Shrewsbury, 44 feet at the bottom; the Essex, 36 feet at the bottom, and known by the name of "Fairtop;" and the Hatfield, 38 feet circumference and 120 feet high.

TO CORRESPONDENTS.

"Fine Years' Sub."—Write to Mr. Lockhead, Milton, near Gravesend. The perforation of glass for ventilation is effected as follows:—In forming plates of glass, the glass, when in a semi-fluid state, is poured from the pot on to the casting table—the stream being followed by a pressure roller, for the purpose of flattening it; and while the glass is in a plastic state, a metal mould, with teeth, or projections, on its under side, according to the pattern required, is applied to the surface, forcibly pressed down, and left in that position until the glass has set; after which it is to be removed, and the glass will be found to be perforated, in corresponding shapes to the projections on the mould.

"Fides."—The competition is open to all. A letter to the secretary, "Adelphi, Strand," will obtain full particulars.

"J. E." (Liverpool).—Ditto.

"Enquirers."—Give notice to the district surveyor: it will be his duty to see it remedied.

"B. B." (Chester).—We should like to have further particulars: how and where tried; what time? As respects preserving the service of old red sandstone, see notice of Hutchison's patent in present number.

"A Student."—Coal ashes make an excellent mortar with lime, but need much labour in the mixing than sand.

"A Subscriber."—We should be happy to receive drawings of such.

"Chimneys."—A shaft was carried at Wigan to a height of 420 feet.

"Received."—"W. F.," "W. B." (Brighton); "J. D.," "E. N.," "J. W.," "P. P.," "G. S." (without a description of the trap the statements are valueless); "R. W." (see below); "J. L.," "J. H.," "G. J. R." (shall appear); "W. W.," "K. L.," "W. D.," "S. W." (we shall be happy to look at it); "Constant Reader;" "J. L.," Edinburgh (the statement has already appeared); "History of the New Palace of Westminster," Parts 1 and 2 (Warrington and Son, Strand); "Miscellaneous Mathematical Papers of Oliver Byrne" (Maynard, Leicester-square).

"Books, Prices, and Addresses."—We have not time to point out books or find addresses.

ADVERTISEMENTS.

RIDER'S RAILWAY BRIDGE. — To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr MOULTON, Bradford, Wilts.

MACHINERY SUPERSEDED.—Architects, Builders, and others may have any quantity of Carvings executed at the same rate, and with as much expedition, by manual labour as by machinery, by applying to F. IRISH, Carver, Windmill-street.

N.B. Designs made and estimates given without delay. Patterns carved for casting in brass, iron, or other metals.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence.—Orders to be addressed to Mr. B. TODD, Patentee, 93, Denn-street Soho, London.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights. Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c. ; Gas and Water Pipes from 1¼ inch to 3 in. in diameter, with Bends, Branches Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Whitehall-yard; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 63, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and rose pipe, ready to be screwed on to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of the Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Lutes with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

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B. and C. challenge competition as to either quality or price. Designs furnished and estimates given.

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SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

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AGENTS WANTED for those towns for which appointments have not yet been made. JOHN REDDISH, Manager.

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The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. The Premiums are, at early and middle ages, about 20, and in some instances 35 per cent. below those of most other Mutual Offices.

This Society being Mutual, is free from the necessity of a nominal, or the burden of a real capital. Thus dividends and similar charges on the funds are avoided.

The peculiar and leading advantages of this Office may be thus briefly stated:—

PREMIUMS 20 or 35 per cent. LOWER than in most other similar Offices, at early and middle ages. Thus, the premium of the Institution, at age 30, for 100l., would, in most of the other Mutual Offices, require 128l. 7s.; which is obviously equivalent to a present and certain bonus of 28l. 7s., exclusive of prospective profits.

Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.

The 21 years' scale little exceeds that of most Offices for the whole of life. (See Table below.)

Exemption from entry charges, &c.

The society is bound by its deed of constitution to make liberal provision to members wishing to discontinue their payments.

The whole profits are divided among the assured exclusively, on a principle peculiar to this office, and which is at once equitable, secure, and especially beneficial to good lives, being entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured, it is evident that much larger profits may thus accrue to the participators than by the usual system of other offices, even though their premiums are considerably higher.

More detailed illustrations of the effects of this principle may be obtained at the offices.

Specimen of Premiums for 100l. for whole Life and for Twenty-one Years. (These rates include a prospective share in the whole profits of the institution.)

Age	Payable for whole of Life.	Payable for 21 years only.	Age	Payable for whole of Life.	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 18 0	2 10 8	36	2 8 2	3 0 11
26	1 18 6	2 11 3	37	2 9 8	3 2 2
27	1 19 2	2 11 13	38	2 11 3	3 3 5
28	1 19 11	2 12 10	39	2 12 11	3 4 10
29	2 0 8	2 14 8	40	2 14 9	3 6 4
30	2 1 6	2 14 11	41	2 16 8	3 7 10
31	2 2 6	2 15 5	42	2 18 8	3 9 5
32	2 3 5	2 16 4	43	3 0 11	3 11 1
33	2 4 6	2 17 5	44	3 3 3	3 12 10
34	2 5 7	2 18 6	45	3 5 9	3 14 9
35	2 6 10	2 19 8			

All necessary information and forms may be obtained on application at the principal offices in Edinburgh, London, Glasgow, and Manchester, or from any of the provincial agents.

WILMER OWEN HARRIS, Secretary for London.
Office, No. 12, Moorgate-street, September, 1848.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slab and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 163a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193a, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Parkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Conner, Newton Lindvady, County Derry.



	In London.	At Tunstall
Blue and Red Squares, 6" and 1"	at 2s.	10½d. per yard, and 1s 5½d
Ditto ditto	7½" and 1⅛" at 2s.	10½d. per yard, and 1s 7½d.
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ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is probably superior to every other for drains or conduits (as glass, or artificial glazes, corrode), for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4, Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

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WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lined to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of dry HONDURAS and SPANISH MAHOGANY and WAINSCOT always on hand, suitable for Builders, Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all persons requiring well-seasoned materials at moderate prices, at C. C. WILSON'S Timber Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon working the same it has proved otherwise

MUIRS PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
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N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patents, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to 24, GRACECHURCH-STREET, CITY.

TIMBER-PRESERVING COMPANY.—PAYNE'S PATENTS for the PRESERVATION of TIMBER against DRY ROT, DESTRUCTIVE RAVAGES of WORMS, &c.)—The above Company are ready to enter into arrangements for the Preparation of Timber at any of their undermentioned stations, viz.:—

Whitehall Wharf, Westminster,	Lynn,
Fleetwood-on-Wyre,	Staines,
Whitech,	Southampton,
Gateshead,	Hartlepool,
Barnstaple,	Darlington;
Leicester,	

and they will erect the necessary apparatus wherever there is a considerable quantity of timber to be prepared.—Further particulars, with prices, may be obtained at the London Works, Whitehall Wharf, Cannon-row, Westminster.

THE TIMBER-PRESERVING COMPANY.—At the First General Meeting of the Company, held at the Company's Offices, Whitehall Wharf, Cannon-row, Westminster, on Friday, September 8, 1848; GEORGE BURGE, Esq., in the chair. The Secretary having read the advertisement convening the meeting, the following resolutions were unanimously adopted:—

1. That the common seal of the Company be affixed to the register of shareholders.

2. That the following gentlemen be the Directors of the Company, viz.:—

George Burge, Esq.	Charles Payne, Esq.
Henry Hitchins, Esq.	Charles Browne Smith, Esq.
Frederick Hitchins, Esq.	James Neville Lowe, Esq.
Edward Loder, Esq.	William Warren, Esq.

That the annual sum of 436l. 16s. be paid to the Directors for their services, as from the 1st May, 1848, and that such sum be apportioned amongst them in such manner as they may think fit.

3. That Mr. William Bridges and Mr. William Bunce Greenfield be appointed auditors to the Company, and that they be paid the annual sum of ten guineas each for their trouble.

4. That the directors be authorised to appoint a secretary, and to pay him such salary as they may think fit, not exceeding 200l. per annum.

5. That the directors be authorised to order the common seal of the Company to be affixed to the deeds and instruments necessary for vesting in the Company the letters patent, machines, workshops, yards, premises, machinery, plant, materials, stock, property, and effects, purchased on behalf of the Company from Messrs. Payne and Loder, and for securing to Messrs. Payne and Loder the purchase-money or other consideration for the same.

GEORGE BURGE, Chairman.

That the thanks of the meeting be given to the chairman for his able conduct in the chair.

R. C. DUKE, Secretary.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEPRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 9,000 are now in use, defying injurious Gas and are not affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

WHITE'S PATENT HYDRO-CARBON GAS.—The advantages of this Gas are as follows:—It does not require any purification; the cost is much less than the ordinary coal gas, and the apparatus necessary for its production not half the price; it is perfectly free from sulphuric acid, sulphurous acid gas, ammonia, &c. &c., and giving a most brilliant light, not injuring the health of the inmates, nor destroying the goods in the house where it is made and consumed. It may be seen in full operation at the Royal Polytechnic Institution, Regent street, where its properties are explained daily by the Professor Ryan. Parties requiring this cheap and beautiful Gas for lighting towns, factories, or dwelling-houses, may procure any information from the Patentee, Mr. STEPHEN WHITE, or from Mr. GEORGE FOWLER, at the Patent Hydro-Carbon Gas Offices, No. 9, Lincoln's-Inn Fields.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades:

HHHH for drawing on wood.	FF light and shading.
HHH for architectural use.	F for general use.
HH for engineering.	B black for shading.
H for sketching.	BB ditto ditto.
HB hard and black for drawing.	BBB ditto ditto.
M medium.	BBBB ditto ditto.

Sold by all the principal Stationers in town or country.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin; Wharf at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, SOUTHERTHITE. Sole Consignees for Atkinson's Cement.—Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in its application for which purposes it checks the progress of fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Steel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 343 and 361, of "The Builder," for accounts of experiments on the strength of Portland Cement Mortar.—These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement, it does not vegetate, oxydate, or turn green, nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as evinced by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses, particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Stedfast, Upper Thames street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for the purpose of producing beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; is adapted to enrichments of the most elaborate description, and the most moderate embellishment. So perfect are its setting or crystalizing properties, if at the coarse quality, that applied to newly built or damp walls, may be immediately painted, papered, or papered and rooms rendered habitable before the masonry is generally used would begin to dry. Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from its greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-mouldings, Paterae, &c. &c., 36-inch Centre, Flowers fixed complete, 21s each, smaller in proportion. An assortment of Shop-front Trusses always ready for hving.—JOHN HERBERT and SON, Modellers, &c., 32, Paraer-st., Drury lane.

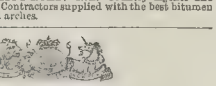
PLASTER or GYPSUM QUARRIES, —BROWN and RAGSDALE, Newark-upon-Trent, in addition to their old, have just opened some new Quarries of Plaster of the quality excellent, and have now on hand for sale a large stock of Best White Rock, Second White, Best Grey Rock, and Second Grey.—Freights to Gainsborough, 2s; Hull, 4s. per ton. An assortment selected from those who have not yet purchased at first hand. Newark, August, 1848.

SLATE SLABS, of the finest quality, planed on both sides, at reduced prices, may be had of Messrs. JONES, Wharf, Limehouse, and 18 Wharf, Macclesfield-street, City-road Basin. Enamelled Chimney Pieces, in superior style, Wash-hand-stand and Table-tops, &c., are in daily production at the above places. A large assortment of best Bangor Roofing Slate are constantly kept on hand, at prices considerably reduced

MAGNUS'S ENAMELLED SLATE.—Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c. &c. This beautiful material has been introduced into Buckingham Palace, the Grand Entrance Rooms at Osborne, Apsley House, Strathfieldsaye, &c. &c., and it is now taking the place of marble in the mansions of the nobility generally. It is also, at present, used in Government offices, and principal railway stations, and short time will prove its superiority over marble. It is admirably adapted for the construction of conservatories, fire proof buildings of every description, and is available to ship at the ranges, than marble. The cheaper qualities, such as black and gold, sienna, paper, and antique, per black, are not more than one-third of the price of marble. Among the articles manufactured at the Pimlico Slate Works, are chimney pieces, consoles, billiard and table tops, tablets, tazzas, mural tablets, baths, wash-stand tops, &c. &c. Cisterns exceedingly moderate terms. Welsh slate slabs of the finest description, at very reduced prices.—N.B. The trade supplied with whole cargoes, sel-faced, or planed on one or both sides, direct from the quarries. A book of prices will be forwarded on application to Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth. A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application post paid, being made, and including a postage stamp. The prices are under those advertised for inferior slates

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c. Manufactured only by Messrs. ORSI and ARNANI. Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City.

ANSTONE STONE WHARF, STANGATE—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. O. WARDLE, of whom every necessary information can be obtained.

August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone, used by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any part direct from the quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 30, Chespside, where further information and samples may be obtained.

CAEN and AUBIGNY STONE.—LUARD, REDDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Architects, Engineers, Surveyors, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from coals, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. Numerous parts of the many years supplied large quantities to various parts of the continent for public works, light-houses, &c., under the patronage of the Royal Engineers. Orders executed to any parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as to meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the requisite accuracy and truthfulness.

PLANS from 2d. per foot.

MONUMENTS and TOMBS in great variety of design.

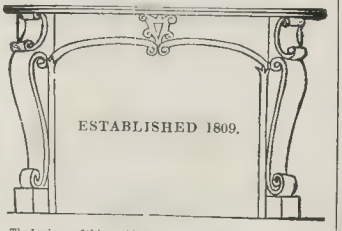
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone box Chimney-pieces, from ..... 12s.
Vein-Marble " ..... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Diaries fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge, also the liberal commission always allowed to the trade.

Westminster Marble Company, Earl-street, Millbank.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward street, Westminster road, London. M. H. BLANCHARD, from late Coade. Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufact ure of that invaluable material, which has been successfully adopted by our ancient architects and others, in the adornment of our best buildings; nearly two years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

IRON ROOFING WORKS, SOUTH- WARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings, Iron Hurdles and other fences, and iron work generally. Lists of prices and estimates furnished upon application.—Office, 9, Adelaide-place, London-bridge, City.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WELDED IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. —Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Lamp Columns, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Wrought Iron Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

PARTICULARS given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

Wheel Pinion and Steam-Engine Patterns; GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with all the latest improvements on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleaner, expeditious, and economical manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

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Elliptic Stoves, 6d. per inch. Register Stoves, 6d. per inch.
Self-acting Ranges, with Oven and Boiler, and Register Shelves,
3 ft. 3 in., 2 ft. 6 in., 40s. Chimney Backs, 1s. per cwt.
Coppers, 1s. 2d. per lb. Sash-weights, 6s. 6d. per cwt.
Builders' Ironmongery of all descriptions equally low.

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Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d
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Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 44s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6, £4. 5s. 6d.	4 ft., £4.
Best Patent Cut Sharp.		
4½d. 5d.	7d. 1d.	1s 3d. per 1,000.
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Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s 6d.	7s 6d	12s.	12s per gross.
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At F. R. WILLIAMSONS IRONMONGERY and STOVE WAREHOUSE, 38, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.

N.B Warehouse closes at Seven o'clock.

TO ARCHITECTS, BUILDERS, &c

COPPER-WIRE CORD.—R. S. NEWALL and Co's PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hothouses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and very valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch-street. W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 62, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, as applicable to ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, and that no weight and strength [illegible] has been used for these new Houses of Parliament, shipbuilding and many Government Buildings, as at Deptford, Woolwich, Chatham, and Portsmouth Dockyards, at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire proof buildings of every description, and is available to ship at the ranges, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 9, Mansion House Place, City—London Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

FIRE-PROOF DWELLING-HOUSES, &c. —This important desideratum is secured by the use of Dr. FOX'S PATENT FIRE-PROOF DOORS and CEILINGS, which are applicable to private houses generally, as well as to all descriptions of public buildings, warehouses, manufactories, &c. The attention of the public is solicited to this valuable invention, by the use of which the ravages of fire are effectually prevented, while the expense does not exceed that of the ordinary mode of construction; and the proprietors of the Patent are prepared to furnish every information and assistance requisite for its adoption, and to guarantee its successful application to old as well as to new buildings. Further particulars may be obtained on application to the Proprietors, Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

The Builder.

No. CCXCIV.

SATURDAY, SEPTEMBER 23, 1848.

BY leading the attention of architects, builders, and others engaged in the arrangement and construction of dwelling-houses and public edifices, and the disposition of land for building on, to sanitarial requirements,—bringing before them all sensible suggestions for the improvement of towns, the prevention of disease, and the elevation of homes, which may be made, we hope, ultimately, to conquer routine, to root out the "that will do" and the "near enough" feeling, and so obtain the earnest aid of those who not merely *may* do so much, but *must* do so much, in this respect, before any great advances can be made,—advantages may be obtained, with scarcely any increase of cost, if provided for during the erection of a building, which could not afterwards be had without considerable outlay and inconvenience. The public, of all classes, it may be expected, will presently demand, in their residences, improvements, as their vital importance becomes generally felt, and avoid localities or circumstances known to be dangerous,—and even now would give the preference to houses displaying improved arrangements, and select towns for residence in which wise provision had been made.

A report which has recently been presented to the "Health Committee of Liverpool," on the sewerage and other works there, by the borough engineer (Mr. Newlands), now before us, contains much that may be usefully considered by those who are engaged in the improvement of towns. We may allude to a few distinct points. The writer urges, very properly, the importance of an abundant supply of water, as well for flashing* the drains and sewers as for washing all impurities from the surface of streets, and extinguishing fires. For this latter purpose the apparatus should be readily distinguishable night and day, and always ready for use without any appliances which may be mislaid or forgotten at the very instant they are needed. With this view he says—

"I propose that several lamp-posts in each street should be made receptacles for the water apparatus, the pedestal being made of a size sufficient to contain it. In each lamp-pedestal I propose that an upright hydrant be fixed, with a coil of hose, sufficient for washing the streets, or filling the watering carts, constantly attached. The cock-box I would fix in the footway, always on the same side of the lamp-posts, and at a constant distance from them. In the event of a fire, the firemen's hose would be instantly attached to the hose of the standpipe by a coupling screw. The pedestals for the water-apparatus being square, and those for the common lamps being round, would point out at once the place of the water-apparatus; and, if necessary, the side panes of such lamps might be of coloured glass, as a still greater distinctive mark by night. Every superintendent of scavengers and every fireman would be provided with a key to the door of the pedestal, and in the pedestal the key of the cock would constantly remain: thus there would be no delay in using the water for any purpose. In places where lamp-posts are not required, the pedestals merely might be used, and these might also be used as guard posts at the entrance to narrow streets."

The lamp irons thus made prominent, might, he thinks, be rendered still more useful by a label attached to their tops. On these would be cast the names of the streets (as at Edinburgh, we may add), and on the centre panel the distance in miles and furlongs from the Exchange. Coach and car fares might be thus regulated. On the plinths, too, would be made the permanent bench-marks necessary under the Act, with their height above the dock-sill expressed in feet and decimal parts. By these means, the simple lamp-post might be made a very useful as well as a very ornamental object.

He adverts to the necessity for the authorities having a servitude over land laid out for building purposes, so as to control the directions of the streets and the proportionate extent covered. Although it may be argued that such interference is unjust, reflection will shew that it is not so. Streets and houses are daily set out with such disregard to health, as to invite disease; and who can calculate the cost which an individual may thus entail upon a town! The public should be protected from this, and now will be.

All extensions should be made in accordance with a fixed plan, and with a view to improvement in the direction and width of streets.

"One fundamental principle in designing additions to a town should never be lost sight of,—that the temporary should give place to the permanent. How often do we see tortuous and narrow streets constructed for no other reason than that the road already existed; and new streets daily spring up around us which have their directions, aspects, and levels determined by the existing country roads from which they have access. Let the town be modelled, therefore, on the best principles, as the permanent subject; the country will adapt itself to the town in so far as the means of obtaining access are concerned."

Space, light, and ventilation, are of the utmost importance in our towns, and in our houses. In the towns we should endeavour to secure them by a proper width of streets, by public walks, gardens, and parks,—and in our houses, by their form and arrangement.

"That there should be a relation betwixt the width of streets, and the height of the houses on each side, is self-evident. The minimum width of streets in towns should be fixed by considerations of health, and not of traffic; and the relative height of the houses should be such as to admit radiant light and air to the street for the greater part of the day. When the houses are in height equal to about two-thirds of the width of the street, this will be ensured. Conversely, if houses are two stories high above the street, and few houses less than two stories in height are built, the minimum width of a street will be found to be 40 feet. To ensure perfect ventilation, every street should be straight, or should form a portion of a simple curve, without bends, turnings, or projections beyond the general line. There should be no back passage of less width than 10 feet, to allow room for a dust-cart, and these passages should, like the streets, be free from bends or projections."

After remarking that probably there is no contrivance by which the health of the town is so much depreciated as by the structural monstrosities called *courts*, he says, courts, if constructed on proper principles, would be convenient, healthy, and economical. Here, however, we differ from him: against courts of all sorts we wage continual war. What the writer afterwards describes as his improved court—namely, an arrangement of buildings forming three sides of a square, of ample area, with a common kitchen in the midst—we do not call a court; but even here we should prefer two entrances: for perfect ventilation they are most desirable, to say nothing of other advantages attending a way through.

For warming and ventilating houses for the working classes, he gives a plan wherein—

"The back of the fire-place in each living room is formed of a slab of fire-brick, and an opening is left between the contiguous backs, communicating with the external air by a flue carried under the level of the floor. The air in passing these fire-brick slabs becomes heated, and is carried in a wooden trunk between the ceiling of the lower apartment and the floor above, and admitted into each room at the upper edge of the skirting. These hot air flues between the fire-places terminate at the level of the second floor, but the tunnels are continued upwards to the chimney tops, to serve as exhausting flues for the ventilation of the apartments, small wooden trunks being carried from an opening in the centre of each ceiling to join them. These openings are furnished with flaps of light oiled silk, opening upwards. Bricks moulded so as to form such flues as those described, without interfering with the bond, can now be obtained at about the same price as the patent compressed brick."

The surfaces of broken ground which occur in Liverpool (and not only there) have proved a source of disease: pieces of land intended to be laid out for building purposes have had the brick earth excavated, or foundations dug for. In these pools of stagnant water lie, and poison the atmosphere around. The simplest remedy is of course to fill up the holes, and level the surface so that no water would lie upon it.

After some useful remarks on the construction of *baths*, the writer says,—

"In establishments of this kind, where, as an inducement to the practice of bathing, the charge should be fixed at a minimum price, it is obviously necessary to obtain as much accommodation at as cheap a rate as possible. Let all the money, therefore, be spent in interior arrangement, and let external decoration be a secondary consideration. Let the building look like the purpose and the people, and a truer principle will be developed than by disguising a working man's bath under the semblance of a Greek temple, or a Gothic palace."

There was little occasion to say, "let external decoration be a secondary consideration." Let the building "look like the purpose and the people," if you please, and we have no desire to see it "under the semblance of a Greek temple or a Gothic palace;" but let it be a municipal structure worthy a great people, well proportioned, fitting, and noble; calculated to elevate the feelings, and increase the self-respect of the community at large,—its owners!

Amongst other works, bearing on the health question, now on our table, is the "Ninth Report of the Registrar General of births, deaths, and marriages," a startling document, calculated to awaken thought in the most unreflecting. It shews, as touching the important town to which we have been referring and Manchester, that the population of the seven Welsh districts was 273,000, the deaths in the last quarter 1,465; the population of Manchester and Salford 263,000, the deaths 3,149! That the population of the six districts of the South-Eastern division was 218,000, and that the deaths in the last quarter (ending September 30) were 1,458, while the population of Liverpool was 223,000, the deaths in the same quarter 2,946!! The causes of this fearful sacrifice are shewn to be remediable.

A former report set forth, amongst other results, that while the annual deaths in the town districts of Manchester to 1,000 males living are 37, in the extra-metropolitan parts

* The writer takes occasion to remark that "flash" is now generally incorrectly written "flush." *Flush* has amongst its meanings, "to pour in, to overload, to flow with violence:" but *flash*, substantive, a body of water driven by violence; and to *flash*, verb, to strike up large bodies of water, to discharge water suddenly,—are doubtless the right words.

of Surrey they are only 19. The population of Surrey exceeded that of Manchester, yet in seven years 16,000 persons died in Manchester over and above the deaths in Surrey. In these seven years 13,362 children in Manchester alone fell a sacrifice to known causes, which it is believed may be removed to a great extent. "Here, in the most advanced nation of Europe—in one of the largest towns of England—in the midst of a population unmatched for its energy, industry, manufacturing skill—in Manchester, the centre of a victorious agitation for commercial freedom—aspiring to literary culture—where Percival wrote and Dalton lived—13,362 children perished in seven years over and above the mortality natural to mankind."*

ARCHITECTURAL REFLECTIONS.†

IT is not amongst the ruins of Greece or Rome alone that the treasures of ancient art are to be found; nor is it to any one particular style that the footsteps of investigation should be exclusively directed. A common parentage may be traced, more or less, throughout the vast family, of national peculiarity of style. Among the intricacies of pedigree the germ of the parent stock may still be discovered; but though the influence and excellence of that origin may thus be proved and acknowledged, the merits of its offspring and progeny may not be the less worthy of attention.

As well may one resolve to read no poetry but that of Chaucer, Spencer, or Milton,—no plays but those of Shakspeare, Massinger, and Ben Jonson,—no novels but those of Richardson and Fielding,—to hear no music but that of Handel or Mozart,—to gaze upon no paintings but those of Vandyke or Lely, Kaufman or Reynolds,—as to limit one's architectural models to the five orders called, *par excellence*, "the classic."

Each country of the globe presents the record of its own history, its manners, wealth, and especially its religion, in the contemplation of its architecture. The pyramids of Memphis and Gizah, the temples of Denderah and Edfou, Luxor and Carnac, and the excavations and tombs of the Thebais, its sphinges, obelisks, and colossi; the highly decorated though barbarous pagoda and rock excavation of the Hindoo; the later mosque of the Mogul, with its pointed arches and bulbous dome; the light unsubstantial canopies and pagodas of the Chinese, strongly allied in character to those of old India, but vastly inferior both in profile and material; the transatlantic ruins of ancient Mexico; the basilica of Constantine and Greek Church of Byzantium, the connecting link between the Classic and the Gothic, the germ and parent of the numerous styles that have since emanated from its influence; the Norman portal, ponderous but imposing; the Pointed style, its taper arches and matchless tracery—the adopted of all countries, yet still exhibiting a marked difference in each; the magnificent remains of the Spanish Moor at Grenada and Cordova; the mosque of Constantinople, with its flattened cupola and clustering semi-domes; the Mahomedan dome and slender minaret of Persia; the picturesque *Hotel de ville* of the once-powerful cities of the Low Countries; the *chefs d'œuvre* of modern Italy, France, Germany, and England;—all these, and many others, present a field for study so vast, that the length of a long life would appear to be inadequate to the task of attaining a substantial knowledge of their peculiarities.

And fifty years ago this would have been the case. The vast, but sealed volume of architectural knowledge had not then unfolded

> "her ample page,
> Rich with the spoils of time;"

the pencil had not then attained its extraordinary skill in delineating; the properties of the lithographic stone were not known, nor was steam power, as applied to locomotion, dreamed of; the professors of the art, if eminent, were few, and their instructions as limited as their knowledge. But times are changed; and with the discoveries and inventions to which we have just alluded, have succeeded a spirit of emulation, a capacity for learning, and a facility for executing, that throw the operations of former years completely into the background by the comparison.

The present day presents features peculiarly its own; and should the Supreme Being permit the duration of the world so long, may, probably, two or three centuries hence, exhibit such features to posterity as shall mark a distinct epoch in the annals of art. For the past, the verdict of the world has been given—either of approval or disapproval—the arrangement of dates, styles, and periods definitively ascertained, and the progressive changes of national feature and character fully proved and recognised. For ourselves, our position cannot well be ascertained, until the present shall have become the future—until the lapse of time shall have destroyed the worthless and ephemeral in construction, silenced the jarring discord of party, abated the effects of national jealousy and predilection, buried the printed opinions of venality and favouritism in oblivion, and cast that mellow tone of antiquity over our productions that seems necessary for a cool appreciation of their merits.

That the characteristics of the present day are remarkable, nought but determined bigotry can deny. That a restless spirit of change and progression actuates the whole world, must be admitted. We speak not of politics: there the mania of revolution and whirlwind of anarchy has swept the face of Europe with its poisonous blast, raising an ocean so turbulent, that had not the realms of Britain opposed their mighty bulwarks to stem the maddened current in its course, the world might, ere this, have been swept hopelessly and irretrievably into the threatening vortex. It is of the fine arts we will speak. The fallacy of the long received notion of considering everything of necessity perfection that bears the stamp of antiquity, and everything of equal necessity worthless that is original and novel, is daily losing ground.

"Those mumbling old antiquaries, who," as Forsyth says, "are for ever picking the bare bone of antiquity," are sad retarders and drawbacks to improvement. I speak not of those whose zealous labours have enriched the vast museum of the world with the architectural treasures of any one style or country, but of those whose bitter criticism and unsparing lash is only withheld from those reduplications of the master-pieces of antiquity, whose approved and time-honoured remains forbid censure in their imitations;—works that might not be inaptly termed quotations in stone!

In "The Palace of Architecture" occurs the following reflection:—"Architecture, as the personification of a power which has never been propitiated, save by the universal and spontaneous devotion of great nations,—may be considered as dead. She lies, as it were, buried in a vast mausoleum, composed of fragments from the temples of Vishnu, Isis, Jupiter, Mahomed, and Christ; from which the dissipated states of partitioned empires have been since obtaining *materials* for sectarian churches, palaces, manufactories, and shops;—sometimes mixing up the fragments anyhow, just as they come to hand;—sometimes critically assorting and re-employing them in a manner which at least deserves the praise of self-consistency." In a word, the great motive power which has, more than any other, influenced the spread of invention in architecture has been superstition or religion; and since in the modern world no new religion has been able to supplant those already established, architecture may have since "served to exemplify the particular *taste* of a Bramante, a Palladio, or a Wren; but it has manifested the spirit of *adoption* rather than the power of *design*; the skill which *combines* more than the imagination which *invents*."

Originality of style is not likely, therefore, to mark the particular era we live in. It is by the adaptations of the architecture of the past that we must be distinguished; it is by exhibiting the inventions of our ancestors under new lights and in new combinations that we must lay our claim to the admiration and gratitude of posterity.

Who can traverse now the face of the country without being struck with the numerous objects of stirring interest that engage his attention and arrest his progress at every step? He may search in vain for the aqueduct, that essential feature of old Italy, but in its place he will observe the viaduct, extending its endless length, saved from monotony by the inequalities of the surface it traverses,—now crossing in an arrowy line the open plain,—now burrowing beneath the surface, or piercing the thick wood or the steep mountain's side,—now leaping the breadth of a river at a bound, or bestriding the valley upon a line of picturesque arches, finished at each end by a terminus that seems the emporium of the commerce of a whole city, and divided into distances by picturesque stations of Tudor or Italian designs. Schools, almshouses, and churches, of varied style, complete the smiling landscape.

In the great city he may miss the imposing Palazzi of Italy, the gloomy feudal retreats of the Strozzi and Riccardi,—the reminiscences of the feuds of the Guelfi and Ghibellini,—the Bianchi and Neri.—but in their place he will see the elegant clubhouse—the adaptation, and perhaps improvement, upon those renowned authorities, replete with every internal comfort and elegance that modern refinement and luxury can invent or desire.

He will see bridges of solid masonry and vast span, whose continuous line of traffic, if it forbid him the pleasure of "disputing" upon them, as was the fashion with the orators and literati of ancient Rome, will put one point at least beyond dispute, that of the superiority of modern enterprise over ancient!

Churches of revived Gothic—numerous, and in many instances admirable—markets, quays, storehouses, and magazines, all unite to show the peculiar resources and features of the times.

In the provinces, vast manufactories, chimneys of surprising height, roofs of metal supported upon trusses of iron of astonishing span, girders, columns, bridges both of arch and suspension of the same material, indicate the peculiar nature of our requirements and pursuits.

But amid much that is ephemeral, and designed but as a vehicle for the furtherance of commerce, there are not wanting works of a higher nature, now in progress or completed, which cannot fail to place this country upon an equality with most of the modern nations of the world even as a land of art.

As we but now observed, an original style is not at present to be looked for, circumstances prevent it,—it is the age of adaptation, and as such must be judged. Public taste appears to be pretty evenly balanced upon the question of the relative merits of the two great divisions of style, and even those who were once the loudest in the expression of their architectural bias, have succumbed to the prevailing order of things.

The resuscitation of the Pointed style is as gratifying as the revival of the classic, nor can it require more than a liberal feeling and unbiased view of the question to determine easily where one or the other should be employed.

De Quincy, speaking of Gothic, says, "such is the nature of its decoration, that one can hardly analyze it or describe it. One can only describe that which is *ordonné*, that is to say, the result of order. But the taste of Gothic ornament is precisely that which best conveys the impression of disorder."*

We will only add to this that it is a very charming disorder—a *parure negligée*, highly bewitching, whose studied but graceful freedom contrasts well with the more rigid rules of other styles.

If the genius of the architects of England

* The provincial towns are beginning to move under the provisions of Lord Morpeth's Act. A memorial has been forwarded from Whitehaven, requesting that the preliminary inquiries may be made, on these grounds,—First, the average mortality for the seven years ending June 30th, 1848, was 386. The population according to the census of 1841, 11,854; thus making the deaths 32·5 in every thousand. Secondly, the supply of water is insufficient for the domestic purposes of the inhabitants. Thirdly, the total disregard of ventilation in the erection of the dwellings of the humbler classes. Fourthly, the great want of sewers. The Newcastle and Gateshead Sanitary Association have prepared a petition to forward, and steps are in progress at Bedford to make the act available.

† See p. 448, *ante*.

* The depth of medieval art had not been penetrated when De Quincy wrote.—ED.

is but seldom employed upon works of great magnitude, no reflection of want of capacity can justly be cast upon *them*: the cause is the want of opportunity.

Amid a vast deal of public liberality and private charity, there is always an unfortunate parsimony shewn in our great public works; the pruning knife of a false economy is sure to be applied to them either as regards scale, or material, or ornament. We must not attempt to suggest remedies for a deficient exchequer, that is a problem the wisest politicians seem unable to solve; but this is certain, that there is talent enough in the country to meet any ordinary demand upon it when not crippled or impeded by favouritism or indecision. A few of the most important works in progress will bear out this assertion.

It is to the influence of the press that we must trust for a continuation of the march of liberal and enlightened opinions, certainly now on the advance. Much has been done, but much remains to be done.

Not long ago the opinion of our continental neighbours was adverse to us as a musical nation, but by a strange retribution the very same detractors are glad to seek a refuge in the only city in the world capable of supporting, besides its own theatres, the vast expense of two Italian operas at once, and affording to patronize, in the season, an amount of benefit concerts and foreign and native artists without parallel!

Let us hope, then, that ere many years our principal cities may be as famous for beauty as for commerce, and that as high a reputation may accompany us for refinement in art as for superiority in enterprise.

ALEX. FRED. ASHTON.

ON THE INFLUENCES WHICH TEND TO RETARD THE PROGRESS OF THE FINE ARTS.*

WE endeavoured on a former occasion to advocate a rigorous and rational study of art, that the mind might be habituated to acquire principles.† It is not urged under a belief that a receipt can be given to which all productions should conform—such an idea is too absurd to be entertained by any one: it was rather to enforce the necessity of all resources being brought to bear by the artist in order to render his works as near perfection as possible. It is in the arts, we fear, that man, in his pride, believes himself to have escaped the trammel of rules,—that here, at least, he is independent and self-sufficient, transcending mundane control. This has led him to rest contented with the mere surface of things, instead of studying the ordered nature of the world he has to pourtray:—yet a maxim with regard to his study of the human figure, one would have thought, ought to have taught him that it is as essential in the general survey of nature as in this particular one, to understand, as it were, the thews and sinews—the anatomy (if it may be so expressed) of the universe.

At a time when it is so often said that the attention ought to be directed to one object—"that art is long and life short"—that it is impossible to succeed in all, or that it is injurious to extend the field of our inquiries—we almost falter and tremble at the truth asserted; but when we recover and look around at the result of that one-sidedness—that "learning to hop on one leg," as Mr. De Morgan expresses himself, on the system of education which is generally pursued—tying up the weaker faculty, and continually exercising the stronger, till they become more and more disproportionate,—is to produce an unbalanced, unhealthy condition: we say, after witnessing the results of such a course, it gives fresh courage—for reason will point out that the right course is to exercise those faculties which are weak in order to raise them as near as possible to the standard of the strong: these will always take care of themselves.

Look at the results of this system as pursued in the splitting up of science and of art: a man on this system concentrates himself (as he terms it), on a particular section of science or art. It might perhaps be called concentration by some, if a man were to take a telescope and limit his observations to a few degrees of the heavens—think you his knowledge would be eminent of that space to which he confined himself? Yet this is precisely the method adopted by the observers in the universe of inquiry, so that each acquires only a partial knowledge of a part.

This is indeed not concentration, but isolation: concentration is bringing all the rays of the light of knowledge to a brilliant focus. "Genius," says Reynolds, "is a mind of large general powers, accidentally directed to some particular pursuit," and when the giants of past times are recalled to our memory, they bear testimony to the truth of the definition: the large general powers of which he speaks, be it remembered, can only be acquired by diligent study. It needs only to bring to mind the names of Da Vinci, Michelangelo, and Raffaelle, as examples in an age when general knowledge was not so correct and easily attainable as at present; and may it not reasonably be concluded that this general information, this versatility, raises the critical power, rendering its possessor less easily satisfied, ever leading him to strive after perfection, stamping his works with that pains-taking fervour which excites our admiration and respect. The system we have been warring against spreads itself through society, and produces that selfishness and want of sympathy with the pursuits of others; whereas, if all possessed more extended knowledge, they would profit in having more enlarged views of their own, and society would be bound together by community of sympathy and interest in truth; but at present it has no common faith, nor common principle of any sort to knit it firmly together, except it be fear, and that is a fetter of hate, rather than a bond of love. Although we have touched upon the theories which the artist builds upon the past, it is, as we have said, his field for speculation rather than the ground of his action: there are more recent actuating principles, more modern examples which influence his practice. Two of those who are considered as exercising the most important influence will be briefly considered, viz., Sir J. Reynolds and Flaxman.

After the perusal of Reynolds' lectures, the reader does not feel impressed with any unity of purpose, although it may be discovered, on a more rigid examination, that their chief intent was to expose the evil of entertaining mystical notions, the fallacy of the artist's belief in inspiration, and in his sublime and divine genius: the necessity of counteracting this tendency is enforced in various portions of them, by urging that art ought to be established on a more scientific basis. It is evident, however, they were intended to be suggestive only, for had the chief aim of his convictions been carried out to its full extent, we feel assured that clearer views would have been possessed both by the public and the artist, so long a period having elapsed since their publication; the cause of the argument in support of his scientific view, being scattered in his lectures, may very probably have been the demand which the practice of his profession made upon his time, as well as the period which elapsed between the delivery of each. But whatever these may have been, it is one source of their ineffectiveness; another is, that his practice aimed lower than his principles, and men that have been distinguished are looked up to by the world. It is their example which will ever exercise the greater influence on the mass: should it unfortunately fall short of their precepts, it must in a great measure negative their teachings.

Art, too, was a theme which had had, before his time, but little attention in this country; so that his career was left chiefly to the guidance of his own strong perceptions, unaided by advantages such as are conferred on a subject, by the concentration of many minds.

The circumstance of the primitive demands on artistic talent being that of portraiture in England, would have rendered it impossible, under such conditions, that his practice could have been otherwise than chiefly confined to that limited but important branch of the art.

That the powers of his capacious mind had been bounded by circumstances only, is evinced on his arrival in Italy. The works of Raffaelle and Michelangelo appeared at first strange to him. The glories of this museum of art caused the iris of his mind's eye instinctively to veil the astonished sense; but when it had again gently expanded, in adapting itself to the diffused and brilliant light of this (to him) new and foreign land of art, he rapturously beheld the charming prospect stretching out in all its beauty before him.

There, too, he might have discerned the master minds who had preceded him, resting at different distances on the high road to perfection, farther advanced than himself only from the favouring chariot of circumstances having helped them on their way.

With an observing mind, however, he busied himself in recording precedents of the practice of the old masters; but his own, not necessitating him to dive deeper for universal principles than the citing of these, form a third source of failure, from his precepts being founded on the authority of human imitation rather than drawn from their first source in universal nature: for instance, in his notes to "Du Fresnoy" he expresses this conviction, but concludes his "Discourses" by recommending above all the study of Michelangelo. "Notwithstanding man's highest convictions, the struggle between reason and fancy is always a hard one."

There are other sources of evil in his practice, not as yet referred to, viz., carelessness in execution, and incorrectness in drawing, as there are not wanting in his works frequent instances of both, which many have found it convenient to imitate, especially when sanctioned by such an authority.

If painting has suffered from this looking back, it has been no less the case with sculpture. Flaxman, who deserves all honour due to the pure in spirit, could he have foreseen the ill effects, the but partial embodiment of his charming ideas would have had upon the arts, I fear we should not have possessed them; for, in perceiving the vision of his idolators, would he not have directed them to look far beyond himself? This indiscriminate worship has led to the perpetuation of his mannerisms, and the incomplete execution of his works has been unction to the conscience of the dilatory. His outlines, too, have given rise to attempts in bas-relief beyond the limits of its art, many of them having been designed neither with reference to painting nor sculpture, but ideas expressed (*per se*) as outlines, executed without any immediate reference to nature, more than memory might serve him either for the figures or draperies.

In the attempts to follow him, the fashion of angelic drapery seems to have received an eternal stamp, and bodies intended to be of a spiritual nature, with long habits, a twist and a flutter, soaring up, then sinking down, have become, since his time, familiar subjects for the exercise of the chisel.

That a mind fertile in invention must be possessed in all the arts as the prime mover, there can be little doubt; but it is the kind of machinery employed by each that confers a different title on its constructor,—and the greater its completeness the greater will be the certainty of its performing its end.

Now, completeness embraces the perfection of every particular; and in proportion as these particulars are neglected in a work of art, it is defective.

In fact, it appears self-evident that a beautiful idea, tolerably expressed, is something to be esteemed; if better—more esteemed; if completely—most esteemed.

But let error ever be held up to animadversion, especially in the great; and let the plausibility which greatness would seem to confer on it be carefully guarded against.

It becomes the more important to allude to this tendency to incompleteness in an age when it is often exclaimed, "'Tis the idea, and not its embodiment." If this were true, the painter and sculptor had better change their titles to that of author or poet,—for beauty of idea is also demanded of these. Wherein, then, consists the difference? if it be not, in the one case, a choice and careful arrangement of words, and in the other of forms and colours. Even a scribbler or rhymester may have excellent ideas; but, not knowing how to convey them to others, they receive these designations, instead of that of author and poet. It is the degree of perfection with which each art expresses an idea in the means peculiarly allotted to it, that constitutes excellence in either. If it were otherwise, it would be better that the painter and sculptor wrote—the one on his canvass and the other on his marble—the purpose intended, without troub-

* See p. 447 *ante*.

† See BUILDER, Vol. V. p. 394.

ling himself with the palette or the chisel: it would save, too, an immense deal of criticism.

If art were reduced to clearly defined principles, many of these evils would be obviated, affording, as it would, the standard by which the artist might estimate his own shortcomings, with a greater degree of certainty than that of comparing his own works with those of another, especially as courage is not often possessed to make the comparison with those greater than ourselves; and it is from such only that we can possibly expect to derive improvement.

"Rules," writes an authority," are fetters only to men of no genius." This would need no comment (if it were not for the prevalence of mysticism), it being the characteristic difference between ignorance and genius, that the attempts of the former are subject only to caprice, whilst the latter are founded on universal principles, or it would never be acknowledged as such.

Is not a rule a fixed correspondence between cause and effect? How, then, can any one act otherwise than capriciously, who knows not the effective use of his materials. Is there a particle in the universe unsubjected to law? Is there aught in external nature which, in producing a constant effect on mankind, does not give a rule by which he may be again similarly affected? Do we not know, from our intercourse, that there are rules by which the sympathies and tastes common to mankind may be influenced? Does not man, in all his investigations, discover rule? Genius must consist, then, in the effective use of them, as it therein imitates the universal in its workings; and in proportion as man ascends towards the infinite in knowledge (which, from being limited, he can never attain), the more extensive will be his power, not only of imitating, but of re-combining.

The artist perceiving, then, that he cannot effect any extensive purpose without making use of a rule of nature, will have a just right to conclude that the best means of comprehending the science of art will be in the deep study and understanding of science in general. It is much to be desired that the system of scholarship should exist to a greater extent than it does at present; and too often the experience of a life is lost to a rising generation. It is, moreover, the fashion for each student to pursue, self-satisfied, his own peculiar course, without a guide to lead him through the intricate paths, and prevent him falling into the labyrinth of error.

It is a prevalent fault to regard with a blind veneration the great artists of the past, and to esteem them each as the development of an individual life, forgetting how many steps were hewn by others, by which they ascended to a certain degree of excellence before they commenced their own labours, and in the end attained to the climax. To these have been connected the name of a Phidias, a Michelangelo, and a Raffaelle. There is a tendency on this account to over-estimate, instead of viewing them as the result of a number of favourable circumstances, some of the most important of which were, no doubt, the traditionary instructions which, as pupils, they received from their masters, who, in their day, were advanced after the same manner. Would it not be beneficial if all men regarded both themselves and others as instruments of progress—mere workers in the great scheme of things—than be wrapt up in the contemplation of their own greatness—looking idly up, instead of proceeding industriously onwards—never resting satisfied that they have done enough to advance the cause of truth, for it will be seen that every age has believed it has attained to that of "wisdom," in which the next discovers but the folly of youth?

In conclusion, having to the best of our knowledge recited the various influences which operate on the fine arts, it may not be irrelevant, in observing the want of concord which prevails, so injurious to the profession, to remind its members that "union is strength."

W. Cave Thomas.

Better late than never.—A Correspondent says, that the venerable church of Lanfrynach, near Cowbridge, having been to a considerable extent restored, was re-opened for divine worship (after a lapse of 150 years or more), on Sunday the 27th ult.

SHEFFIELD SCHOOL OF DESIGN.

We watch the proceedings of the School of Design in Sheffield and our other principal manufacturing towns with great interest, and are most anxious that the fairest trial should be given them, and the efforts made by Government in this respect aided by the inhabitants.

On the 7th inst. the annual meeting of the Sheffield Shool was held, Lord Wharncliffe in the chair, when a report was read, stating that larger premises were being fitted up for the school; that candidates were at this time waiting for admission; that some of the pupils had been admitted to study in the botanical gardens; that the council had the satisfaction of frequently receiving the testimonies of many manufacturers as to the increased intelligence and artistical knowledge displayed by those young men in their employment, who are receiving instruction in the school; and they appealed not to the manufacturers alone, but to all classes of the community for assistance.

The chairman made a very good address. After praising the works exhibited, he said—I am sure I need not enlarge on the immense advantages obtained by giving to artisans of the town the skill which the execution of such works as we now witness display; but I think it doubtful still whether the nature, benefits, and objects of the school are fully appreciated by those connected with it. I do not mean to underrate at all—far from it—the value of such acquirements as are exhibited in these works. I have said that they are of great value. An artisan who has the power of drawing correctly, and who has access to such subjects of study as this institution affords, has great advantages over one who has not such opportunities. But I think it desirable to remind all connected with such establishments, that this is not the whole, or the most important object to be achieved by such institutions. Let us recollect the title of them—that very title shews that they are not merely academies for drawing or modelling, but schools of "design." What is meant by such a term? It means a school which not only gives the power of executing such works, but of designing, inventing, and composing such combinations of art, and producing such original works as those exhibited in that room. That is the great object intended, and it is to that (on the part of the master and all connected with the institution) that the attention of the pupils must be directed; for we cannot go on for ever copying works: we must form new combinations, and improve on the subjects handed down to us, and multiply the many sources of beauty which decorate the different subjects of life. We may depend upon it that what we should look at principally is not merely skill but the formation of taste, which is one of the most difficult of all objects in connection with the arts.

His lordship pointed out the necessity of educating the mind to perceive and appreciate the beautiful. He said, it is to acquire such efficiency as to enable the mind of the pupil to extract the beauties, and combine them, and present to the eye that which is agreeable, that these institutions are established; and if this is obtained, immense advantages will be acquired by the trade they are in connection with; by the community among whom they are to be found: and the country will think it wise to give its funds to support such institutions. I cannot see why this country should be behind others in the possession of those acquirements which it is the object of these schools to impart. Above 100 years ago one of our greatest poets exclaimed—

> "O, when shall Britain, conscious of her claim,
> Stand emulous of Greek or Roman fame?"

I think that instead of Greek and Roman fame, we may say French and German fame. At present we are unable to compete with them in matters of art. Why should this be? We are not behind them in emulation, or the exercise of the understanding. Those who go abroad will scarcely ever find themselves on a foreign steamer or a railway but they meet with English engineers, and skill from England, which is thought necessary to superintend their establishments. Why, then, should there be one department of industry, or I should rather say one branch of the exercise of the understanding, in which we are behind other nations? Depend upon it there can be no sound reason for it: it is a want of education in that particular branch of knowledge—it is a want of the habit of mind for contemplating the beautiful; and unless we can attain this point for all those concerned in the operations of this country, and enable them by their own knowledge and habits to investigate different forms—until we can give them that benefit we shall not be in a position to vie with other countries.

Alderman Dunn, in urging the manufacturers to assist the school, combated the absurd and short-sighted objection made by some to the school to this effect:—"We are established in business, we have capital, and can command skilful artisans; and these institutions, by raising up competition, take away part of the advantages of which we are in possession." Such observations appeared pitiable in the extreme; so contrary to every honest and good feeling of our nature, that they might be sure, without resorting to any metaphysical argument, that there was some hitch in the matter. Mr. Dunn continued, I take it that with regard to the prosperity of the district, they are so bound together one to another, that the prosperity of the meanest person to a certain extent affects the position of the wealthiest individual, and that persons in the working-classes cannot be educated, instructed, or raised in their class, but every class above them is also raised in proportion. "The moral welfare of a great part of our fellow townsmen is to a considerable extent bound up with the prosperity of this institution. You cannot give a young man a love and taste for art, but you raise his moral education; and therefore looking at both the money and moral parts of the question, I feel that the welfare and prosperity not only of the working classes, but the masters and manufacturers of Sheffield, is considerably involved in the success of this institution, and in raising up a higher appreciation of art than now exists."

Thanks being voted to Mr. Mitchell, the head master of the school, with many complimentary remarks on his efficiency,

Mr. Mitchell in his reply, very properly pointed out that more time and study are required to make an artist than are usually given. He said,—With regard to the great superiority of the English over the French and Germans, your lordship remarked, our engineers and mechanics are sent over all the world, and no doubt such is the case, but the reason is, our mechanics take time to learn and to become proficient in their work—they labour under skilful masters, with greater assiduity and more intelligence—therefore, they have more extended experience than continental manufacturers. On the contrary, the French artists labour as hard as the English mechanics. I can speak to this fact, having myself been educated three or four years in France. My hours of study were from six in the morning until eight or nine at night—12, 13, or 14 hours a day, and this not merely for days, or months, but for years. This will account for the superiority of France over England in this department. The drawings now exhibited are executed by pupils who come tired to the school for an hour or two each evening, and are worthy of admiration. The object of this school is to bring up young men to be accomplished designers; but an accomplished designer is not—to use a common expression—made as a Birmingham button, but only by assiduous study: he must be an intelligent man, and conversant with history; he must give his whole time to the study of art if he wish to be an accomplished artist or designer; and it is almost impossible to have an accomplished designer who devotes but six hours a week to the study. How can you expect under such circumstance to compete with French artists who labour twelve hours a-day for years before they offer to gain a single sixpence?

Figures.—If you multiply any given number by itself, say 8;—thus $8 \times 8 = 64$; then take one from the multiplier, and add it to the multiplied, the product will always fall short by one of the former product. Thus, 1 from $8 = 7$, 1 added to $8 = 9$; $7 \times 9 = 63$. And this rule appears to extend to all numbers, large or small.

NOTES IN THE PROVINCES.

A new school-house, with master's residence, has just been commenced at Nyming, Hants: three other schools are in progress at Winchester, for the parishes of St. Thomas, St. Maurice, and St. Michael: they are all from designs by Mr. John Colson, architect, of Winchester.——The foundation stone of the model national schools, at Haverfordwest, was laid on Friday last. There will be accommodation for 500 children, with residences for teachers and dormitories for pupil teachers. ——A window in the Gothic style has been presented to the church of Llangunnor, by the Rev. James Griffith, the vicar, and placed in the north chancel. The glazing work was done by Mr. T. Lewis, of Carmarthen, and the stone-work by G. Davis and Son, of Maesyllan. Other improvements are contemplated.—— St. John's Church, Pembroke-dock, will be ready for consecration, it is said, by the middle of October.——The restorations of St. Michael's Church, Stoke Prior, are so far advanced that the edifice was to be again in use on the 20th inst. The plaster ceiling has been removed, and the open roof restored. The organ gallery has been displaced, and the light of the west window is again unobscured, while the south transept, where the organ now stands, has been again thrown into the church, from which it had been bricked out. The stonework of the pillars and arches has been scraped and repaired, and oak benches, with 114 additional free sittings, have been erected. In the same parish, at Finstall, the vicar has erected a new national school.——The demand for bricklayers about Gainsborough for a few weeks is so great that it is difficult to find men for the ordinary work of the town, the greater part being employed on the railways.——The restoration of Lea Church is in progress.——The new National School-room at Maryport, has been completed by Mr. Asbridge, jun., the contractor. ——The new docks at Leith are progressing rapidly, and before winter sets in, Mr. Barry, the contractor, expects to have the whole space inclosed with the outer wall. A good number of men are employed on these works, and a great many more will be required, chiefly labourers, when the present part is finished. For the facilitation of the works, travelling stages lift and move about the largest stones, and a steam-engine turns four large mills, which grind and mix the mortar: other two engines pump out the water. An apparatus, driven by steam, is also at work for preserving the timber from rot, which threatens the entire destruction of the extensive pier erected only a few years since at Leith.——The value of house property at Montrose appears to be much depreciated at present: a large tenement of four stories, with cellarage, near the High-street, has just been knocked down by an auctioneer at 70*l.*—— The chancel of All Saints, Poyntington, Somerset, has recently been fitted with some oak stalls, with carved bench-ends and finials. The floor is to be laid with encaustic tiles, and a new four-light flowing decorated window, placed in the east wall, to correspond with the side lights, in lieu of the window now in existence. Mr. R. J. Withers, of Sherborne, is the architect.

NOTES OF NEW CHURCHES.

Correspondents who forward to us particulars of new churches, will render service if they will always include the *size* of structure, *materials* used, *style* of the architecture, accommodation afforded, and the cost: they will thus afford valuable data for reference. The name of the architect and of the builder should also be given.

St. Saviour's, Tetbury, in the diocese of Gloucester and Bristol, was consecrated on the 23rd ult. It is in the Decorated style, with a chancel, nave, north and south aisles, porch, and sacristy. The nave is separated from the aisles by five arches, which rest on piers alternately circular and octagonal, their dripstones terminating in carved figures of angels. Both nave and aisles are covered by one roof inclined at their junction: it is of a high pitch, open in the interior to the ridge piece, of foreign oak, with horizontal tie-beams, kingposts, struts, &c.; the wall-pieces resting on corbels carved with foliage, and the cornice ornamented with the ball flower. The whole of the interior is lined with ashlar, the stone used for this purpose being the white Painswick. The north and south windows of the aisles are single lights, with trefoil heads; those at the east and west are, however, of two lights, with tracery in the head, and are all filled with stained glass. This last portion of the church, immediately adjoining the entrance from the porch, forms a baptistry, the font of which is octagonal, of Caen stone, the panels ornamental with the Evangelistic symbols alternately with the dove, *Agnus Dei*, the cross, and sacred monogram: its base rests on a small raised pavement of encaustic tiles: the oaken cover is of open work. All the benches are of oak and open, terminated by poppy-heads. An open lectern is placed on the south side of the chancel arch, and on the north is a low stone pulpit, with carved panels, and surmounted by a canopy, the entrance to which is by a passage through the chancel wall. Between these, immediately before the entrance to the chancel, is the litany desk. A light screen of oak, with tracery and a gilded cornice, divides the chancel from the rest of the church. It is entered by a single step, and displays at the end a window of three lights, with stained glass; St. John, with the instruments of the Passion, &c., and in the flowing tracery above are figures of angels. The altar is a slab of marble on oak legs, with a frontal of crimson velvet; it stands upon a black marble footpiece raised upon a floor of encaustic tiles, and is approached by three steps from the chancel. The reredos, of Caen stone gilt, consists of five arched panels, surmounted with canopies and adorned with crockets and finials: in the centre is a cross in relief, the points and the shaft of which are ornamented with the symbols of the evangelists. Two windows, also of stained glass, light the chancel, one of which forms a place for the sedilia. There is a piscina * on the south, and a credence on the north. There is a priest's door on the south, and another on the north into the sacristy, which also has an open roof of oak; and next to it is the organ chamber, separated from the chancel by a stone screen. There are stalls on each side for the clergy. The roof is of oak panels, with gilded bosses, &c. A porch of open woodwork forms an entrance on the south-west to the church, and a lych-gate, surmounted by a cross, to the churchyard: a bell gable is placed on the western side, and crosses on the eastern end of the nave chancel. Mr. Daukes was the architect: the cost we have not heard.

The seamen and mariners' church, at the Gloucester Docks, has been commenced, and the work is proceeding rapidly. It will be ready for roofing in six weeks, and for Divine service in double that period. The *Gloucester Chronicle* says, the edifice is in the Gothic style, and that its erection has been confided to Mr. William Wingate, builder, of this city. *Query*: is there an architect also?

The church of St. Michael Mytholmroyd, near Halifax, lately erected, was consecrated on Friday week. It is in the decorated style, with a tower, nave with north aisle, and chancel, with vestry and south porch. The tower is 65 feet high, with a corner spire of 22 feet. It is in three stories. The nave is is 60 ft. 6 in. long in the interior, by 22 ft. 10 in. broad, and 39 ft. in height. The aisle 60 ft. in length, and 15 ft. 6 in. broad. The chancel 26 ft. long, 16 ft. broad, and 34 ft. high. The nave exteriorly consists of five bays, separated by buttresses of three stages, with cross-topped gable; and the chancel of two bays, supported by diagonal buttresses, similar to the former, at its east end. The north aisle is similar to the nave in general character, with five bays, gabled roof, and diagonal buttresses at the extreme east and west. The roofs are covered with slate. The windows of all are of two lights each, trefoiled. Interiorly the tower is open to the nave by a lofty arch, with simple chamfers. The aisle is open to the nave by five arches. The roof of the nave is open to the ridge, showing the whole of the timbers, which are of stained and varnished deal. The roof of the aisle is similar. The chancel roof is waggon-headed, in three bays, stained and varnished. The woodwork is mostly of deal. The pews or open seats are low. The pulpit and desk are of oak, and the gift of the architects, Messrs. Mallinson and Healey, of Halifax and Bradford. The area within the rails is laid down with Minton's encaustic tiles. The font is of stone. The outer doors are of oak and have scroll hinges of ornamental character and ancient design, and are studded with nail heads.

The foundation-stone of a new church, for the Congregational Independents, has been laid in a field adjoining Portabello-lane, High-street, Notting-hill, by Sir C. Eardley Smith, Bart. The edifice, which is to contain about 1,200 sittings, will be built in the Early English style, and will be about 72 feet long by 43 feet wide, with a vestry-room, school-room, &c., attached, and two steeples: cost about 4,000*l.*, nearly all advanced by voluntary contributions.

The "Incorporated Society for Building, Enlarging, and Repairing Churches and Chapels in England and Wales," has made a report shewing that during the last year the Society has been able to give assistance to 104 parishes to extend their church accommodation, in doing which no less than 38 new churches will be erected. The total amount of grants made by the Society during the last year is 12,567*l.*, to procure an addition of about 30,000 sittings to the previously existing church accommodation in the country, of which upwards of 26,000 will be free.

* What the piscina is required for we do not know.

THE OFFERED PREMIUMS BY THE SOCIETY OF ARTS.

Sir,—Apart from the busy hum of men, I can look from my little cabin, as from a tower, upon the fierce and tender feelings that control the actions of humanity. Here, in my solitude (as it is commonly called), my only toil and only pleasure is to work out the mystery of Evil,—to prove its transparency, to look through it unto the good it veils.

On receiving my last monthly batch of thought-fuel, I pondered with wondrous assiduity, with untiring perseverance, upon an advertised paragraph in The Builder. My faith in my favourite maxim quivered; my eyes waxed red as fog-signals, and my fifth pipe's smoke departed gracefully ere my attempt was realized,—ere the light was communicated to my mind by which I read rightly that misty document,—the list of prizes proposed to be given (ahem!) by the Society for the Encouragement of Arts, &c.

What, I reflected, can be the utility, the meaning of their advertising a similar paper to that of last year, when the circumstances attending the awards are fresh in every one's mind? No one will possibly believe he has the remotest idea of getting the "30*l.* for a labourer's cottage?" If any have such utopian-*Blanc* notions, experience,—that school for a certain class,—will teach him that *Right* is not now playing in the Adelphi farces.

Had their advertisement shewn contrition for the past, many might (such is the trustfulness of our nature) be tempted to compete: as it is, the only good that it reflected on my mind was a warning to all to spare their Cumberland lead, for the mine is exhausted: they will else use an inferior pencil in more profitable work.

As I looked upon the type, I fancied I saw under it the following well-known lines, which would not injure it,—

"And be these juggling friends no more believed,
That palter with us in a double sense,
That keep the word of promise to our ear
But break it to our hope."

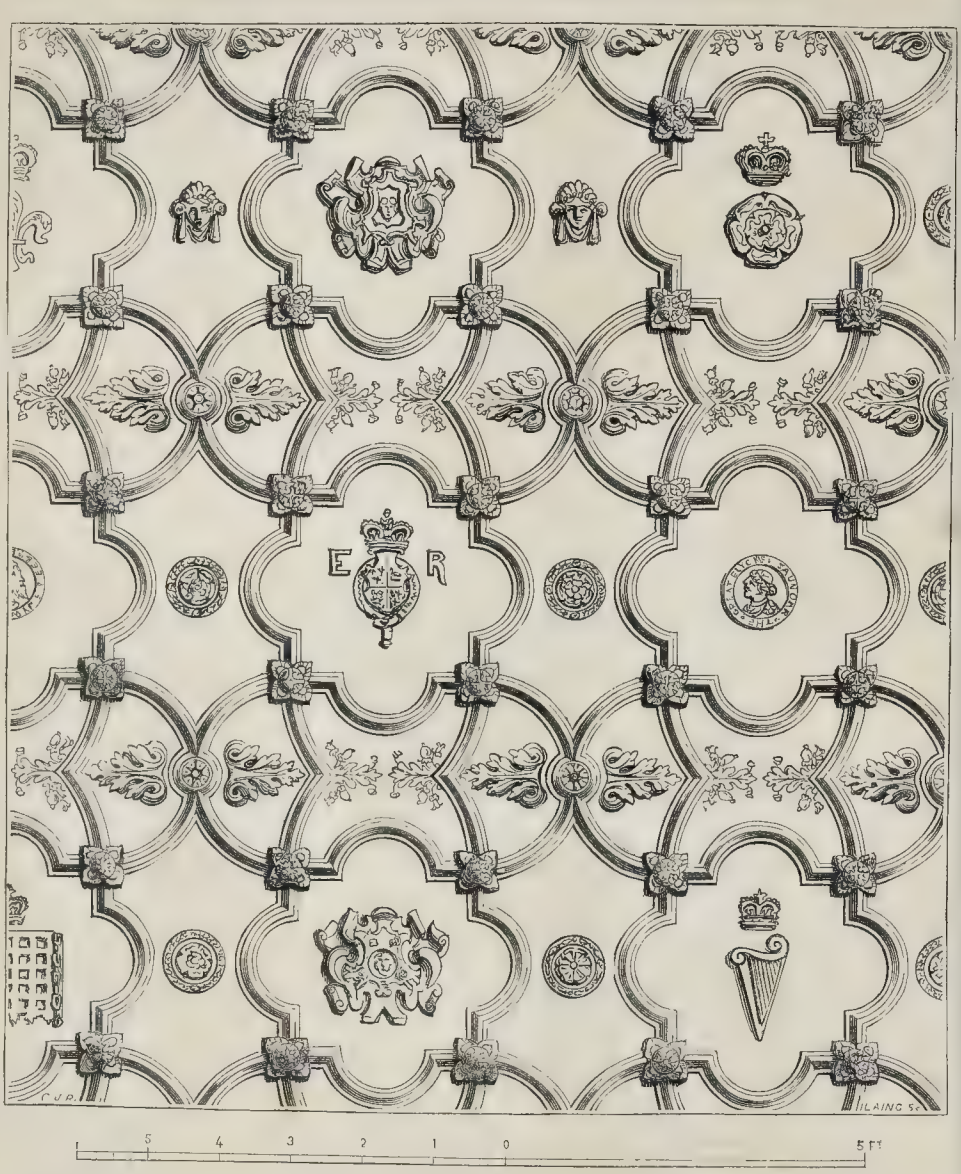
One word to the Society: If "tightness of the pocket" be your reason for breaking faith, burke such nonsense, and acknowledge your poverty; say what you *can* give and *give it*; but away with this double dealing, for believe me, gentlemen, it is a disgrace to you, and the shadow of your shame in this matter may fall on others.

Mr. Editor, I am perfectly disinterested in this matter: I never was a competitor and never shall be. I love honour, truth, and manliness, and, therefore, the advertisement of the Society of Arts, as now issued, is unwelcome to

Bosch.

Castell Llwchvr, South Wales,
Sept. 12th, 1848.

ELIZABETHAN CEILING IN GOODMAN'S-YARD, LONDON.



ELIZABETHAN PLASTER CEILING,

FROM AN OLD HOUSE IN GOODMAN'S-YARD, MINORIES.

The ancient building, now the residence of Mr. Cook, soap-manufacturer, which furnishes us with this very good example of an Elizabethan ceiling, was one of the numerous suburban country houses in the neighbourhood of the Tower, once a royal residence. Doubtless a great many of these buildings still remain, but from their exteriors having been modernised, and from their being surrounded either by small dwellings or manufactories, they remain unknown. The present building is still maintained as a private dwelling: several of the rooms, like the one which contains this ceiling, are lined with oak panelling, in a good state of repair: there are a few other ornamented plaster ceilings, but they are not so good in design as the one selected for illustration. The arrangement of the forms is ingenious, and will suggest others. The Blackwall Railway crosses the garden a few feet only from the house.

The details are drawn to a larger size. No. 1, in a section of the rib moulding; No. 2, the leaves placed over the mitres; No. 3, the small pendant between the large leaves; and No. 4, the ornament in the same line with these leaves.

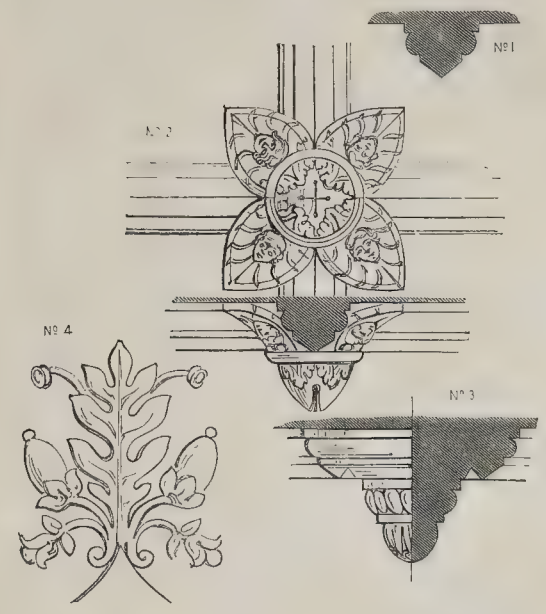
Iron.—The contract for 30,000 tons of iron pipes required for the water-works of Liverpool has been effected, at about 4*l.* 10*s.* a ton.

A PUBLIC WASHING PLACE IN ROME.

Following the way which leads from *Trinita de Monti* to *Santa Maria Maggiore*, you will find, in one of the adjacent streets, the public washing-place here delineated, and which, remarkable there for its commodiousness, forms an amusing contrast with our "baths and washhouses."

The stone on which the operation of washing is conducted slopes towards the reservoir, and has at the lower part of the slope an open trough, about one inch and a half in diameter, protected by an edging of about the same height, and it is by this that the water is supplied, and which mixes very slightly with the water in the reservoir. The tank is divided

DETAILS OF CEILING.



into two equal parts, and the water in one part is specially reserved for "rinsing" the linen; and as the water is always flowing and escapes to the same extent as it enters, the washing-place may be regarded as a running-stream. A trough or gutter at the foot of the reservoir receives the water which escapes, and conducts it to a neighbouring kennel.

GOSSIP FROM CONTEMPORARIES.

In a running commentary on a recent number of our journal, the *Literary Gazette* objects to a portion of Mr. Cave Thomas's paper recommending the cheapening of art. He says, "if cheap art is to lead to a 'result,' similar to what cheap literature has done, it ought, in our opinion, to be most strenuously eschewed." Our good friend of the *Gazette* would find it difficult to prove this position. He adduces nothing in the article in question to do so, and with all that follows we agree, as doubtless Mr. Thomas would. He says, "we do not want tea-tray tinsels for sterling pictures, nor Brummagem wares for efforts of genius. We have more than enough of low art; and as for the introduction of greater taste in the design of domestic furniture, it seems to us that nearly all that is now done and puffed in that line, is deteriorating instead of improving the articles experimented upon. [This is no reason why the design of domestic furniture should *not* be improved.] Nothing can be more puerile than the majority of the things the public are called upon to admire and purchase at rather high prices. We have performances in wood, glass, porcelain, china, ivory, bronze, silver, gold; chased, inlaid, carved, grouped; and when we have looked over a whole exhibition of them, we discover (with few exceptions) a marvellous deficiency of fancy and elegance, a poverty of invention, and a mere series of change-workings without regard to grace or utility. How inferior to the better times of England and of France, from Louis XIV. to the present day! Compare the plate of the era of the later Stuarts with the boasted trifling of 1848, and the notion of improvement will be laughed at."

Improvement is progressive, as we have often remarked, and one nation advances on what another has done before it. Thus, Sir Charles Fellows, in his account of the Ionic trophy monument, excavated at Xanthus, says that the evident similarity of the sculpture of many groups in the larger frieze, as well as in the treatment of the statues, to the Athenian and Phygalian sculptures, must convict



PUBLIC WASHING-PLACE, IN ROME.

these later workmen of plagiarism, and, as hinted by Pausanius, lead us to suppose that Pericles, wishing to adorn Athens, sent to Asia Minor for workmen. This monument, he urges, would indicate the employment of Ionians as the designers of the finest of Athenian works.

The difference between the Parthenon and some of the rudest of the Egyptian temples is very great: the difference between the Parthenon and the Greek temple which immediately preceded it in date of erection would be found to be very little.

In the last fasciculus of his note-book (the 85th), the contributor who writes under the signature of "Candidus" in the *Civil Engineer* urges very strongly the propriety of completing the exterior of the buildings of Somerset-place by giving a façade to that range of them which, originally shut out from sight and never intended to be seen, now shows itself far more conspicuously than advantageously along the east side of Wellington-street. The *Athenæum* says of it, "This is in fact a positive eyesore, disfiguring the approach to the noblest of our metropolitan bridges, and greatly impairing the effect of the river front of that pile of buildings. The magnificence of the latter is made to show as a mere mask to paltriness—and a mask so awkwardly put on that the ugliness which should be concealed is most of all visible. The fine architectural *ensemble* that would else be produced by the juxtaposition of two such noble works as Waterloo-bridge and the terrace front of Somerset-place is altogether marred by the shabbiness and vulgarity of the west wing of the last-mentioned pile:—a circumstance all the more provoking because it is most admirably situated, and an architectural façade just there would be peculiarly favoured both by aspect and other circumstances, and display itself in an unusually striking and happy manner. One peculiar and favourable circumstance is that the building stands back at such a distance from the foot pavement on that side of Wellington-street, that were there a handsome façade it could be viewed most distinctly and without interruption."

The same journal joins us in deprecating the removal of the Quadrant Colonnade. "Luckily, we do not require shelter from rain in this fine climate of ours:—so, as far as any public convenience is concerned, these colonnades may of course very well be dispensed with. But this destruction of a very marked and unique public architectural feature in a great city at the dictation of some private interests savours strongly of that spirit of jobbery which infests so many of our public institutions,—and haunts no region of them all more offensively than that of art. In England, as yet, the artist has no chance against the shopkeeper:—the trading influence is too powerful for 'gods or *columns*.'"

A correspondent of the *Athenæum* writing from Zurich, says,—"Christian Schreiber's house might have been built, I should think, in most parts of England for 800*l*. at the outside. In this remote valley, where wood and stone are both at hand and abundant, he assured me, to my great surprise, that it had cost him 1,200*l*. The ironwork, he said, was very expensive; adding, indeed, that English ironware might be had at little more than half the price,—but that it was so good-for-nothing that nobody would use it, and that he and his neighbours preferred purchasing the wrought iron of their own smiths at nearly double the cost. Here, thought I, is a hint for Birmingham!"

Our new houses of Parliament have been copied in Berlin and made to form a cavalry barrack for the Ulanen regiment.

The Regent's Quadrant.—"A Traveller" writes to us as follows:—"Do you not think, that the monotonous appearance of the houses of the Regent's-quadrant might be very much relieved by a light ornamental iron balustrade along the upper part, similar to those which are generally adopted, with very good effect, in the new buildings in Hamburgh? The upper part always has looked frightful, and when the colonnade is removed will look ten times worse."

NON-LIABILITY OF DIRECTORS OF BENEFIT SOCIETIES TO ACTIONS AT LAW.

In the *City Small Debts' Court*, last week, a case was tried "Croft *v.* Lorimer," which may interest some of our readers. It was an action brought by the plaintiff as one of the shareholders of the Metropolitan and Suburban Benefit Building Society, to recover the sum of 4*l*. 15*s*. for money had and received for the use of plaintiff, by defendant, as one of the directors of the said society.

Mr. Buchanan appeared for the defendant, and admitted the payment of 3*l*. 15*s*. on account of a 100*l*. share in the society, and 1*l*. for fines, but denied the personal responsibility of defendant, who had merely countersigned the receipt given by the secretary, according to the rules, as the directors attending in rotation for that purpose. He contended that by the Act 9 Geo. IV. c. 92, s. 34, for the consolidation of the laws relating to savings banks, &c., no action would lie against a trustee or director, but that all matters in dispute might be decided by the adjudication of justices, or by arbitration, as agreed on by the rules, and by them the shareholders had elected to be bound by the latter course. Moreover that defendant was clearly only an agent for the society, and even on that ground could not be sued. In support of his argument he quoted the cases "Crisp *v.* Bunbury," Bart., 8 Bingham, 394, in which it was held that an action would not lie against the trustees of a savings bank, and "Tills *v.* Williams," 4 Q. B. reports, 413, in which defendant was trustee of Mildenhall bank for savings; that was an action in assumpsit, and the subject went before the court above, on a special case, when the court held that the intention of the Act was to prevent actions in the superior courts against trustees, as it was considered that the expense would lead to the ruin of the party bringing the action and the society, and that if trustees were to be held liable, no person would be found to accept such an office. Mr. Buchanan also quoted the 27th sec. 10, Geo. IV.

The plaintiff replied that the cases quoted did not rule the present one, and that in fact he made his demand on the ground that the society was not formed on the basis proposed when he took the share, and that the society had no right to alter the fundamental rules. The society was projected in November, 1846, and by the first rule it was decided that the society should be established by 400 subscribers, of 100*l*. each, to be advanced at the rate of 5*l*. per annum, and he took the share on these conditions, and he must urge that as the rules had been altered without his concurrence, so as to reduce the number of shares to the actual number of shareholders, the money he had paid had not been applied to the purpose for which it had been paid, the company not being formed till this year, and under the amended rules.

Several letters were put in, shewing the alteration in the rules, but the secretary stated that Mr. J. Tidd Pratt had sanctioned the new rules, and had expressed his opinion that they were legal.

Mr. Buchanan said that if the plaintiff admitted that the "society" was not established when he paid the money, he was clearly out of court, as he had sued defendant as a director. He urged that the most favourable construction for the defendant should be put on the cases quoted, as, if it was decided that directors were liable to actions, 400 or 500 would be brought.

The plaintiff said the learned judge had nothing to do with that, but would administer justice and the law as he found it. The defendant could not complain, for he (plaintiff) had been desirous to withdraw from his share, but was informed he could only transfer it, which he could not do as there was no company; it was obviously unjust that he should be bound to hold that which, at the time he made his application, was valueless, and its value rendered doubtful by the change made against his consent.

The judge, Mr. Commissioner Bullock, held that if there was no society formed at the time spoken of, defendant was improperly described, and if the society did exist then, that plaintiff's remedy was by arbitration; but he thought a question might have arisen if the argument had been that the cases quoted referred to the superior courts, and not to courts formed under the new Act for the establishment of county courts.

The plaintiff was then nonsuited.

ENCAUSTIC PAVING TILES.

DISCOVERY OF TILES AT WORCESTER.

Ornamented tiles were formerly much used for paving the floors of sacred edifices, and their use was so generally confined to buildings of a devotional character, that wherever they are found in the remains of castellated or domestic mansions, there is good reason for supposing that a religious fabric had at some time existed on the spot—either a private chapel or other holy edifice. The earliest known specimens appear to be of the latter part of the twelfth, or the beginning of the thirteenth centuries, and on them the foliage has the characteristic trefoil of the period. Of this age, one of the most interesting examples was recently discovered at Woodferry, Oxfordshire, some of the tiles exhibiting the badges of Richard, King of the Romans, to whom the manor belonged. In the two following centuries the decorations were of a much more varied and elaborate character. The foliage was more elegantly and gracefully thrown, and exhibited great natural freedom. In the sixteenth century encaustic tiles appear to have been but occasionally used; but Flanders tiles of this period are sometimes met with: they are of foreign manufacture, and have their patterns depicted in superficial colours.

The devices impressed upon paving tiles consist for the most part of foliage, variously thrown; heraldric bearings, crosses, sacred symbols, geometrical figures, mounted knights, and grotesque figures of hideous forms, comparable only to fiends and demons. In many cases a single tile contains a complete pattern within itself; but sets of four, nine, sixteen, and other numbers, with a continuous pattern extending over the whole surface, are not uncommon.

Armorial bearings, badges, and cognizances, are perhaps the most useful and valuable decorations to the archæologist which tile paving presents. Heraldic remains are at all times valuable, and whether they are found depicted in all their gorgeous blazoning, on the stained glass of the windows, or on the monumental effigies of the great departed; or whether sculptured on the bosses, the brackets, or font, or impressed in the tiles of the pavement, they should be most carefully noted down and zealously preserved, as a single blazon or the badge of an illustrious house will frequently lead to the most successful research into the history and foundation of the building upon whose site it has been discovered.

The arms upon pavement tiles frequently exhibit the bearings of the lords of the manor and chase, as well as those of the monarch, and of founders and benefactors to the church, and their aid is therefore peculiarly valuable in tracing the descent of property.

Worcestershire gave us the first proofs of these interesting fictile decorations being the ancient manufacture of our own country, by the discovery within its boundaries of two kilns, in which had been baked many of the tiles which may yet be seen in the neighbouring churches. Some of these tiles are of the finest character, both for design and execution; but very few churches, either in this county or elsewhere, have sufficient portions of pavement remaining to show the mode of their original arrangement. Worcester Cathedral possesses, although hitherto unknown, perhaps one of the finest and most extensive series of original arrangement in existence.

When I arrived in Worcester to attend the present Congress, and examined the magnificent cathedral, I could barely find a score of tiles, with the exception of the justly celebrated monumental cross in the Lady Chapel; but having been told by a gentleman that he *believed* there were a few in the old singing-school attached to the cathedral, I proceeded thither, and while examining it, I also carefully explored the adjoining rooms and passages, and had the extreme gratification of discovering, beneath the accumulations of ages, one of the

t remaining examples of this species of fic- decoration. Without for a moment entering o the original intention and use of that por- n of the cathedral known as the old singing- ool, and Cromwell's rooms, I will merely erve that they are approached by a flight of ne steps, and a short passage, leading from vestries at the west end of the south aisle he choir. On emerging from this passage re is a small closet (if I may be allowed to the term, for the sake of familiarity) on the , and a doorway on the right, opening into all, called Cromwell's room: from this m is a narrow doorway and winding pas- e, leading to another closet; a doorway ding by a flight of stone steps into an open sage and small room over the before named sets, &c., and a third door opening into a ll room, from which the singing-school is ered. These are all groined, but at the iod of my visit were filled with such a tley assemblage of rubbish that it was next mpossible to examine them: here decayed tting, broken tin candlesticks, and rusty n enough to stock the shop of a marine re dealer, were mixed up with dust that uld have made a scavenger's fortune. And ler this mass of filth and rubbish, after aping the floors in many places, I had, as I re said, the extreme gratification of dis- ering one of the most interesting examples ile paving which has ever come under my tice.

The whole of the rooms, and passages, and sets I have named, have been paved with orated tiles of the finest character, and y are for the most part remaining in their ginal arrangement, to the extent of at least square yards, of which the only portion viously known were those in the one room, singing-school. Many of the patterns are iterated, and others partly so, but enough nains to show what the former magnificence ist have been.

Of the patterns found upon the tiles of the egoing pavement, it will be only necessary to ntion, that besides some of the most ex- site designs of foliage extending over sets four, nine, and sixteen tiles, birds, sacred blems, and other devices, there is a fine ies of heraldic decorations.

The floors are divided into compartments by rders of shields or birds (of patterns identi- with some discovered in one of the before- ntioned kilns), and these compartments are ed in with tiles laid lozengewise, the patterns on them being divided from each other by nds of plain black quarries. This gives a od effect and pleasing variety to the pave- nt, and renders it altogether one which uld be of the greatest service for arranging dern floorings.

In conclusion, I would observe, that there few places in existence which can boast of h a valuable, such an extensive, and so h an assemblage of this species of fictile coration as Worcester; but there are few ces, I hope, where such remains would have long remained unknown. It is lamentable see the deplorable state of that portion of religious fabric which contains them, but rust that since a commencement has been de by having one or two of the portions ept for *me*, the whole will now be care- ly *washed* for the *public*.*

Drainage.—A Metropolitan Commissioner Sewers has drawn attention to the proposed inage of the Hampshire New County Pri- n, at Winchester. In each cell, he remarks, s to be a watercloset, whence a pipe is to d into the underground drains, which are discharge their contents into close cesspools. e contents of the cesspools will, in time, evolve sonous gases, and the only escape for those ses will be up the drains and pipes, and so o the cells. The drains are, I understand, brick, and the main drain an ordinary 2-feet rel-drain. Impermeable drain pipes, of es decidedly smaller than those of the ex- ng drains should be substituted; the cess- ols should be abolished; and provision uld be made for carrying off the whole of sullage to a distance from the prison," ich, he adds, stands on high ground.

* From a paper by Mr. Jewitt, read at the Worcester Con- ss of the British Archæological Association. Reported at ater length in the *Literary Gazette*. .

PREVENTION OF RAILWAY ACCIDENTS.

The "painful sense of danger entertained by the public from railway travelling," has been at length graciously taken into consideration by "the whole railway interest," who have announced the formation of an association "for the purpose of meeting the contingencies referred to, and for mitigating the losses of sufferers, by giving a direct pecuniary interest to all railway officers and servants in the prevention of accidents. It is proposed to make each railway servant liable to the extent of one-fifth of his annual salary." Further particulars are in the mean time withheld, but it is expected that the hint "will go far to allay the painful apprehensions now excited in the public mind," even though given without those particulars which can alone prevent the most obvious misapprehension as to who are the real *sufferers* whose *losses* are thus to be *mitigated* by the abstraction of a share of them from the pockets of their own servants. In the mean time one or two of the more obvious subjects of probable misapprehension are these:—Is it meant to give to "each railway servant" a vote in the determination of those rules and regulations, and in the adoption of those inventions, preventives, and safeguards, the defect or want of which so often inevitably leads to reckless loss of human life, in spite of *all* that "each railway servant" *can* do by way of prevention without such obvious means? Or are *directors* to be included amongst those "railway officers and servants" who are now to have "a direct pecuniary interest" in the prevention of accidents? If other measures be not meditated by "the whole railway interest" than the mere abstraction from their servants' pockets of a share of those 'penny-wise pound foolish' losses which we have repeatedly shewn that that 'interest' brings down upon its own head,—much more from the exercise of a false economy on the part of its masters and managers themselves than from the certainly often disgraceful negligence of its servants,—the railway interest may depend on it the public will see nothing in this boasted association but a disguised though palpable attempt to mitigate its own losses. Nevertheless, we do not mean to say that such a scheme may not be perfectly justifiable,—so soon as the railway directors can show that they have provided such regulations, such safeguard and other apparatus, such abundant and efficient means of preventing collisions and other accidents, such a supply of carriages not rotten, and of servants not inefficient nor drunken, such an adaptation of amount and number of duties to human ability and fallibility, and such general measures for the sustainment of a clear and well-conditioned line, as shall leave *no excuse* on the part of *servants* but their own culpable negligence or recklessness as the cause of accidents. But why servants should be held indiscriminately responsible for anything else, *or even for the appointment of inefficient servants by the masters themselves*, we cannot understand: nor even how the abstraction of one-fifth of the annual salaries from the pockets of each railway servant would 'mitigate' the 'losses' incurred by any 'sufferers' but the 'railway interest' itself, considering that the law looks to that interest already to mitigate the losses of all other sufferers by railway accident, whether the mitigation come ultimately out of the pockets of the servants or their masters.*——We (the press generally, we mean) are ever adding to the long list of suggestions for the prevention of accidents —suggestions which it is much more the business of railway directors themselves at least to listen to, and to try, if not to seek for and originate, than of either the press or its disinterested correspondents, or of even the railway servants (unless it be the engineers), to offer or to thrust upon their hitherto unwilling notice. The *Reporter*, we perceive, has just been lengthening the list a little by a suggestion that a dial-plate without the movement, but with hour and minute hand, to shew by night as well as by day, be placed at every station, and altered by hand, so as simply to indicate to the engine-driver and the guards of each passing train the precise minute of time when the train immediately preceding passed the station. Had this simple plan been in use of late, much mischief would have been avoided.

* That the mitigation of *losses* to *suffering shareholders is* the order of the day at this moment, there cannot be a doubt, and probably there is right good reason for it; but the recent sidelong endeavour on the North-Western ought to inculcate the adoption of *straightforward* measures; and certainly the immense losses incurred to shareholders themselves by accidents, ought to inculcate the adoption of mechanical and other *preventive* measures, quite regardless of a comparatively trifling *expense*, that, at least, will never amount to anything like the serious cost which the very want of such measures has hitherto occasioned. "The times," says *Herepath*, in not altogether irrelevant allusion to other savings of comparatively trifling sums, "are pinching some of the railways sharpiy, and inducing them to cast about to economise. Will they permit us to recommend to them not the penny-wise but the pound-wise economy. It is no unusual thing for directors, as an intelligent officer lately observed to us, to cast their thousands out of the window, and to cut down a poor policeman a shilling a-week out of his hard-earned salary. Nothing tends so much to injure companies as parsimony in small matters: it is where large sums may be saved that the pruning-knife should be applied. We have known companies get themselves into a world of odium by their meanness in trifles, and the market value of their property kicked down *hundreds upon hundreds of thousands*, while the directors were putting the company to enormous *useless* expenses."

RAILWAY JOTTINGS.

The great viaduct across the Dee, in the Vale of Llangollen, is nearly completed. It is upwards of 1,530 feet in length, or nearly one-third of a mile, and stands upwards of 150 feet above the level of the river, or 30 feet higher than the great viaduct at Stockport, and 34 feet higher than the bridge at Menai. It is supported by 19 arches of 20 feet span. It has been erected by Messrs. Makin, Mackenzie, and Brassy, contractors, at a cost of more than 100,000*l.*, being upwards of 30,000*l.* more than the Stockport viaduct. The cost of the timber required to form scaffolding, &c., for its erection was 15,000*l.*, and between 300 and 400 masons were employed during the whole time of construction. Within a few miles distant there is another viaduct in course of building across the valley of Ceiriog, which will be upwards of 120 feet high, and will have 10 arches of 45 feet span, and one of 120 feet, the entire length being at least 850 feet. ——Forty-three houses have been pulled down at Landport, to make room for a spacious terminus for the Portsmouth and Brighton line. ——Part of the tunnel running under St. Catherine's-hill, near Guildford, connected with the branch of the South-Western Railway from Guildford to Godalming has given way. ——A communication was effected a few days since between the north and south ends of the northern High Tor tunnel. The tunnel is on a somewhat difficult curve; but the centres of the two portions, on being proved by the surveyor, Mr. John Wheatcroft, were found, it is said, not to vary half an inch laterally.—— The goods station at Gainsborough, says the *Lincolnshire Times*, is now ready for the roof, and all the bricklayers are employed at the shed, or "stables," for the engines, the walls of which are rising with great rapidity, under the management of Messrs. Kirk and Parry, the contractors.——Excursion trains appear to be on the increase. Three of them met the other day near Derby, on their way to Scarborough, with 4,000 passengers.——A correspondent of the *Railway Chronicle*, who says he had occasion to travel over 2,000 miles of railway with only that fitful sort of sleep obtainable in a train in transit, very feelingly suggests the desirableness of establishing, in prolonged runs, what he calls 'railway hammocks.' This very convenience appears to have been already provided on some of the American lines, for the ladies at least, if an engraving in the Parisian "L' Illustration," from a drawing doubtless 'done by an artist on the spot,' be correct. On the same pictorial authority we are pleased to perceive that the idea so often suggested by ourselves, of a line of foot boards or a beat for the watchmen or guards of a train, has been already realized by our go-ahead transatlantic brethren, who have run it right through the middle of each carriage, with gangways from one to another, on the rail of which the passengers appear to lounge in quite a free and easy way, enjoying the fresh air and the varying landscape.—— The Edinburgh and Glasgow are said to have purchased the Union Canal, for the purpose of monopolising the traffic between the east and west of Scotland. A previous attempt of a like order was some time since frustrated.—— The author of 'A Summer Ramble in the North,' tells us that the first and only railroad in Russia is that from St. Petersburg to Par-

valowsky, and that a miserable specimen it is, though American engineers did construct it. The rails are so uneven that the carriages think nothing of eloping from the line and walking into adjoining meadows; [we have leaping engines of our own by the way, which not even the straightest of rails will keep in the way that they should go], and the pace is not alarmingly frightful, for we are forty-five minutes traversing ten miles. You receive a ticket, which appoints a particular seat in a particular carriage of a particular train, at your disposal; and if you light a cigar, Government provides you gratuitously with a safe escort to the frontier, a useful and economical mode of travelling in case of bankruptcy. After one of the late accidents on this line, the Emperor was the first person to venture on it again, to show his subjects the folly of being alarmed. This was necessary, for travelling by rail being new, a panic might have deterred passengers from risking their lives on it again.

IMPROVEMENT OF LABOURERS' COTTAGES.

THE Royal Agricultural Society has, in its list of prizes for the ensuing year, included one of 50*l.* for the best, and 20*l.* for the second best, essay "On the Construction of Labourers' Cottages." The conditions of competition are worthy notice, viz., "The best and most economical mode of building a pair of labourers' cottages, with three bed-rooms in each. The paper to be accompanied by plans, elevations, and specifications, with prices affixed, enabling those who are desirous of building cottages to calculate the cost accurately. If ornament be introduced, the same to be estimated separately. The winner of the first prize will be expected, if requested, to supply a model for the use of the society." The *Bury Post* remarks on this, that, "the stipulation for three bed-rooms in each cottage is most proper: and it would not have been amiss to have added that two of them at least should contain fire-places, the want of which, in cases of illness, is frequently of serious consequence. Where three bed-rooms are built on the same floor above, it ensures ample space in the lower apartments, on the judicious employment of which will greatly depend the amount of comfort the cottage may afford. It is not, we think, advisable in any case to divide this space into two sitting-rooms, which supply a temptation to take in lodgers, and other practices not conducive to the comforts of the family. One good sized living-room, comfortably fitted up, with convenient pantry, &c., will, even for a large family, be found on the whole more useful than two small rooms." In the fitting up of this sitting-room the Royal Society has again done good service by offering a premium, previous to the York meeting, for the best cottage stove, which was well responded to in the exhibition of several greatly superior to those in general use in this district. The prize was obtained by Mr. Nicholson, of Newark-upon-Trent, for a stove thus described:—"A compact and convenient range, with oven and boiler, with registered improvements, which consist, 1. Of a complete fire-brick lining for the fire part, by which the oven and boiler are thoroughly protected from the action of the fire, and their efficiency and durability greatly increased. 2. An improved form of fire, allowing a much greater portion of heat, with a less consumption of fuel; one peculiarity of this is, that no bottom grate is used or required. 3. A new form of range, allowing a complete radiation of heat, whilst the smallest coal or cinders are thoroughly consumed, and the top bar so contrived that it will fall both ways: the range also can be removed, and the whole of the remains of the fire cleaned out in an instant. 4. An improvement on the fitting and position of the door of the oven, affording great durability and convenience, and also in the square lid of the boiler; and, lastly, a general improvement in the flues and fitting of the range. Price for 3 feet 4 inches opening, 2*l.* 2*s.*" The same article for an opening 2 inches less in width, might be purchased for 1*l.* 15*s.*, and for 4 inches more, at 2*l.* 10*s.*

The *Morning Herald*, in a leading article on the importance of providing the labouring classes with a better description of house accommodation, says, as we have ourselves often said before,—"It is the first step towards the improvement of the *social* condition of the poor. It is the only thing that can lead up the labouring man to that self-respect which is the best preservative against moral contagion. 'Give a man a Bible and a calling,' said Robert Hall, thinking that he had named everything that is necessary to keep mankind out of mischief. Give him a home, too, we would add. It is the want of a home that makes thieves, drunkards, and vagabonds. The bricklayer must precede the schoolmaster in the country and in the town. Let the parent have a comfortable home, and there is little fear either for himself or his children. If there be order, decency, and regularity in his little household, comfort and happiness are sure to be there. Give the poor man something to take a pride in; let him have the means of cleanliness and privacy at home; let him feel that, whilst he respects himself, he is respected by others,—and the tavern and gin-shop will lose all their charms. We know nothing better that the philanthropist can do than build houses for the poor: nay, there is nothing better that the capitalist can do, for no investment is more profitable. Whether in town or country, our labouring men pay a rent out of all proportion to the real value of the tenements they inhabit."

Correspondence.

AN INQUIRY—DRYING ROOMS.

SIR,—Allow me, through the medium of your widely circulated paper, to inquire the best mode of heating a moderate sized room for drying wood for joiner's work.

G. P.

Miscellanea.

PREVENTION OF BOILER EXPLOSIONS.—At the Institution of Mechanical Engineers, Mr. W. Smith lately read a paper on the construction of the exploded boiler at Dudley, and on others of a similar construction, and pointed out how, in his opinion, a small extra outlay only would be requisite to make the boilers perfectly safe, which outlay would be more than repaid by the economy in working. Mr. Gibbins suggested the use of a simple alarum. Such a preventive, as we have before noted, has been already invented by Mr. Strong, the manager of Messrs. Cox's steam-press, and has been in useful operation some years. The mere introduction of a gas-pipe to the boiler, acted on by hydrostatic pressure, was remarked by Mr. Gibbins as being all that was necessary.——A Liverpool paper states that a discovery has been made which will render explosion almost impossible. It is that of a supply pump, which keeps the boiler filled to any required level whether the engine be at work or not.——Mr. Edward Walmsley, cotton-spinner, Bankfield-mills, Heaton Norris, has pointed out what he conceives to be a fatal mistake in the ordinary principle or action of the safety valve. "For instance, a 4-inch valve has an area of about 12¼ square inches, and will allow to pass in a given time, say 12½ cubic inches of steam. The circumference being also about 12½ inches, it is evident that the disc must rise 1 inch to permit the escape of 12½ cubic inches of steam within the same time. Such a circumstance was never known." Mr. Walmsley has patented an apparatus, of which it is also said that it will render explosions impossible. A bucket with a dribbling hole and small tail valve is suspended from the prolonged end of the lever of the safety valve, and a pipe communicates with the ordinary feed-pipe, so that when the steam gets beyond a certain height, about a quart of water is discharged into the bucket, which raises the valve and allows the steam to escape through a large pipe outside, whilst a cold air damper is opened and the fire is cooled. The valve then closes. With water too low the cold air damper again comes into action.——A true bill, at the instance of the Crown, has been found against Mr. Fogg, the factory manager at Preston, in a recent case of explosion, for manslaughter.

PROJECTED WORKS.—Advertisements h been issued for tenders by 2nd October the erection of the Reading Savings Ba by 7th, for the erection of a Union W house, for 500 inmates, at Erpingham; 2nd, for the conversion of a portion building into a school-room at Croydon I racks; by 25th inst., for the erection gas work at Soham; by 2nd October, for s plying paving and curb stones, gravel, and bricklayers', carpenters', smiths', ironmongers' work, for St. Giles's, Camb well; by 27th inst., for repairs, &c., of serv pipes, lamps, and fittings, in St. Mar Whitechapel; by 1st November, for locon tive and other stores for the London North-Western Railway; by 28th inst., 250 tons of English tough cake copper, navy; and by 27th, for a supply of paint, ca steel files, &c., for East-India Company.

THE SERPENTINE.—Sir John Rennie c menced a survey of the Serpentine on Mon last.

CAMBRIDGE ARCHÆOLOGICAL CONGRE —The second annual meeting of the Cambri Association was held last week at Carnarv Excursions were made on Tuesday Anglesey by one party, and through some the most interesting parts of the Carnarv district by another; the former visiting churches of Llangadwaladr, and Aberffraw a the Henblas Cromlech; and the latter D bardarn tower, Llanberis Church, the Rom road at Aberglaslyn, Castell Cidwmi, &c. the evening the following papers were read "On Druidic Stones," by the Rev. Jo Williams, of Nerquis; "On the Cromlech by the Rev. J. Jones, of Llanllyfni; " Cantref y Gwaelod," by the Rev. Griffi Williams, of Llangollen; "On the Archite tural Features of Bangor Cathedral," by t Rev. H. Longueville Jones, M.A., of Bea maris. Excursions were also made on We nesday; one to Clynnog, the British encam ment at Trerceiri, and the scene of Vortigern death; the other through the Namble quarri and pass, visiting the British and Roman n mains there, the Roman station at Din Diulle, &c.; and in the evening the general mee ing was held, and the following papers we read, viz.:—"On Cwm Hir Abbey," by t Rev. W. Rees, M.A., of Cascob; "On Abe daron Church," by the Rev. H. Longuevil Jones, M.A., "On the Interior of Mediæv Buildings," by the Rev. John Parker, M.A "On the Gold Plate in the Carnarv Museum," by J. O. Westwood, Esq.

THE EVIL OF WANT OF UNDERSTANDIN BETWEEN HUSBAND AND WIFE.—Durin the sale at Stowe, a beautiful statue of Ven rising from the sea, which stood in an alcov built on purpose for its reception, was hotl bid for by two rival agents, until it was knocke down at a considerably higher price than it value. The report is, that the agents repre sented the Queen and Prince Albert, who eac wanted it to present to the other. Prince Albe was the purchaser.

THE CHANDOS PORTRAIT OF SHAK SPEARE.—This celebrated picture, in spite *doubts* one of the most interesting items the Stowe sale, was purchased by the Earl Ellesmere for 355 guineas. This pictur ought to go to Shakspeare's house, at Strat ford. It seems not improbable, indeed, tha Lord Ellesmere may intend placing it there his lordship being known to take considerabl interest in the proper management of thi national shrine.

NEW DESIGN FOR EARTHENWARE.—M G. Cruikshank's plates on the Bottle and Drunkard's Children will soon be familiar a "household words." A Sunderland potter company have purchased the right, and have brought out copies of these plates upon article of earthenware.

HOW TO HARDEN GYPSUM.—It is knowr that calcined gypsum, after being moistened with a solution of alum and again burnt acquires much greater hardness and solidity Mr. Kreating recommends for the same pur pose a solution of 1 lb. of borax in 9 lbs. o water, which is poured over the calcined frag ments of gypsum. They are then kept at a strong red heat for six hours, ground to a powder, and worked. The effect is said to be still better if a pound of tartar and twice the quantity of water are added to the solution.—*Liebig's Annalen.*

AN ENORMOUS BLAST.—At the quarry longing to T. Gill, Esq., at Millbay, there ve of late been several blasts of large masses limestone rock, for the works of the Great estern Docks. One of these took place on urday, in the presence of a large concourse spectators. The hole for blasting was ed with a 5-inch bit, the largest ever used this part of the country, as we are informed, d it occupied the men four days and four hts to make the rock fit to receive the gun-wder. The quantity of powder used was lbs., and the weight of rock separated about 00 tons. The largest stone was 14 feet g, 11 feet wide, and 9 feet thick.—*Plymouth rnal.*

PITCH AND TAR UNINFLAMMABLE.—ne satisfactory experiments, according to *Liverpool Albion*, have taken place in . Royden's yard, Baffin-street, Liverpool, h the view of testing the non-inflammability pitch and tar, prepared in a new way by ssrs. Bagot, Boissage, and Tindel, mer-nts, of Bordeaux.

THE NEW PATENT GAS.—Mr. S. White obtained a patent for preparing from er and common tar or resin what he calls ydro carbon gas," which is said to be better cheaper than coal gas. The apparatus re-red is very small and simple, and the inventor s that barracks, mansions, private dwellings, churches are about to adopt it. The de of generating the gas with the apparatus hus described:—"The apparatus consists hree or more retorts placed in a stove, two which are filled with charcoal and iron, the er with small iron chains. Water is regu-y supplied, and passes into the first retorts. drogen and oxide of carbon are thrown off, lst protoxide of iron remains: the tar or n is caused to fall on the heated chains tained in the third retort, and bicarburet ydrogen is immediately generated. These e gases are here mixed together, perfectly e; they are then passed into the gasometer, nout any necessity of passing through any ifying vessels, and the gas is fit for imme-te use."

LONDON MASONS' STRIKE.—The strike on part of the masons employed by Mr. Trego others who have refused to allow the dis-tinuance of work at four o'clock on Satur-, still continues. A bill of indictment has n preferred against twenty-one of the men conspiracy, and the masons, on their part, e held meetings to determine on resistance, obtain subscriptions for the purpose. We ked the original application to the masters the one hour on Saturdays, and were ious that it should be granted to them erever it was practicable, but we cannot ntenance such proceedings to enforce it as e been taken, proceedings which cannot to prove most disastrous to the workmen ersisted in.

THE NEW WHITE PAINT: A HINT TO ERATIVE CHEMISTS.—There seems to be a vailing desire to give the white oxide of mony, or argentine flowers, as the old mists called it, a fair trial, in place of white l. The first object will be to have it pre-ed with as much purity and subtlety, or in ure and impalpable a powder, as possible. the attainment of this end we can only r all and sundry our readers who are de-us of trying it, but not much skilled them-es in chemical manipulation, to some ope-ve chemist who is, *and who will consider object in view*, and proceed accordingly. a test and criterion of its purity, however, vould recommend our correspondents them-es, who are desirous of doing so, to throw nall bit of the metal of antimony on a clear coal, or charcoal, without a vestige of oke, and then to receive the beautiful snow te oxide, as it rises in vapour, on the end of oker or the broad side of a knife. They thus be able to judge of the skill or care heir chemist, even though ignorant of the per mode of preparing it on a larger scale. 'a hint to operative chemists,' we mean of rse that they might profit by a few extem-e experiments of their own with this mate-—for the adaptation and superiority of ch, however, in all respects, as a substitute white lead, we do not mean to vouch, ough we do think it well worth *more* than ere off-hand trial with the oxide as *com-ly* prepared.

TENDERS

For the restoration of the Rev. T. Dale's house in Amen-corner, partly destroyed by fire:—

Wilson	£1,396 0 0
Lidbury	1,187 0 0
Pritchard	1,184 0 0
I'Anson	1,163 0 0

For Edmonton New District Church. Mr. Ellis, architect:—

	If faced with Brick.	If faced with Kentish Rag.
Bridger and Ashby	£2,945	£3,093
Patrick	2,900	3,044
Thomas Barton	2,850	2,972

For building a Girls' School and Governess's Residence at Hammersmith. Mr. G. E. Gordon, architect:—

Bird and Son	£1,049
Samuel Cundy	1,020
Crow and Adamson	999
J. Herring	999
Chamberlain	984
T. Aldridge, jun. (accepted)	870

TO CORRESPONDENTS.

"*Sprixon.*"—Smith's ashes, mixed with the lime and sand, are the best material to use for the purpose, as they increase the strength of the mortar while they serve to colour it; but as these cannot often be obtained in large quantities, lamp-black is employed.

"*Received.*"—"W. H. N.," "H. H.," "R. P.," "J. H. P.," "J. E.," "W. D.," "J. J.," "J. H.," "C. E.," "J. W—m," "H. W.," "Dædalus," "A Subscriber," "Leo" (open to public competition), "Ingénieur," "An Amateur," "Street Cleansing Company," "A. F. A.," "W. B.," "R. J. W.," "W. H.," "B. G.," "T. C.," "J. M.," "London Mechanics' Institute," "Introduction to the Study of Natural Philosophy, for the use of Beginners," by Charles Tomlinson. (Weale, High Holborn.) "Report of the Bristol and West of England Architectural Society." (Leech, Bristol.)

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—33, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

PATENT HANDRAILS WITHOUT HEADING JOINTS, now so well known and justly appreciated, being patronised by the most eminent Architects, J. MELVILLE informs Architects, Builders, and the Trade in general, that having recently erected an improved steam apparatus, which, by causing a saving of fuel, and otherwise giving greater facility to the execution of the work, he is enabled to make a reduction of 10 per cent. on his former prices. Patterns and prices forwarded to any part of the country on a reference being given; and Architects and Builders waited on in London.—64, Johnstreet, Fitzroy-square, London.

NEUBER'S WASHABLE WATER VARNISH—REQUIRES no PREPARATION of SIZE. The peculiar advantages of this Varnish may be thus briefly enumerated:—It is perfectly washable, requires no preparation whatever, is a quick drying, emits no smell, and gives an elegant and durable polish equal to any varnish now in use. It is admirably adapted for maps, drawings, paper hangings, &c., and may be fairly considered a discovery well worthy the patronage of the public. Price 8s. per gallon.—Manufactory, 4, Endell street, Broad-street, Holborn.—N.B. A liberal commission to agents.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHÉ, which has been almost universally adopted for architectural decoration, has been patronised by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube at any time, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight.—To be had of G. HOWE, Portable Steam-Engine Maker, 123, Great Guildford-street, Borough: also of Messrs. FROST, NOAKES, and VINCENT, Brassfounders, 193, Brick-lane, Whitechapel; price 2l. 10s. each.

IMPORTANT TO ARCHITECTS AND BUILDERS.

MESSRS. T. and C. CLARK and Co., Ironfounders, of Wolverhampton, beg respectfully to call the attention of Architects and Builders to their PATENT BRASS JOINT BUTT HINGE now first to be put, or skew. The above (which are now beautifully made) answer every purpose of a brass hinge at one-fourth the cost of that article.

Messrs. T. and C. C. and Co. warrant every hinge to stand any test.

May be had wholesale of all merchants and factors, or at the works, and retail at all the principal ironmongers in the kingdom.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

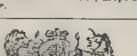
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from 1 inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, copper branch and rose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

IRON VERANDAHS, GATES, RAILING, STAIRCASES, &c., to any design. Hurdles, 4s. 3d. each; Strained Wire-fence, 4½d. per foot. Area Gratings, Straps, Ties, Bolts and Nuts, with all Ironwork for buildings, at the lowest prices for cash payments. Excellent Iron Bedsteads, 20s. each; GALVANIZED and CORRUGATED IRON ROOFING—GUTTERS, &c.—JOHN BULLOCK and CO., Hope Ironworks, Primrose-street, Bishopsgate.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

NAILS and IRONMONGERY from BIRMINGHAM. To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best qualities, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Ethan-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

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JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Pinion and Steam-Engine Patterns; Range, Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

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GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, calculating weight and strength. This fire proof material has been used for roofing the new Houses of Parliament, shipbuilding and timber sheds in her Majesty's dockyards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of carcases, fire-proof buildings, chain and wire rope bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Office of the Company, No. 4, Mansion House Place, City London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Colqun's Hall, near Dudley.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder storms. It possesses important advantages over other forms of conductors. References can be given where it has been applied for more than twelve years to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS.—Also, the Patent Weather-tight Fastening and Oil Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Hall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

SMITH and ENGLISH 69 Primrose-street, Leicester-square, London.

WARMING by means of the circulation of WARM AIR.—BURRIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner. BURRIDGE and HEALY, 130, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the numerous parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset street, Fleet-street.

WALKER'S PATENT. — WARMING and VENTILATING WORKS, LOWER KING-STREET, MANCHESTER.

Established for the manufacture by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been engaged for many years in an extensive practice of this art in various parts of the kingdom, and reduced it to certain and accurate data, and feeling satisfied, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying-rooms and stoves heated, where required, up to 300 deg. Fahrenheit, and drying operations generally planned and executed on improved principles. Having also followed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—

Walker's Patent HEAT-BOXES. Portable SELF-FEEDING BOILERS, improved SCREW-WARMING and VENTILATING MACHINES. HOT-WATER STOVES TUBULAR and other WARM-AIR STOVES. Portable Steam-Engines of useful sizes, with cylindrical or tubular boilers.

Competent workmen sent to any part of the country. References to numbers of public institutions, churches, nobility and gentry, architects, manufacturers, &c., throughout England, Ireland, Scotland, and Wales.

REDUCED PRICES.

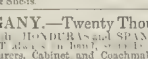
WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has opened the Manufactory formerly in the occupation of his late father, as a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1 inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Battens, Scantling, Sash Sills, Mouldings, Paving, Kerb, and Lath.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and neatness, and executed with promptitude. Sailsworth Bridge Wharf, Boroughside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING, FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of fine HONDURAS and SPANISH MAHOGANY and WAINSCOT always on hand, suitable for Builders, Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all consuming large or small quantities, at moderate prices, at T. C. WILSON'S Timber-Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where their orders can be executed superior to any in existence of the numerous complaints of parties who have had their goods sawn, &c., as seasoned, while upon weighing the same it is proved otherwise.



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TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Planed, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water carriage, being connected with the Pimlico Improvement Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

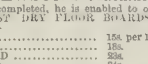
N.B. Estimates given for Sawing and Planing.

JOHN NEWSON'S Machinery being now perfectly completed, he is enabled to offer to Builders and others the BEST DRY FLOOR BOARDS at the following reduced rates:—

¾ white S	15s. per 100 feet superficial.	
1 inch ditto	18s.	" "
1 inch white D	23s.	" "
1 inch yellow	24s.	" "

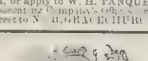
Two-cut battens white or yellow 21s. " "

All sizes of sawing 1 inch per foot cube, and not less than dry upwards of 2,000 feet and battens. Prices always going to and from the principal docks. Goods can be insured in the Builders' Fire Office, 69, Aldersgate-street, or at Mr. Newson's Office, 19, Westbourne-street, also at his Timber Yard, Grosvenor-row, Pimlico.



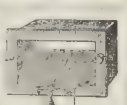
WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Steam Drying Company's Establishment for Seasoning Sawn and Planing Woods, at the Grand Surrey Mills, immediately adjoining the Commercial Docks, Rotherhithe. By the new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Bridge-street to No. 3, GRACECHURCH-STREET, CITY.



GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, mansions, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for elaborate ornamental windows forwarded on application to EDWARD BAILLIE, old Painter, Stainer, and Embosser, 12, Cumberland Market, Regent's-park, London, where specimens are to be seen.



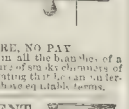
DR. ARNOTT'S CHIM- NEY VENTILATOR

EDWARDS, Stove Maker to her Majesty, Palace-yard, Pimlico, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable Ventilator, which has been found by the use of Dr. Arnott's Valve for the Ventilation of Rooms for a description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS CURED, NO PAY.

Twenty-three years' experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, puts it in the power of E. to state that he can undertake the cure of smoky chimneys on the above equitable terms.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested during the last Winter in Kensington for the last three years, and has proved to be an effectual remedy.

The Patent Pot cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual, the cheapest, and also ornamental pot ever invented for ornamental purposes. They are manufactured in various Stone Cements, and also in Terra-Cotta, at Lambeth Marsh, and in Coade's Artificial Stone, at their Establishment, Belvedere-road, Lambeth.



Prices and Drawings may be had at their Offices, 1, Parliament-street, Westminster, or at the Works, Belvedere-road, Lambeth.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both sides, and cut to any required size, with Drain-grooves, and Bedding, on receipt of a post-paid letter, stating the number required. Apply to JOHN STIRLING, Belvedere Slate Works, Lambeth.

SLATE SLABS, of the finest quality, planed on both sides, at reduced prices, may be had of Messrs. JONES, Bangor Wharf, Pimlico, and 18 Wharf, Macclesfield-street, City-road, Islington. Enamelled Chimney Pieces, in super-slate Washhand-stand and Table Tops, also Paper, in daily production at the above places. A large assortment of best Bangor Roofing Slates are constantly kept on hand, at prices considerably reduced.

SLATE SLABS.—The Finest Slabs pro- duced in WALES, of amazing strength, pure in texture, and free from voids, can be had of Mr. MYERS, at the PENRHYN SLATE WORKS, Tyre, Bangor, also Penrhyn Quay, both places at the Welch Slate Depôts, Scotch Slates of every description. These reduced prices are subject to a very large trade discount. Slates have been extensively used in the Royal Palace, St. John's Lodge, the Royal Yacht and Windsor Castle, Osborne, Pavilion, Brighton, Theatre Royal, Covent Garden, Buckingham Palace, Westminster Hall, Houses of Parliament, Conservatories, Baths, and Washing Machines, and for the Railway, and large Slabs for the Locks, Canal, and other Architects, Builders, and the Public, are supplied direct from Mr. Myers's Works, and can be had of Messrs. Myers, at the Penrhyn Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and has also a large stock at the above wharf to execute any orders.

Mr. W. G. WARDLE, of whom every necessary information can be obtained

August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Works and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state that the Anston Stone Quarries are entirely distinct from those which the New House of Parliament are being constructed, a ledge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf, which he is constantly receiving direct, to execute orders to any extent on the most advantageous terms.—Specimens sent to any part, and blocks of any quantities at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

CAEN and AUBIGNY STONE,— LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries at Caen, St. Aubin, Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Architects, Builders, Masons, Surveyors, Builders, and others to their Caen Stone as the best and most economical material now in use. Caen Stone in blocks of any size, and hewn and sawn to any pattern, at the shortest notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, resists from vents, shell, and great durability, ranks amongst the first for building and ornamental purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities to various parts of the continent for public works, both those executed under the patronage of the Royal Engineers, orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained.

Office, 18, Southwark square, Southwark-bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico. Ines to inform Architects and the Public that MASON WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from £5 upwards.

MONUMENTS and TOMBS in great variety of design.

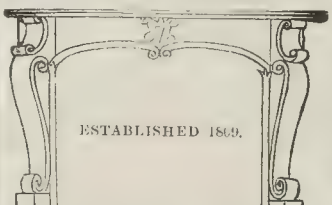
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from	12s.
Veins Marble	40s.

RESTORATIONS Estimated for, in which Branch S. C. has had great practice. Jambs fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

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The Builder.

No. CCXCV.

...TURDAY, SEPTEMBER 30, 1848.

ON Monday morning, in last week, we left England to visit the stone quarries of Caen, determined to see and judge of them for ourselves, and to spare no ...is in obtaining ample and correct informa... on a subject which is of considerable ...sequence to the English public, and is felt ...e so by a large number of persons. We ...e accompanied by Mr. Charles H. Smith, ... of the commissioners appointed to decide the stone to be used for the outside of the ...w Houses of Parliament, whose knowledge ...he subject is well known, and who has ...red warmly into the inquiry with us.

...ircumstances led us to enter France by cross... from Folkestone to Boulogne, although, as ... readers are aware, this is by no means so ... a road to the object of our inquiry as by ...ing from Southampton to Havre, whence ...eam-boat once every day takes merchandise ... passengers to Caen in about four hours, ...sing the *embouchure* of the Seine, and ...ersing the river Orne, on which this an... ...t and interesting town is situated. As it ...pened, we were thrown into the midst of ... late fraternising *fête* at Boulogne, where ...apets, tricolors, and triumphal arches ...erabounded. We might add another word, ...nning with t (and that not *taste*); but the ...ation seemed good, and all the feeling ...bited was kindly, and we therefore avoid ...ment on the execution. The amazing ...nt of the decorations (such as they were), ...ved the earnestness with which the people ... entered into the demonstration, and in... ...ed it with something like dignity.

...he new church of *Notre Dame de Boulogne*, ... building, forms a very prominent feature, ...g high above the town, and will surprise, ...n approached, by its great height and ...nt, if it should not charm by its beauty or ...d taste. The plan is a Latin cross, the ... Italian, and at the junction of the nave ... transept rises a circular structure of great ...ht and size, to be surmounted by a dome. ... upper part of this tower, forming the ...our of the dome, is in three stories. The ...dle story has a continued series of columns ...nd it supporting an entablature, the frieze ...hich is formed into flat segmental arches ...nging from column to column! The top ...y has a range of coupled columns of ...ller size. The soffit of the segmental ...es, the upper entablature, and other parts, ...ent Latin inscriptions. The nave and ...septs are not roofed in, and have been ...ding so for some time; the lady chapel is ...pleted, and used for service. This building ... a priest-architect, if we were rightly in... ...ed, namely, the director of the college, ...is proceeded with gradually as funds are ...ined, thus resembling in two respects the ...rches of the middle ages. We must not ...y the comparison further, however, for ...nd the strong faith and expansive views ...h could prompt the commencement of ... an enormous and costly pile, with small ...ediate resources, there is little to praise; ... we are forced to regret the evident want of artistic direction. It is a grand intention miserably marred.

On the site of the church there is an ancient crypt of extraordinary extent and complexity, for which a very early date is claimed, and probably with justice. It has been so shamefully disfigured, however, by its present conservators, by modern colourings, "decorations," transparencies, &c., apparently for the purpose of making it better worth to the vulgar the *franc* which is charged for viewing it, that much of its interest is lost, and the walk through it filled us with indignation instead of pleasure.

At Abbeville we were glad to find the masons at work, although only to a small extent, on the cathedral. It is almost too late in the day to tell our readers of the great beauty of the west front of this building. It is perfectly marvellous, and should not be passed by any who have not seen it, and are journeying on the rail to Paris. The station is at some little distance from Abbeville, and leaves the moats and drawbridges of the town inviolate; but a diligence meets the train to take passengers on. A building such as this cathedral is a sheet anchor, the preservation of which should be regarded as of the utmost importance by the town. "While the Coliseum stands Rome shall stand;" and the same may be said of some other buildings and some other places.

The comforts which attend the "iron horse," rapidity and ample space, increase the impatience and fastidiousness of travellers under other circumstances. Nine hours spent in a small diligence between Abbeville and Rouen were hard to endure, but ultimately, like all sublunary things, including up to this time "perpetual motions" of every description, did come to an end, and were almost paid for by the magnificent view which is presented by Rouen, the most picturesque of French towns, when it first opens on the traveller. The iron spire placed on the tower of the cathedral (wanting but the apex), is a black spot in the prospect, and greatly disfigures the edifice. It is, nevertheless, a very extraordinary work, and this is made strikingly obvious by visiting a yard attached to the cathedral, and learning that an enormous mass of ironwork there built up, bolted, and braced, and rivetted together, is to be raised and form what you considered was a mere finial wanting to complete the spire. When finished, the top of it will be about 480 ft. from the ground.

The process of restoration is going on to a great extent in Rouen, though checked by the late disastrous political convulsions. At the west front of the cathedral two enriched buttresses of large size have been put up "in block," as is the practice in France, and are ready for the sculptors. At St. Ouen, the neighbouring and rival church, the whole west front is being restored and two new towers added, under the direction of M. Gregoire, the town architect. It is all up in block, and the two spires have been sculptured and made perfect down to the top of the towers.* There are advantages about this mode of proceeding, but the extra cost (amongst other things), which attends working stone in its place rather than in the shed, has prevented the adoption of it in England.

The interior of St. Ouen is full of beauties, and would afford us the easy enjoyment of a long description, if such were our present purpose.* The stone used appears to be the oolite from *Caumont, Seine Inférieure*, which contains flints in great abundance, and these in many cases are left in unworked, and project across mouldings very singularly, inducing a feeling of astonishment, that amidst so much that is beautiful, such eyesores should have been permitted to remain. The joints of the stone work are large.

The south porch, seldom seen by visitors, displays pendent arches springing from carved bosses, and is as remarkable for skilful construction as for beauty in design. The rose windows in this church are very fine: that in the north transept is said to have been executed by the apprentice of the master mason employed (who had himself worked the window in the opposite transept), and to have led to his murder by his master through envy. A similar unlikely story is told, as our readers will probably remember, of the "apprentice pillar," in Roslin Chapel, near Edinburgh. The centre of this northern window at St. Ouen is almost wholly occupied by the mystic combination of triangles (in continuous line), known as the *pentalpha*, of very large size, which was so favourite a symbol with the mediæval architects, and is to be found all over Europe.

At the church of St. Maclou, masons are at work on the entrance front: some of the flying buttresses and pinnacles have been restored. The lower part of this front is an elaborate mass of sculpture, and is in a fair condition. The stone appears to be the oolite last mentioned, and contains flints in great abundance. The curiously sculptured stone staircase in this church which leads to the organ gallery is of the same stone, and is similarly spotted and disfigured by flints.

This staircase (dating from the end of the 15th or beginning of 16th century), together with a staircase in the cathedral of the same city (ascribed to the year 1460), is well deserving study. The license which the gothic architects allowed themselves, with the right of adaptation to wants and circumstances, were much greater than is permitted to modern architects, in any case where they cannot shew that the one particular license in question was taken by some ancient predecessor.

What we have said already will shew that the restorers have been busy in Rouen, but one of the largest works in progress yet remains to be mentioned, and that is the very interesting *Palais de Justice*, where a very considerable sum of money has been expended. This edifice is a very elaborate specimen of the last period of pointed architecture, with lofty roofs, buttresses, and pinnacles, highly enriched gables, and projecting turrets. It forms three sides of a court-yard, and not only has the whole of the old work been restored (and for the most part fairly done), but one of the three sides, consisting of modern discordant buildings, has been taken down and rebuilt in accordance with the original structure. The opposite side contains the *Salle des Procureurs*, a hall 135 feet long and 57 feet broad. The very extraordinary panelled wood ceiling of the *Cour d'Assises* in the central portion of the palace, was illustrated in THE BUILDER some time since.† Since the establishment of the republic, the works have been stopped for want of money.

* The towers do not appear to be in accordance with the original intention.

* This church, with the majority of the other buildings to which we shall have occasion to allude, are illustrated in Pugin and Britton's "Specimens of the Architectural Antiquities of Normandy."

† Vol. IV. p. 474.

There are many elaborately sculptured stone fronted houses in Rouen, which should afford hints to architectural travellers, and no new work is to be seen either here or in other French towns, without at all events an attempt at decoration. The country houses around display considerable variety in the arrangement of the roofs, disposition of adjunctive buildings, and in the dressings of doors and windows. While the English visitor notes the taste and ingenuity thus displayed, he will not fail also to observe a slovenliness, want of finish, and inattention to drainage, paving, and the condition of the streets, which are quite surprising, and which must tend to neutralize, in a sanitary point of view, the advantage the people have in their public promenades, and numerous open *places* for ventilation and exercise. No English community, however small, would suffer their streets to remain in the filthy condition in which those of such important towns as Rouen and Havre are.

At the last-named place, Havre, a building of considerable pretensions has been lately erected for the purposes of a public museum and library, from the designs of M. Debene, the architect to the town previous to the revolution. It is a square building, about 100 feet in front, and about 120 feet in depth; Italian in design, and wholly of Caen stone, from Messrs. Luard and Beedham's quarries. It is in two stories, Ionic and Corinthian, with columns at intervals, and has a central third story for a clock. Stone figures of Painting, History, Science, and Sculpture, surmount the balustrade of the front on either side of the clock-story already mentioned.

The internal arrangement of the building is exceedingly meritorious. It consists of a central hall (appropriated to sculpture), divided into three parts by two ranges of four columns, supporting an enriched panelled ceiling. On either side of this hall, and separated from it by an open arcade, by means of which the hall is lighted, is a gallery used as a museum, the floor of which is 6 or 8 feet above the floor of the hall, so as to afford rooms for the attendants, &c. beneath. Access to these galleries is had from the hall by a flight of steps on each side of the entrance in front. A long flight of steps from the centre of the back of the hall, with other flights right and left, conduct to a spacious picture-gallery over the hall, and a library, containing 22,000 volumes, over the side galleries.

The collection of pictures is large, and contains some good works; many of them, we were informed, belong to an Irish gentleman resident in Paris, and are lent to the town for a certain number of years. The cost of the building, exclusive of fittings, was, according to the attendant, 40,000*l*.

Various works are going on in the repair of the quays and docks, and in the erection of some large warehouses and depôts, which will afford us illustrations when we come to speak of the stone of Caen and its neighbourhood.

Our readers have so recently had a notice of the principal buildings in Caen from the pen of Mr. Donaldson,* that we must be careful to avoid repetition. These structures are unquestionably of the greatest interest and value, and should be visited by all who are studying the history of architecture. The two large churches built by William the Conqueror and Queen Matilda are especially important, in consequence of the certainty of our knowledge in respect of the date of their erection. They are incontrovertible records of the state of architecture in Normandy towards the close of the eleventh century, and serve satisfactorily to disprove the statement made by French antiquaries, that pointed architecture, *as a style*, was practised in Normandy in that same century.

We visited Caen eight or nine years ago, and laid before the Society of Antiquaries some notes and sketches illustrative of the state and appearance of the buildings examined, in the shape of a series of letters to Sir Henry Ellis. Referring to these,* we find it mentioned that various repairs had been going on at Matilda's Church, dedicated to the Trinity, but were suspended in consequence of the want of money. It is to be hoped, we remarked, that efforts will be made not merely to complete the necessary re-instatements, but to remove an absurd balustrade, cornice, and consoles, of modern French taste, which at this time disfigure the upper part of the two western towers. They present the same want of propriety and accordance with the remainder of the composition, as would a modern cap and ribbons on the head of a skin-clad aboriginal.

Suspended, however, the works still are: the doorways (restored) are boarded up, and the westernmost part of the nave is divided off from the part of the church which is in use. The interior of this building possesses an elegance and grace peculiarly its own, and which appear really marvellous, when the ponderous nature of the style is duly considered. The original semi-circular absis that remains is exceedingly interesting, and, as well as all the details, will amply pay for a careful examination: some of the capitals of the columns in the clerestory are peculiarly Byzantine in character. A crypt beneath the absis (delineated in Pugin's "Normandy"), contains sixteen columns unattached, besides others against the walls, disposed so as to divide it into five aisles. The columns, about 4 feet 6 inches apart, are 11 inches in diameter and about 8 feet 6 inches in height, including the cap and base; the cap itself is about 1 foot 9 inches high. These columns have a very Roman appearance.

The old part of the west front of the church is much rent by the failure of the foundation; indeed, there is scarcely a building in Caen of any size which is without a settlement, from the same cause. The stone used is, nevertheless, in a singularly good state, and appears to be of the same formation as that of the quarries now in use. Why this should endure so well, while much from the present quarries has decayed in a few years, we may probably see as we advance in the inquiry.†

At *St. Etienne*, the Conqueror's Church, the morning chapel, at the west end of the north aisle, is being restored, under M. Guy, architect. The new masonry would not satisfy a London practitioner. The interior of the church appears to have been scraped, and is in an exceedingly good condition.

The interior of this church is remarkable for an effect of severe dignity that is truly beautiful,—amply compensating thereby for the lack of ornament which is apparent. In the nave and transept, the semi-circular arch everywhere obtains: in the choir, which is later in style, the *pointed* arch prevails, and tends somewhat to disturb the harmony that elsewhere reigns throughout. Documentary evidence seems to shew, that this latter portion of the church, namely the choir, was erected in the fourteenth century: reasoning from analogy, one would not give to it so late a date by at least a hundred years. The twisted cable and chevron or zig-zag moulding, are observable in all parts of it; and in the triforium are seen semi-circular arches, inclosing pairs of pointed-headed openings. The triforium around the whole of the building, it may be mentioned incidentally, is exceedingly spacious, and would afford accommodation, as was its original purpose, for a great number of persons. It is covered with a simple vault of rather more than a quarter of a circle in section, strengthened by plain horizontal bands at certain distances. On the groined roof of the transept are some slight remains of ornamental painting of red colour.

At the west end of the nave, an organ and a mongrel screen of Roman-Doric columns, bearing arches, has been introduced. This modern disfiguring the productions of the artists of the middle ages, and thus of displaying contempt of them, which was so common in England until within the last fifty years, was not confined, unfortunately, to any one country. Happily such a different spirit now prevails with regard to the works of our forefathers both here and in France,—a knowledge of architectural history, and feeling for architectural consistency (although still sadly limited), are so much more general than they were,—that no person would now think of attempting so gross a violation of taste and propriety; still less would such an outrage be quietly permitted by the public at large.

Externally much of the stone of the Norman portion, now nearly 800 years old, is in good condition. There are, as usual, settlements. The joints of the old masonry are very large (an inch, and in some places an inch and a-half, in thickness), quite as much as any of those portions of Gloucester Cathedral, Worcester Cathedral, &c., which scholars ascribe to the Saxons. St. Etienne, it is to be regretted, is more enclosed by building than it was when we were there before.

The church of St. Nicholas, near the last mentioned edifice, is a very perfect example of Norman skill. The stones of which the church is built are about 12 inches by 6 inches, and the sand used for the mortar was unsifted, so that the joints are large. St. Nicholas has three absides,—one at the east end of the choir, and one at the east side of both north and south transept. It is to be regretted that this interesting building, which has perhaps suffered less change, and is more homogeneous than any other edifice in Caen of the same date (11th century), is still used for most unworthy purposes: it is divided by a wooden floor into two stories, of which the lowermost is occupied as stables, and the other as a granary. It may be remarked, that a resemblance, in several respects, to the architecture of the lower Greek Empire, may be traced in this edifice — a circumstance wholly unimportant in the investigation of the history of the architecture of the middle ages.

With a few additional observations on the buildings of Caen, we shall next week lead our readers into the quarries, and place before them such practical information concerning the stone as we have with some pains gathered.

Lanercost Abbey is to be repaired by the Woods and Forests. The local papers state that the works will be commenced immediately, and that Mr. Salvin is the architect employed.

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* See p. 52, *ante*.

* "Ancient Architectural Remains in Lower Normandy." By George Godwin, Architect, F.R.S.

† The church of the Trinity, and most of the other churches in Caen, stand nearly east and west. St. Pierre, celebrated for its beautiful spire and tower, stands north and south.

THE VALUE OF ANCIENT ART.

Sir,—I have read with considerable pleasure The Builder some letters animated with philosophical spirit, "On the Influences which nd to retard the Progress of the Fine Arts" this country. While I agree with the in-nious author in much that he puts forward, ere are arguments employed in Mr. Cave homas's last letter which I am loth to see omulgated to the public through the medium your excellent and widely-extended journal, thout some notice and reply. I allude more pecially to the war which he wages against e ancient school of painting. "When we flect," he writes, "how many thousands of unds have been spent within these last few onths on old paintings, and the length of ne it takes under the ordinary patronage of odern art to disburse an equal amount, we nnot but deprecate, to the utmost extent in r power, this most unpatriotic procedure." Now, Sir, I am one of those old-fashioned lividuals who think that money alone will t create a taste for the fine arts; and, with respect for political economy in its proper here, venture to doubt whether there may t be exceptions, in the fine arts at least, to at fundamental maxim, that the best article ll always fetch the best price. Undoubtedly were to be wished that it were so; but it has en my lot of late years to observe, too fre-ently, alas, impure and meretricious art ckered up by unfair means and exaggerated aises into public esteem, while the unpre-ding merit of those who affect a higher yle of art is often neglected and spurned. ant of patronage I cannot think is any evil the present day: what all would desire is, at the patronage should flow in the purest eam and in the right direction.

It is in this respect that the study of the story of art is valuable. Like all other his-ies, if hastily read, as a mere array of facts, serves but little purpose. To read the his-y, we should study the principles of art; d in passing through each successive age, e impartial student of enlightened mind ll find inexhaustible instruction in observing w the paintings of each generation, "*oculis fidelibus*," embody, as it were, "the ry age and spirit of the time;" a lasting emorial of the inner life of the painter, and invaluable supplement to the literature of e day.

"The founders of modern art," observes r. Cave Thomas, by which expression I prehend he alludes to the authors of the eat Christian revival of art in Italy in the urteenth, fifteenth, and sixteenth centuries, shunned not to appear simple, artless, and dry fore the exalted ancients, nor to nourish art the unapparent bud until the time of grace rived. Whence comes it that we still behold e works of those ancient masters, from Giotto the teachers of Raffaelle, with a kind of orship and even partiality, if not because the ithfulness of their endeavour, the grand riousness of their quiet and voluntary con-edness, receives from us esteem and wonder?" To know the principle thoroughly on which e ancient painters worked would certainly, acted upon, produce works of equal merit, it is the great feature of a principle that it ay be applied in a great variety of ways, and nders no necessity for copying," that is, we esume, "copying unnecessary." Now, this is e writing, and well said, but for a gentleman o starts by saying that he has intrenched mself against antiquity, the admissions he akes are serious.

1st. That there are in the works of the an-ent school of Italy (to which I confine my gument for the moment) a faithfulness of deavour, and a serious, quiet, modest self-nfidence, which excite in us esteem and miration.

2nd. That a knowledge of the principle on hich the ancients worked would produce, if ted upon, works of equal excellence.

It has been my lot to live with, and be upon timate terms with some of the most en-rhtened and amiable patrons of modern art; t I have observed amongst them, that in act proportion as their wish to forward the terests of the artist at the present day rmed and became active, so did their ad-iration of the ancient masters increase. In me cases I have witnessed a preference for this or that particular school (as the early Italian), and a desire to impregnate, as it were, the art of the present day with the virtues of that style. In other minds, equally enlightened, I have found a more catholic love for ancient art, which would fain cull from each school those particular excellences most easily adapted to the time and circumstances of the society in which we now live. Both these tempers of mind are excellent, but the latter is, perhaps, the most practically useful, as the former is the most enthusiastic. There are few, however, who love art—I mean high art—in any degree, who have not a deep veneration for antiquity.

The value of the ancient masters consists least of all (and this Mr. Cave Thomas seems to have apprehended) in their execution. As mere manipulators, we are, in many respects, their equals, and in some their superiors; but it is in the conception of their subjects, and in the grandeur of their general treatment, that the artists of Italy (especially) excelled us. Mr. Burke, remarks Mr. Cave Thomas, said that "art can never give the rules that make an art." Undoubtedly, the study of mere pictures, without the study of the book of nature, is an empty task, and it scarcely needed the genius of Burke to enforce so clear a truism; but the question really is, whether the study of pictures does not enable to see and perceive many things in nature which would escape an ordinary observer. For instance, whether in walking through a sylvan glade, we are not involuntarily reminded of a favourite bit by Gainsborough; or whether, at the sight of a golden sky, the mind does not recal the image of some masterpiece (I speak at a venture) of Claude or of Turner. Rely upon it, Sir, it is no mean privilege to see nature with the eyes of those gifted men who have been our predecessors, and to say, with humble spirit, they have laboured, but we have entered into the fruits of their labours. Of all the masters on whose works large sums are expended by the modern connoisseur, none strike me personally as more unworthy of a minute attention than those of Hobbima, and yet I was very much pleased to hear the remark of an acute friend and thorough lover both of nature and art, in society, a few days ago:—"Sir, I never knew Hobbima till I travelled in North Holland, and now I like him, because he reminds me of many pleasant weeks spent there." This was conclusive proof that even Hobbima had great merit.

Burke, Sir, has been quoted; but I fear that practice is better than precept. It is one of the noblest instances of enlightened and generous patronage on record, that that great man—and no less amiable than he was great—at much privation to himself, and during a period when his own circumstances were very straitened, maintained (in conjunction with his brother Richard) Barry, the painter, at Rome, at their sole expense, in order that he might have the inestimable advantage of studying the works of the great masters. No man felt the necessity of this more than Mr. Burke. Speaking of Barrett he says (Life by Prior, p. 207), "He does not get forward so much as his genius would entitle him to do, as he is so far from studying that he does not look at the pictures of any of the great masters, either Italians or Dutch."

There are, indeed, in Mr. Burke's letters to Barry, the painter, a maturity of judgment and a soundness of criticism to which you would do good service in calling the attention of young artists at the present day.

Having now extended this letter to a length I never thought of at the outset, I fear I must conclude, though I flatter myself I should have small difficulty in practically illustrating the few home truths I have ventured to put before you. Believe me, Sir, the fault of the present day is not to *under-rate* modern art.

I will, like Mr. Cave Thomas, conclude with a principle:—"Let us endeavour to understand nature as the most effective course for discovering and destroying all fallacies, and for the revival of truth." Bet it so; but let not our imitation of nature be servile; let us—at least in our works—select the "best parts of the best things." This is the only road to excellence. It has been well said, that no great truth rests for support upon a single argument. You, Sir, as an architect, must be aware that a single column cannot support an entablature. Two principles, *at the least*, are necessary. Apply this to art: let our first principle be—study material nature; our second—"study immortal mind." The artist represents, of necessity, only those objects which are material and fall under the cognizance of the senses. To represent them he must have thorough cognizance of their structure; but to endow them with a living soul, and raise art to her proper position as a moral instructress of mankind, he must study the history of his craft, and not merely nature, but books and men.

My anxiety for the welfare of the arts in this country, and the raising of the standard of general taste, must plead my excuse for so long a letter.—I am, Sir, &c.,

An Amateur.

EXPERIMENTS ON THE STRENGTH OF PORTLAND CEMENT.

On Monday week, according to previous announcement, various experiments were made at the wharf of Messrs. Robins, Aspdin, and Co., Great Scotland-yard, of which the following are the more important: several of those in the first series, not recorded, broke down at once, without affording an opportunity of further test, and were therefore regarded as *nil*, as they gave way chiefly in the substance of the brick.

In the first series a better sort of stock bricks were attached by the flat side to a wall, and to each other, with cement, and mixtures of sand and cement, and had stood twenty-seven days with proper supports.

1. *Nil.*

2. All cement: 14 bricks. Heavy iron wheel on seventh brick, said to weigh 9 cwt.: substance of third brick gave way in a few minutes with a small additional weight.

3. One cement, to one sand: 30 bricks, with 8lb. weight on last brick: stood till 7lb. weight added, when the brick gave way in three places.

4. One cement, two sand: 22 bricks withstood 1½ cwt. and 11 lbs. on the 22nd brick; broke under 3½ cwt.: bricks gave way, also cement.

5. One cement, 4 sand: 25 bricks sustained ½ cwt. on 25th brick till bricks gave way.

6. All cement: 38 bricks, with weight on 38th: equal in all to 40 bricks, when brick gave way.

7. One cement, five sand: 26 bricks, an 8 lb. weight and a 14 lb. added on 26th, equal to 30 bricks. Stood about a quarter of an hour, when more weights added, equal to 35 bricks. Weights taken off, and ½ cwt. put on 26th brick: sustained it till a brick broke under 74 lbs. weight in all, with additional slight accidental pressure.

8 to 12. (Two of Roman cement included). *Nil.*

13. One cement, one sand, of 28 days' standing: 15 bricks. Borne at each end, and weights attached between: span or bearing 2 ft. 6 in. Bricks broke under weights estimated at 15 cwt., after standing for at least an hour, previous to last addition of heavy cast-iron bars, said to average 1 cwt. each.

The bricks in the next series of experiments were regarded as inferior in quality, and did not appear to support the strength of the cement well: most of these, like the preceding, which were regarded as of better quality, gave way before the full power of the cement had been tested. They were built in bars of 5 feet span, laid horizontally, 3 bricks in breadth, and 3 in thickness, with supports at each end, built on sand, and about two lengths of brick in thickness, from outer edge to inner span. The whole had stood about a month.

1. All cement: loaded by degrees with 58 of the cast-iron bars, or 2 tons 18 cwt., when the bricks broke across in two places.*

2. One cement, five sand: broke in brick and yielded in cement in middle, under a weight of 31 cwt.

3. One Roman cement, one sand: broke in brick and yielded in cement in three places, under a weight of 29 cwt.

4. One cement, three sand: split partially in two places under a weight of 47 cwt., but did not at once give way.

5. One Roman cement, two sand: gave way in cement with a weight of about 21 cwt.

6. One cement, six sand: accidentally struck and hitched at both ends in breaking previous bars: broke in 6 bricks out of 9, under a weight of 24 cwt.

* A fragment picked up consisted of a splinter from four bricks, with the cement like stone, combining them in a cruciform shape.

The next experiment consisted in an attempt to test the power of the Portland cement by pulling asunder two cemented blocks of best Portland stone, each 2 feet long by 9 inches broad in superficies between which the cement had been set for twenty-eight days, the whole being slung on a bearing 3 feet 6 inches across between two pairs of dogs or nippers, with a weight scale below, in an elevation of 11 feet in height; but the stone scaled and broke under a weight of 38 cwt., the lower stone leaving the cement nearly entire with a stony scaling over its surface above.

The test of the hydraulic press was then applied vertically to a series of blocks of about 18 inches in length by 9½ inches and 9 inches in breadth and thickness, but the base of each block only could be said to be pressed fairly by a surface flush or level with its own, the press being defective in the like appliance above, so that the blocks were more split as by a wedge than fairly crushed. Several containing large proportions of sand gave way under small pressure, not yet indicated by the proper attachment of weights.

1. Four sand, one cement: began to scale under a pressure of 25 tons, but cylinder leaky. Under 36 tons, applied after stoppage of leak, still scaling, and with 40½ tons: split up and down into three wedged-formed pieces, under a pressure of 45 tons.
2. All cement: scaling slightly under a pressure of 58½ tons when press failed in power.
3. All Roman cement, but not well squared: went under 22½ tons.
4. One cement, five sand: scaling under less than 9 tons, which weight crushed the block.
5. One cement, six sand: split under 13½ tons suddenly applied.
6. One cement, seven sand: weight increased from 18 tons to 25, when block yielded.
7. One cement, three sand: split under a pressure of 14 tons. This block was alleged to have been improperly prepared.
8. One cement, one sand: withstood the highest power appliable in the state of the press, namely, 45 tons.

A small piece of pure cement, 1¼-inch surface by 1 inch, six months old, and laid on its inch surface, withstood pressure till partially crushed under 18 tons.

A similar piece of Portland stone was said to have been crushed under a pressure of 23 cwt.

The hydraulic press in use on this occasion not being powerful enough to test the strength of the pure cement and its slighter mixtures with sand, the meeting was adjourned till 26th inst., when a short series of experiments, as certified to us by various gentlemen (not being ourselves present), was made on the premises of Messrs. Robinson and Sons (late Bramah's), engineers, Pimlico, when—

1. One of the previous blocks, all cement, and then thirty-five days old, bore a pressure of 68 tons, when it cracked at one angle, but ultimately bore 90 tons without any alteration.
2. An exactly similar block bore 141 tons without even a crack, and stood under that pressure for nearly one minute, when it broke.
3. Another of the same bore 104 tons.
4. One composed of 9 sand and 1 cement bore 4½ tons.
5. One of equal quantities of sand and cement, previously submitted to a pressure of 47 tons, now cracked at that pressure, but ultimately bore a pressure of 108 tons before it broke down, the form of the crack not altering.

The New Park at Battersea.—The new park at Battersea, which has been for some time in abeyance, will be commenced without delay, notices having been conveyed on Saturday to all the residents on the spot, that they must quit possession, the intention being at once to remove the houses. The waterworks will remain. The park will extend the whole distance between Battersea-bridge and Nine Elms, and from the bank of the river to the public road across Battersea Fields, making the length of the park about 2½ miles, and its width a little more than a mile. A carriage-drive 40 feet in breadth will be formed along the bank of the Thames, and a suspension bridge will be thrown across the river to the spot where the Red House now stands. Towards the construction of this bridge the Marquis of Westminster has contributed the sum of 60,000*l*. At the south-western boundary of the park an elegant church has been erected, and will be ready for consecration in the course of the present autumn.—*Daily News.*

IMPROVEMENT AND DECORATION OF THE ADELPHI THEATRE.

It gave us pleasure to hear that the spirited lessee of the Adelphi Theatre, in the Strand, desiring to decorate the interior of it, had sought the assistance of an architect, Mr. Digby Wyatt; and we are even better pleased to find that the architect has succeeded well, and has produced a very original and pleasing whole.

In designing the decorations of the audience portion of the theatre, Mr. Wyatt's imagination has evidently been influenced by his recollection of those quaint old engravings of the birth-day fêtes of Louis XIV., in which the *bosquets*, set gardens, and other ornamental portions of the *Parterres* of Fontainebleau and Versailles are represented as having been converted, by the addition of trellis, flowers, ribbands, and hastily executed paintings, into temporary *Salles de Spectacle*, or *Salons de danse*. Several of Molière's charming little ballets were composed expressly to be acted on the occasion of these galas, and it was customary both before and after their performance for the noble audience to promenade in Arcadian costume, *en grande tenue*, or disguised in the motley garb of Arlequino, Mascarillo, Scaramuccia, Brigitta, and the other characters of the then fashionable Italian pantomime. The paintings of Watteau, Lancret, Boucher, and many other artists of those good old days of artificial rusticity, commemorate such scenes, and furnish sufficient authority to enable us to identify the source of Mr. Wyatt's inspirations on this occasion.

He has endeavoured to make the drop scene (which has been fairly painted by Messrs. Pitt and Johnstone) accord with the character of the rest of the decoration. As the audience portion of the house carries out the idea of the temporary theatre, so are we led by this picture on to the very scene, in the green *plats* and *allées vertes* of which these courtly revels were wont to be enacted.

The execution of the work was entrusted to Mr. Sang, and has been successfully carried out. There is a slight want of unity in parts, a heaviness of tone in the front of the main tier of private boxes, for example, as compared with the continuation round the dress circle, which we ascribe rather to the executant than to the designer, but we will not let this qualify our warm praise to both.

Considerable improvements have been made under the direction of Mr. C. Manby, in the approaches, ventilation, &c., and by enlarging the stage.

AWARDS OF OFFICIAL REFEREES.

ALTERATION OF SHOPS TO PRIVATE HOUSES.

In an information laid by the surveyor of the district of Greenwich against Mr. Rogers, of Broad-street, City, builder, it was alleged that the said Samuel Rogers was then making certain alterations to the fronts of four houses, by taking out the shop fronts and converting the said four houses into private houses, filling in the openings of the shop fronts the whole height of the ground-floor story with nine-inch brickwork, and leaving the brestsummer and two story posts forming the door-frames in each house as they were fixed, nearer than four inches to the external face of the wall, contrary to the rules of the Act. At the hearing the district surveyor stated that the said houses had been originally built of the fourth rate, but by reason of certain additions made thereto were now of the third rate, in consequence of which the thickness of the external walls ought not to be less than 13 inches in any part; and the builder, Rogers, contended that it was not contrary to the said Act to fill in the opening left by the removal of the shop front with brickwork 8½ inches thick, as he might stop up any window in a third rate house with brickwork of the last-mentioned thickness; and with regard to the brestsummers and story posts, that the same had been left with a view to the subsequent re-insertion of shop fronts if required; and further, that it would endanger the buildings to remove the same, in which opinion the district surveyor concurred; and it further appeared that no evasion of the said first-mentioned Act had been intended, the houses being more expensive with the above-mentioned alterations than they would have been if originally built as required by the district surveyor.

At the hearing it was stated that doubt had arisen between the parties as to whether, in altering the shops into private rooms, it would be contrary to the rule of schedule F. of the Act, to insert the flues from the new fireplaces into the flues of the fireplaces of the stories above, and they requested the award of the said official referees thereon.

The referees determined—"First, that inasmuch as in altering the said four houses the front external walls thereof in the ground floor story have been built of less thickness than is by schedule C. of the first-mentioned Act required for buildings of the third rate of the first class, to which rate and class the said houses belong, and inasmuch as the said brestsummers and story posts which were necessary for the shop front now removed have been left in the said walls, so as to form part of the component materials thereof, and as frames to the doors are not fixed at the distance of 4 inches, at the least, from the external face of the said walls, the said four houses are contrary to schedule D., part 2, of the said first-mentioned Act: but forasmuch as it appears that no evasion of the said Act has been intended, the houses as altered having cost more than they would have cost if originally built as they now are, and as we believe that no useful purpose would be answered by the removal of the brestsummers and story posts and the filling in with brickwork more than 9 inches thick, we do not give any direction in respect thereof.

Secondly, that if the flues from the fireplaces of the rooms above the said shops have been built and are in every respect in conformity with the rules of schedule F. of the said first-mentioned Act, it will not be contrary to such rules to insert therein the flues from the fireplaces proposed to be formed in converting the said shops into private rooms."

IMPORTANT TO LANDLORDS.

M'EWALL *v.* NEWIN.

This was an action brought in the Islington County Court on Tuesday, before Mr. Serjeant Jones, the deputy judge, to recover the sum of 5*l*. for one quarter's rent and of 11*l*. 14s. 10d. for repairs of a house situate No. 28, Grove, Holloway. It was alleged that the defendant, who is a laundress, left the premises in a very dilapidated state, the paper being stripped off the walls, the panels of the doors split in several places, the sash-lines broken, the staircase plastered with candle grease and burnt, and other parts of the building injured to such an extent as to leave no doubt that the destruction was the result of wilful damage. Mr. Austin appeared as solicitor for the plaintiff, and Mr. Wakeling for the defendant. The plaintiff stated that in 1846 the house, which was then in the occupation of the defendant, was put in thorough repair; and tradesmen were called, who deposed to the dilapidated state the premises were in after the defendant had quitted them. Mr. Wakeling submitted that the plaintiff was not entitled to recover for repairs, on the ground that there was no covenant in the agreement that the defendant should repair or beautify the premises; and that before he could recover for dilapidations, he must produce the best evidence that the damage was wilful. The plaintiff had merely proved the general repair; and although from the nature of the defendant's business the paper might have become loosened from the effects of the steam, or accidental rain, stripped off the walls by a child, it could not be said that that was wilful damage; and with respect to other dilapidations, he should be able to shew that they were not to so serious an extent as had been complained of, and were nothing more than the ordinary fair wear and tear of premises that had been occupied for a period of two years by any person carrying on the business of a laundress. In reference to the payment of the quarter's rent, he (Mr. Wakeling) submitted that the plaintiff had waived all claim. The defendant had given him notice to quit at Lady-day; she left the premises, however, on the 17th of March, delivering the key to a Mrs. Butler, who was formerly one of her (defendant's) lodgers, and who, to accommodate the landlord, had removed with the other lodgers to allow the

workmen to do the repairs. From this person (Mrs. Butler) the plaintiff, on the 17th of March, obtained the key of the house, took possession, and set the workmen to do the repairs. Having, therefore, taken possession of the premises before the tenancy had expired, the plaintiff had put an end to the tenancy, and could not recover the rent.

The learned Judge interposed. He was clearly of opinion, he said, that the defendant was to some extent liable for dilapidations, but as he felt some difficulty in estimating the damages, his Honour suggested that the better course would be for the parties to retire, and endeavour to effect an amicable arrangement.

Mr. Wakeling, after conferring with the defendant, made an offer of 5*l*. These terms, were, however, rejected, and witnesses were called who lodged in the house, and whose evidence went to show that it was not untenantable when they left, which was shortly before quarter-day.

Mrs. Butler, the person with whom the key was left, stated that she gave the key to the plaintiff by his own request, and without the knowledge of the defendant. It was returned to her at night, and given to the workmen every morning whilst the house was undergoing repairs.

Mr. Austin, the plaintiff's solicitor, submitted that his client had not held *bonâ-fide* possession, the key having been returned to the last witness every night.

The Judge—That is very satisfactorily explained; it was for your client's convenience. I am of opinion that you have not proved the rent to be due, having taken possession before the tenancy had expired. With regard to the damages for repairs, I do not know how to assess them. I think there are some things which the defendant is liable to make good; but the workmen you employed have made out their bills in the aggregate, so that it is impossible for me to estimate the damages. It was for you to have made out your case, but you having failed in establishing to what extent the defendant is liable, the consequence must be a nonsuit in both cases.

FIGURES.

Sir,—The fact mentioned in your last number—"That upon deducting 1 from the multiplier and adding 1 to the multiplied of any two even numbers, the result is less by 1:"—thus:—

8 × 8 64
7 × 9 63
1

is only part of a rule that upon deducting *any number* from the multiplier and adding it to the multiplied (in even numbers) the decrease is always *the square of the number* so deducted and added. Thus:—

8 × 8 64
7 × 9 63
1 square of 1.

Deduct and add 2—
8 × 8 64
6 × 10 60
4 square of 2.

Deduct and add 3—
8 × 8 64
5 × 11 55
9 square of 3.

and so on.—I am, Sir, &c., F. L. S.
Holgate-lodge.

An Architect's Jaw.—Amongst a number of very odd things, the property of the late reverend Ordinary of Newgate, Mr. Cotton, sold a few days ago, was the asserted "lower jaw of Peter of Cole-Church, the original architect of London-bridge." This bone was found on removing the foundation of part of the old bridge by a Mr. Knight, who superintended the building of the new bridge under Rennie, and the relic was christened by him without any godfather to answer for the child. The real value of the thing seems to have been well understood, for the public would not "take his jaw," and poor Peter fetched but five shillings!

ANOTHER "ORIGINATER OF THE RAILWAY SYSTEM."

A new candidate for the honour of being "the actual originater of the railway system,"—due, as we have said, to no one individual,—must now be added to the rather numerous list already on recent record. And if all be true that is alleged, the only wonder is that the name of this new claimant has not been all along interwoven with that of "*his partner in the locomotive patent*," Mr. Geo. Stephenson, the more especially since the former is said to have expended a fortune of his own in laying the foundations of that fortune which the latter realised.

Almost every great invention or discovery, at one particular period in its progress towards public approval and adoption, has to run the gauntlet of that very public's ignorant scorn, and certainly the man who has braved, stirred up, and borne the brunt of that most pitiful and contemptible of all earthly things—the sneers of ignorance and prejudice, in a manly resolve to benefit the scorning public itself, deserves to be held in the most sacred remembrance by all on whom his *indispensable* services have conferred the benefit of thus preparing the way for the smoother and then only practicable progress of those whose destiny it is to consummate what it seldom or never falls to the lot of one to mature as well as to begin.

The lot of Mr. Stephenson fell mainly on the smooth and levelled path whence the pioneers had manfully swept away all the native rugged obstructions which the public mind, in the sarcastic pride of its aboriginal ignorance, inevitably bristles up into the very way which it is itself most thankful to follow whenever its own thorny and inveterately defended obstructions are mowed down, in spite of its own determined opposition. But Mr. William James, of London, engineer, is now declared by "a coal and iron master in Staffordshire," in the *Birmingham Journal*, to have been the man who mainly smoothed the path which his partner, Mr. Stephenson, afterwards trod.

In allusion to a memoir of Mr. Stephenson, quoted from the *Derby Reporter*, this defender of the claim of Mr. James says:—

"It does not state that he was co-partner with Mr. William James, of London, land agent and engineer, in the locomotive patent, or that the latter was the actual originater of the railway system forty years since, by his proposing a line from these towns to Birmingham, through the colliery districts, and a communication from thence by canal to Stafford, and by the river Avon to Bristol, and subsequently *his* more grand project, the Manchester and Liverpool line, for engine-passenger traffic. The biographical notice gives to Mr. Stephenson the undivided honour, by calling him the "father of railways," when it should have referred principally to the improved locomotive engine. The railway machinery has been brought to its present perfection by the combined engineering talent of the nation. William James was really the leader, and the only successful agitator of the subject—the first person who gave the impulse to the ponderous mass of inertia in the public mind, by which vigorous effort the mighty movement commenced, and has been since kept up by Mr. G. Stephenson and his talented son, and other eminent engineers of the age. No one could have succeeded in that undertaking but such a man as William James, who all his life had been accustomed to struggle with and execute difficult projects, who possessed a wide connection with the nobility and great landed proprietors, with whom he was accustomed to mix, and to negotiate matters of business. Being a man of good education, tact, and business habits, he was in all respects the very best captain to attack the strongholds of ancestral prejudice, followed up and supported by Stephenson's practical ability. If two such minds had not been brought happily into apposition, the railway system might have been successfully opposed—the engineering talents of a Stephenson might not have been known, and all the iron sleepers might have slept on still in mother earth, and its great benefits have been denied to the present generation. To William James alone belongs the merit of being its earliest agitater *in all parts* of the kingdom—in making the survey of the first line, and organising the first company, and lodging the first report and plans of the Manchester and Liverpool Railway. The contrast is remarkable in the success in life of the two parties, and there appears to be some mistake and confounding of the labours and position of each. William James was the party who 'underwent something akin to persecution;' he had to bear the first shock of the contest, and this persecution seems to have descended on his family. The sons of genius do not often combine within themselves the faculty of self-interest—the especial glory and climax to be aimed at in vulgar eyes; and thus, for being rich and becoming poor for the public benefit, he has been reviled and pointed at with the finger of scorn *during* his agitation of this project."*

A SITE FOR THE MARBLE ARCH.

Sir,—The addition to the Royal palace now approaching completion, makes it evident that the marble arch should soon be removed, but I have not seen it stated yet where is the destined locality. I suggest that it be placed as an entrance to Kensington Gardens, in the Kensington-road, where the broad walk terminates. As this magnificent walk ends abruptly against the wall, it is in itself incomplete for a purpose. If the arch were placed in a slightly recessed curve from the main road, it would have a beautiful effect, and the superb vista beyond would render the *ensemble* perfect. Besides, at present there is no grand or state entrance to the gardens, nor could any be found so appropriate as this.

If the ugly rear of the pitiful horse-barrack were removed by demolition of the building, and the dwarf wall and railing of the garden made continuous, this entrance to the metropolis would receive a great accession of beauty: ample space for its re-erection would be formed on the green on the western side of the palace buildings, which already has a similar building. The offensive toll-bar would then be removed as a matter of course. —I am, Sir, &c.

An Idler in London.

ALL-ABSORBING CONTRACTORS.

Sir,—About three years ago you were pleased to insert a letter of mine on the subject of the great firms taking contracts for every tradesman's work in building.

What I wish to renew is the good old plan of every material trade contracting for its own work.

Would such fortunes have been made if that had been the case with certain large works; or rather, would not many little fortunes have been made by very deserving tradesmen, competent to the best work, and contented with a little? Society gains nothing by the new plan, and the work is not so well done or so well looked after, and I may say hardly at all by the master.

A broken-down carpenter, a little tyrannical, becomes foreman, and a man of figures a clerk; and then add a questionable plumber, an indifferent smith, and a sort of ironmonger's all-sorts shop, and you make a great builder's establishment. Large contracts bring large sums of money, and squeezing does the rest.

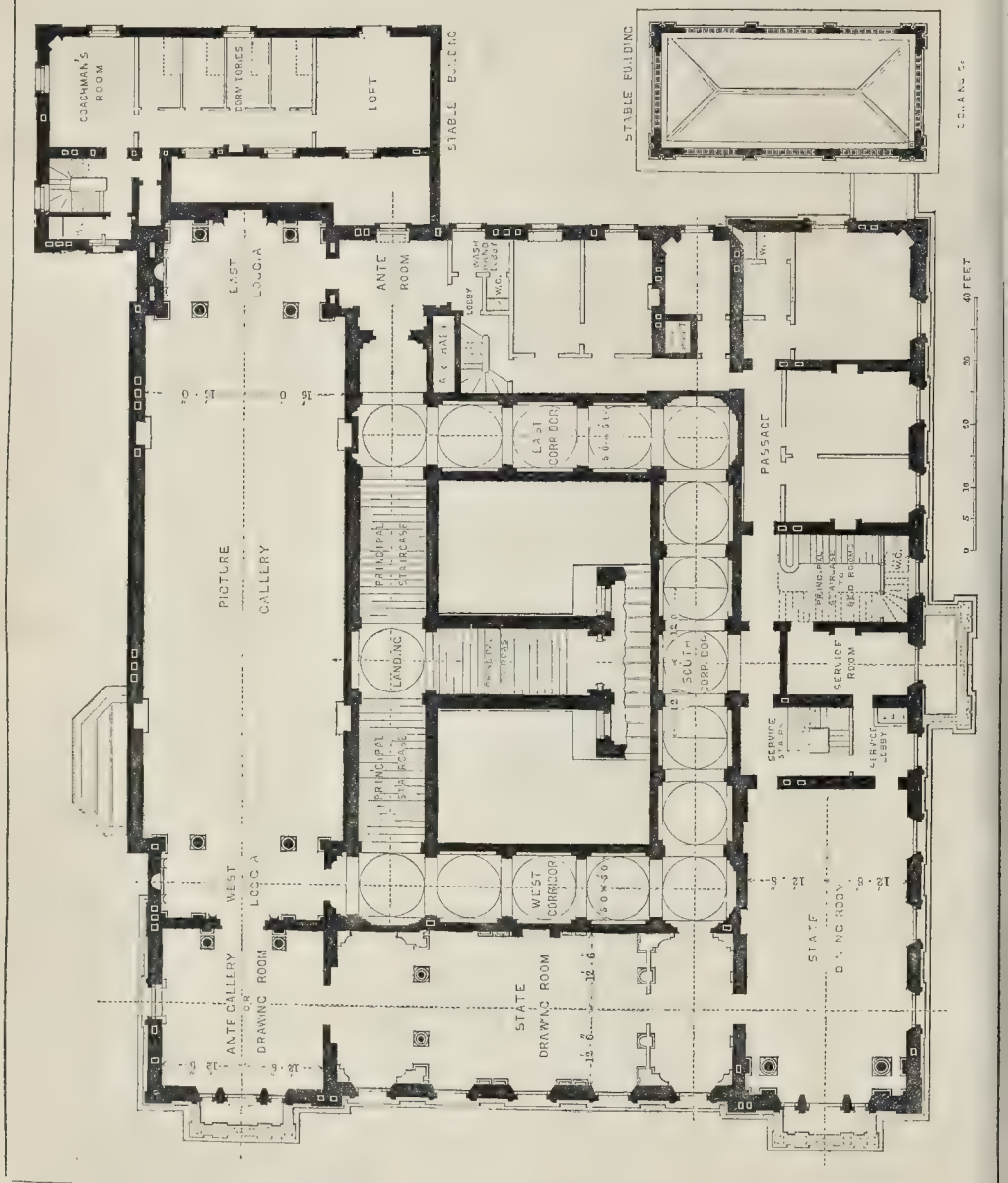
Pray let this question be brought to a fair issue.† The division may be a little more trouble to the architects, but they will get what they are always crying out about, *good work*, by it.—I am, Sir, &c., L. T.

* "William James," he adds, "before he commenced his speculative career, was Lord of Snowford Manor. He raised 100 men as volunteers in Warwick at the time of the threatened invasion, and was elected major, and presented with a sword worth sixty guineas on their being disbanded; and it was shown that his property exceeded 100,000*l*. in value. The last reserve of this fortune was expended in this project of the railway system. He lived through the pelting of the wintry storm, but his more fortunate coadjutor, without education or address to propose a public measure, rose from poverty to wealth in the summer glory of the scheme, and died proprietor of Tapton House. He deserved all the honours that have been heaped upon him; but does not Mr. James's *successful* efforts and *personal* sacrifices in this, and many other great undertakings, deserve commemoration and regard? I was at Liverpool for my health at the period of the first survey, and had opportunities of seeing the parties almost daily."

† With which view, rather than from entire concurrence in the writer's views, we insert this letter.—Ed.

PLAN OF BRIDGEWATER HOUSE, LONDON.

MR. BARRY, Architect.



PLAN AND DETAILS OF BRIDGEWATER HOUSE.

In the last number but one of our journal we gave an engraving of the west front of Bridgewater House, now in the course of completion for the Earl of Ellesmere, together with a description of the building. Through the kindness of Mr. Barry we are now able to lay before our readers the plan of the principal floor, shewing the picture gallery and loggie, and the *suite* of state rooms; also an elevation of one of the windows, at large, and the elevation, section, and plan of the principal cornice.

The entrance hall is under the service-room in face of the principal staircase: the corridors are lighted from the open area on either side of the staircase. The columns in the gallery and drawing-room will be of marble.

THE SCHOOLS OF THE SOCIETY OF BRITISH ARTISTS.

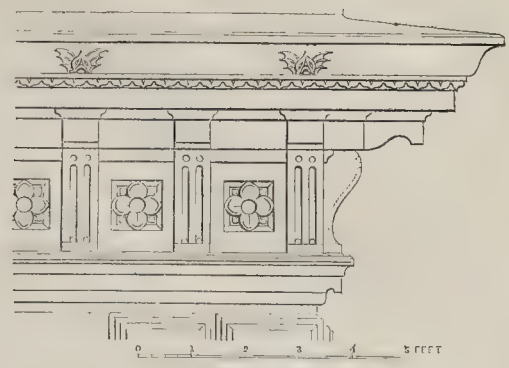
We have the gratification of recording this week the re-opening of the schools established by this society last year, for the purpose of affording to students the fullest enjoyment, at a moderate cost, of a wide and solid system of education in the graphic art. The difficulties which have hitherto beset the path of the young aspirant are by it greatly lessened, and the result has been, that during the past twelve months 82 pupils have attended the lectures, and received instructions in human and comparative anatomy, geology, and meteorology, in connection with landscape painting, in perspective, and the philosophy of colours. There are open to the students an antique school, the life school, and a classically draped school for female pupils only.

The opening meeting was attended by a large number of amateurs and artists, to whom the president, Mr. Hurlstone, read a highly encouraging report of the prospects and position of the school, and made some very interesting general remarks. With regard to the importance of general information to the artist, Mr. Hurlstone said, the principle of the

DETAILS OF BRIDGEWATER HOUSE.



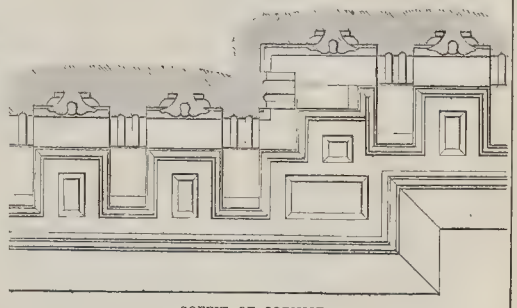
ELEVATION OF WINDOW, PRINCIPAL FLOOR.



ELEVATION OF OUTSIDE CORNICE.



SECTION OF CORNICE.



SOFFIT OF CORNICE.

division of labour which, carried to the extreme, had been so conducive to the prosperity of its manufactures, had had an opposite effect upon the arts of England. It had restricted the study of the artist to a confined sphere, and had prevented him availing himself of those resources, many of which were highly conducive to his eminence in his own art. They might not expect the modern artist, like the great ones of old, to practise with equal devotion and equal success all departments of art — painting, sculpture, and architecture, like Michaelangelo and Leonardo da Vinci, whose comprehensive grasp of knowledge rendering all resources available to them, enabled them to push farther the boundaries of the art—their especial calling. But it was important that the artist should have a knowledge of those departments of science which were essential to the language (if he might so say) of the art, to enable him to express his thoughts with truth, precision, and facility. The facilities afforded to the artist to acquire that most extensive knowledge were, owing to the different condition of society, far greater in the fifteenth and sixteenth centuries than in the present day—in Italy particularly so, from its numerous small courts vying with each other in knowledge and refinement, and in each of which there existed an intimate association, throughout life, of men eminent in different and most varied sciences and arts. But in England at the present day the opposite was the case. The artist was a comparatively isolated being. His communication was rare with men of science; his attention to their pursuits, even although of importance to his own, still more so. To remedy that evil was one of the objects of a school like the present; to bring all science within its walls that may have a direct bearing upon art. To make the education of the artists, the antithesis to that of the mere mechanic, as comprehensive as possible, was the purpose which was now attempted to be carried out.

Mr. Hurlstone was followed by Mr. Wyse (who filled the chair), so well known as an advocate of the advancement of popular education in all its branches. In an elaborate and critical discourse he pointed out the merits of the system of instruction, so wide and practical, adopted by the society, in which the minds of the students were prepared for the reception and arrangement of ideas, in full freedom and under the influence of sound principles, instead of those narrowing and depressive courses of instruction which rest their claims upon imitation alone. The meeting was gratifying to the lovers of art, and the school has our warm wishes for its success.

The General Board of Health, under the Public Health Act (11th and 12th Victoria, chap. 63), has just been constituted. The First Commissioner of Woods and Forests (Lord Morpeth) is the president, and Lord Ashley and Mr. Edwin Chadwick are the two other members.

NOTES IN THE PROVINCES.

THERE are 700 houses and shops untenanted, it is said, in the parish of St. Mary's, Nottingham, at present.——The front of a vinegar warehouse at Colchester, has been carried away by the bursting of a vat containing 13,900 gallons of water.——Government have sanctioned the erection of a new Lunatic Asylum at Brentwood.——The attendants at Windsor Castle were completely taken by railway storm on Tuesday week, with a shower of more than 1,000 visiters at once, and tickets for all to view the premises. ——At the Paul-street Baths, Liverpool, 20,650 persons have bathed gratis since March last.——The Newcastle corporation baths and washhouses were inaugurated on Monday week. They contain six warm baths for women with various conveniences, and as many for men, together with a plunge bath and ten dressing rooms in the latter division. There are three rooms for washers, each with ten stands for washing and boiling, and as many doors to a drying-room. The charges are, for a warm bath, 2d.; a plunge bath, 1d.; wash-tub and closet per hour, 1d. A smoke-consuming apparatus has been erected by Mr. Wallace. ——Mr. Bonomi, the architect (says the *Gateshead Observer*), having adopted the egg-shaped drain of Mr. W. B. Wilkinson, of Newcastle, made of artificial stone, for the drainage of the Gateshead lockup, West-street, it was laid by Mr. W. on Monday and Tuesday; but as, to the discredit of our borough, there is no main sewer to which it can be conducted, it cannot be brought into operation until—who will say when?——At Anderston, Glasgow, the builders have had a caution at the police-court, where Messrs. Law and Selkirk, builders, were charged with having a new building in the course of erection at the New City-road, insufficiently fenced, and without a proper foot-way constructed for passengers, aggravated by neglecting or refusing to remedy the defect. The parties were fined in the lenient penalty of 10*s*.——The Water Company at Glasgow having mercenarily withdrawn the street and lane or close supplies of water, a series of spring wells are being opened, and the Gorbals Water Company have been invited to take the place of the City Company.——Near Dalmarnock, a new wooden bridge has been erected across the Clyde, to supply the place of the old one, now 30 years old, and much decayed. The new bridge, commenced only five months ago, was built by Mr. John Murray, of Coatbridge, from a design by Mr. Robson, C.E., who, it is said, has introduced several improvements in the mode of construction. The whole length is 355 feet, and the width within the side-rails 28 feet. There is a footpath on each side, covered with asphalte pavement, and the roadway is composed of a mixture of asphalte and whinstone metal, broken, 7 inches deep, and laid on the top of the planking, which had been previously caulked with oakum, and coated with pitch and sand, for the purpose of making it water-tight.——The Duke of Bedford is building a mansion at Ardsallagh, 12 miles from Dublin, at the cost of 40,000*l*.

CHURCHES AND CHAPELS.

THE Roman Catholic Chapel of the Holy Apostles, at Clifton, was opened on Thursday week.——The opening of the new church at Llanwenarth, near Abergavenny, took place on Sunday week. The contract was 780*l*., which, with sums expended in walling in the burial-ground, architects' fees, &c., amounted to about 910*l*. It was commenced in September, 1847: Mr. Williams, of Pontypool, was the contractor.——Huntington Chapel, Herefordshire, was consecrated on Friday in last week. It is erected on the site of the old edifice, with the addition of a chancel, from designs by Mr. James Cranstoun. Mr. R. Pritchard was the builder. It will seat about 150 persons: the style is Anglo-Norman. The entrance to the nave is on the south side, through a square-headed doorway with side columns and capitals, from which arch mouldings are raised, forming a tympanum over the oak door. The nave is divided from the chancel by a stone archway, with chamfered jambs running all round, and carved and moulded corbels placed at the springings, carrying inner arch stones with a second chamfer. The masonry over the arch is continued in a gable above the roof, and has springers, copings, and cross, with a circular window in the apex. The nave windows are narrow openings, with semi-circular heads and sunk and chamfered jambs on the outside, and deeply-recessed jambs and niches on the inside, glazed with green glass in small quarries with white borders. The chancel is divided into five compartments by flat buttresses, with a moulded corbel table running round it, under the eaves, and is lighted by three round-headed openings, and two circular windows, which are intended to be filled with stained glass. The roofs are of open timber work, plastered between the rafters, and covered with Staffordshire tiles laid to a high pitch. The plastering between the timber of the apsis roof is illuminated with characteristic devices in ultra marine and vermillion; and round the chancel archway and the arched heads to all the windows appropriate scripture texts are painted with illuminated capitals and borders, enriched and coloured with Norman ornaments. The seats are low and uniform throughout, without any doors, and are arranged on either side of the nave. The pulpit is of stone, with gilding on it. Near the pulpit is an oak lectern with standards and poppy heads, and a carved and gilded cross on each side. The font of stone is a square bowl upon a circular shaft, lined with lead, and having a drain from it into the churchyard. The chancel has a massive oak altar-table, with Norman columns at the angles, and two oak seats of the Glastonbury pattern, with altar-kneelers. In the north wall an aumbury is placed, which is provided with an oak door and strap hinges. The apsis floor is covered with encaustic tiles laid with plain blue and red bands, after the manner of some flooring in Rochester Cathedral, and is raised above the level of the nave by a stone step at the archway.——Stoulton Church, according to the *Worcester Journal*, was re-opened on 13th inst., after being extensively repaired and altered.——St. Sepulchre's Chapel and burial-ground, Jericho, Oxford, were consecrated on 23rd inst.——Waterbeach Church has had its chancel rebuilt by the new impropriate rector, Mr. Edward Mason.——Thorp-Arch Church is now undergoing considerable repairs, both interior and exterior.——The foundation stone of the new church of St. Matthew, at Bank-Foot, Bradford, was lately laid. It is to accommodate 500, of whom 250 will sit free, and will consist of a nave and aisles, with a chancel, sacristy, and porch. The style is the decorated of the 14th century. Mr. John Hardy has given 2,500*l*. towards the endowment fund.——The new church of St. Michael, at Whitby, erected chiefly for behoof of sick and infirm persons, unable easily to ascend the flight of 194 steps leading to the old church, was opened last week. The foundation stone was laid on 29th September last year. It is in the early English style, 81 feet long by 40 feet wide, internally, with a chancel 20 feet wide by 12 feet deep. The entrances are at the east end, on each side of the chancel. The roof is open and of a single span, with dressed timbers, stained oak: the side walls are about 20 feet in height, and the apex of the roof nearly 50 feet from the floor. The ends of the building are finished with gables, and on the west gable is placed a bell turret. At the west end are three lancet windows of equal height (about 20 feet) and at the east three others, the central one being somewhat higher. As this church is literally confined by contiguous buildings, no lights could be obtained in the side walls. The sittings are pews fitted with doors, and open benches. There is a small gallery for children, and the entire accommodation is for about 700 persons. As the situation precluded the use of buttresses externally, piers have been advanced inside the building, dividing it into nine compartments, from which the ribs of the roof are made to spring. The exterior is entirely of stone: the interior lining is of brick, and the church will be heated with hot water. Messrs. Atkinson, of York, were the architects, and Mr. Gideon Smales had the contract for the joiners' work; Mr. Thos. Carter the contract as mason, completed under the hon. secretary, Mr. A. Stephenson; Mr. Jos. Brown the contract as glazier, and Mr. W. Stonehouse as painter. A font has been presented by the Archdeacon of York, and an oak pulpit by Mr. W. Cavillier, of Whitby.——St. John's Church, Newcastle-upon-Tyne, which has been undergoing extensive repairs, alterations, and renovations, was to be re-opened on Sunday last. Mr. Dobson was the architect, and the repairs at first were estimated by him at upwards of 270*l*.; but, in May last, soon after commencing the work, so great was the dilapidation of the building, that the south front of the chancel fell, which rendered it necessary to rebuild the whole length of that front, together with the east end; and besides the walls generally were found to be in a much more decayed state than was at first anticipated. The most obvious improvement relates to the removal of the pulpit, and the denuding of the pillars, which formerly were so built up as greatly to interrupt the distribution of light and intercept the view. The pulpit has been removed to the south-west corner of the chancel, from which it is entered, and it projects into the south transept. In the chancel, however, the more important changes have been effected. The south wall and east end have been entirely rebuilt, in accordance with the architecture of the period. The great east window has five compartments, the centre one being assigned to the figure of our Saviour, contributed by Mr. Wailes, who has executed the whole of the glass staining. The oak roof of the chancel was obscured by a coating of lath and plaster, which the churchwardens have removed. The mural monuments have been replaced. A slight alteration has been effected in the arrangement of the pews. This is perhaps one of the oldest ecclesiastical edifices of which this ancient town can boast.

CURRENT COMPETITIONS.

OLDHAM UNION WORKHOUSE COMPETITION.

SIR,—As this workhouse has been twice advertised, and twice competed for, perhaps the following notes of the second competition may not be uninteresting to some of your readers. There were twenty-three designs in all, from which the committee selected, first, six, and afterwards three, *ad referendum*, and which they have placed in the following order:—First, a design marked with a yellow star (which is the production of Messrs. Travis and Mangnall, of Manchester*), provided it can be executed for the sum named in the conditions, 10,000*l*., including the architect's commission. This design, judging from the isometrical view (which was the only drawing of the selected set I was permitted to see), presents a simple appearance, with high-pitched roofs, overhanging eaves and barge-boards; it is proposed to be built of brick, with as few stone dressings as possible. The plan is an extensive court, entered by a large gateway, in the centre of the front range of buildings, which contain the union offices. The lunatic wards, men and womens' wards, and hospitals, form the other three sides, with the chapel and dining-hall in the centre of the main building.

The second in order is marked with a triangle, in red and yellow lines, and is of Gothic character. It is quadrangular on plan, with square towers at the corners of the wings, and a "church!" in the centre, of early decorated architecture, with a tower and spire at the north-west angle, a nave, and a chancel with a three-light window.

The third placed has the motto, "*Ad referendum*," and is of Perpendicular Gothic, with the chapel detached at the north-east corner in advance of the main building, having a nave and chancel and a north porch, and a bell-cote on the west gable: an octangular turret at the angle of the centre main building, terminating in an open spiral belfry, gives a collegiate character to the design.

The set marked "Simplicity and Convenience," is the design for Alysham Union Workhouse, with the Poor Law Commissioners' seals and stamps affixed, and is, I believe, Mr. Donthorn's design for that building.

"*Labore et Honore*" is the motto on the next design, which is Elizabethan in character, very similar in plan and elevation to the Ken-

* The successful candidates in the first competition also, but their design was abandoned because the tenders were very considerably above the amount specified in the instructions.

sington Workhouse, and, from the style and colouring of the isometrical view, I should pronounce it to be by the same authors.

Manchester. SCRUTATOR.

THE NEWBURY SAVINGS BANK COMPETITION.

The successful competitor for the Newbury Bank is Mr. George Truefitt: his designs, which we have not seen, are in the Tudor style, to be of red brick with stone dressings. The building will stand in the centre of the market-place.

DR. REID'S EXTINGUISHER.

SIR,—Dr. Reid's idea of extinguishing a fire on board ship by the use of carbonic acid gas has an exceedingly plausible appearance, but the practical difficulties attending its application will, it seems to me, disqualify it from its intended useful purpose. Every one is aware that carbonic acid gas is as antagonistic to combustion as it is to life—that a flame immersed in it is instantly extinguished. It is with these elementary chemical principles in view that Dr. Reid proposes carbonic acid gas to extinguish fire, and to generate the gas by an admixture of chalk and sulphuric acid. 5 tons of the former and a proportionate quantity of the vitriol he says would, in a few minutes, generate a sufficient quantity of gas for a vessel of 1,000 tons burden. All this is perfect enough in theory. It is just in the application where the difficulty lies. Every body knows the theory of ventilation; and it does not require any great scientific knowledge to demonstrate *on paper* how *perfect* combustion in a furnace may be produced; yet the atmosphere of our public assemblies is as vitiated as ever, and black smoke still issues from the chimneys of our manufactories.

Every ton of timber of the burning ship should generate upwards of 60,000 cubic feet of carbonic acid gas. This is enough in all conscience, without the aid of chalk and vitriol, to check the fire, if it could be made applicable to that purpose.

Complete combustion generating carbonic acid gas is only effected when oxygen combines with carbon in the proportion (in weight) of 16 to 6; if it mixes in the proportion of 8 to 6 the result is carbonic oxide. If it mixes in less proportions a large quantity of carbon passes off in the form of smoke; a small portion of atmospheric air is, however, sufficient to keep alive combustion, and this I think would prove fatal to Dr. Reid's plan. For, unless he excludes the atmospheric air, the mere injection of carbonic acid gas would be of no avail, and if the external air be excluded the fire itself would generate sufficient gas to extinguish the flames.

WILLIAM DREDGE.

ON THE INCLINATION OF ROOFS.

THE inclination of roofs in general ought to be regulated, as students know, by the nature of the climate in which the building is to be erected. Thus, for example, the slope of a roof given to a building erected in a northern climate, should be greater than the slope or pitch of a roof given to a building in a climate where snow is unknown. The ancient Egyptians, Babylonians, Persians, and other eastern nations are well known to have made their roofs quite flat: the same custom also prevailed amongst the Jews.

The reason and origin of this custom may easily be perceived, if we bear in mind, that amongst these nations the roof of the house was considered as the most important part of the structure, and greatly contributed to the comfort of the occupiers: it was also used by them as a place of secresy and retirement, on which, after the turmoil of their daily avocations, they enjoyed the cool evening breezes. As such an application is not obtained amongst us, it is obvious that their example cannot form any argument for the justification of those of our architects who, from a desire to hide the roof,—a desire certainly founded upon a false taste,—make it as flat as possible.

It appears that the Greeks were the first people who departed from the ancient custom of making the roof quite flat, and introduced the custom of making the roof slope each way from the middle to either side, in the same manner as our common pent roofs; still the inclination was small, the height of the ridge above the level of the walls varying from 1-7th to 1-9th of the span, or in other words, from twelve to sixteen degrees; nevertheless, judging from examples left us, a conclusion is easily come to, that although they gave their roofs a trifling incline suited to the climate, it was more for ornamenting this part of the building than otherwise. The Romans gave a greater pitch to their roofs than the Greeks, as in the pediments of their buildings, it will be generally found, they make an angle of about twenty-four degrees. This inclination was well suited to the mild climate of South Europe; but in northern climates, which are so changeable, and subject to heavy falls of snow and rain, it was desirable the inclination should be greater.

Our Gothic ancestors, seemingly aware of this, took care to construct their roofs with a very considerable pitch. Instead of anticipating the taste of our age in the construction of low-pitched roofs, in order to conceal them as much as possible, they were made the most conspicuous part of the building: first, by raising them to a great height; secondly, by constructing them in many various and fantastic shapes; and, thirdly, by perforating them with highly ornamented windows.

In most of our old English buildings, the equilateral triangle seems to have been considered the standard of reference. This remark applies to both public and private edifices. The pitch of about forty-eight degrees continued to be the standard for some time, and was dignified with the title of "true pitch:" subsequently this was abandoned, and the square, or a pitch of forty-five degrees preferred. There are advantages connected with a low pitch roof as well as with the high pitch: economy certainly belongs to the former, a consideration for which is so very prevalent at the present time in our building operations.

G. J. RHODES.

PRACTICAL GEOMETRY AT THE LONDON MECHANICS' INSTITUTION.

ON Tuesday evening in last week, after Mr. J. S. Hallersley had delivered an introductory lecture on the science of Practical Geometry, illustrating the same by models and drawings, Mr. Joseph Ash was elected hon. secretary, and Mr. H. Friend, the retiring secretary, presented a testimonial from the late class to the lecturer (in the shape of a marble and bronze inkstand), with the thanks of the class for the manner in which he had taught them geometry. The speaker justly asked what is a practical man without a knowledge of geometry? as long as he remains ignorant of this science, he is under the control of another in his own sphere of a superior class. For what mechanical profession is there that has not this science for its base? could the engineer construct his engine or his railway, the architect his building, or the mariner his ship, without this science? Nor did it stop here: it gave elegance to the mansion, and strength to the fortress, and they were convinced that geometry formed the principal base of all mechanical arts, and would advise all so situated to study it, not only by books, but practically.

It was afterwards proposed that a geometrical library be established, and a subscription was opened at once for the purpose.

We have lately received from several members of mechanics' institutions a recognition of our earnest though humble endeavours to raise the character of artisans, which is very gratifying to us.

THE CITY.—Mosaic pavement and other Roman remains have been falsely said to have again turned up in Thames-street.——Preparations are being made in the Tower for the erection of a granite statue of the Duke of Wellington.——The decoration of the apartments at Lloyd's, in the Royal Exchange, left unfinished till now, has been at length executed, under the eye of their architect, Mr. Tite, by men from Mr. Sheriff Cubitt's establishment. Imitations of marble, granite, porphyry, &c. and some gilding constitute the principal ornamentation.

DECORATION OF PUBLIC ROOMS.

MISS LINWOOD'S gallery in Leicester-square, late the *Walhalla*, has been decorated for a public drawing room with very considerable success, by Mr. Hurwitz, of Brydges-street. There is an elegance about the whole which we were scarcely prepared for.

The ceiling is decorated in compartments, formed by a representation of panels and soffits of girders, the panels being filled in with an open pattern decoration with a blue background to represent the sky. The soffits or beams are in gold relief, and colours in lines, and etched with gold, and the mitres or intersections are covered with very nice medallions, in stone relief, heightened with gold. The centre of the ceiling has a large circular panel, filled in with a blended sky ground to form a dome, with garlands round it, the spandrils of the garlands being filled in with cupids: from the centre of this panel is suspended a glass chandelier. Two large intervening panels between this and the ends of the room are filled in with allegorical subjects and cupids.

The walls are divided into panels by pilasters, the ground being a tinted satin, and the pilasters, cornice, &c., are in colours relieved with gold: the panels are filled in with flowers, from which again are suspended medallions. The arrangement of the orchestra, gallery, &c., is clever.

Laurent's Casino, in the Adelaide Gallery, is also exceedingly well fitted up, and shews a great advance over the mode of decorating similar places which prevailed in England only a few years ago.

THE BRISTOL ARCHITECTURAL SOCIETY.

THE ANCIENT CROSS AND NEW FOUNTAIN.

A MEETING of this society was held on the 18th inst., when the Venerable Archdeacon Thorpe presided, and addressed the meeting at some length. He particularly alluded to the last year's report, just published, which contains an account of St. Michael's Church, Othery, and some excellent illustrations of the curious ancient altar frontal connected with this church.

The Rev. J. E. Carter, the honorary secretary, having read a list of donations, &c., Mr. Winston read a paper upon glass painting.

The Mayor of Bristol observed that there was a proposition to build a high cross in the College-green, but the plan was not yet determined upon, and as that was an architectural society, he thought it desirable to ascertain from them what was the best material for making it. There was a person at Ipswich who had taken out a patent for an article which would stand comparison with carved stone in appearance, was more durable, and was cheaper.

The Archdeacon said that however valuable the invention alluded to might be, he was not disposed to think it equal to carved stone. He preferred the chisel of the sculptor, and the hand of the carver, to anything which could be accomplished by mechanical pressure.

From a conversation which followed, wherein Mr. Garrard took part, it appeared that it wsa not yet determined whether to erect a cross or a fountain, or both: that the old cross is too dilapidated to be restored, but that there are accurate drawings of it to reconstruct it.

A WINTER GARDEN AT VAUXHALL.—It is proposed to transform Vauxhall into a winter garden. It is said that the four long avenues which form the large quadrangle at present, are to be increased about 20 feet, that is, 10 feet on either side. The roof of this pathway is to be raised a considerable height, and the whole of it is to be inclosed by means of a panorama of the overland route to India. This is to commence with Marseilles, then are to follow Malta, Alexandria, and all the principal points in the journey. These walks will lead directly to the Waterloo ground, which is to be covered in and converted into a hippodrome, where are to appear all the splendours of the chariot race, and other performances. To the right of the hippodrome there will be constructed a large conservatory, to form a very agreeable promenade, and gas is to simulate the sun.

RAILWAY JOTTINGS.

Our old friend the flagstaff, string, and pulley signal, has started up again as fresh as ever, not one whit the worse of wear, though clad in its old habiliments, without even a change of shift. "We have great pleasure," says a contemporary, "in noticing an invention of Stephen Reed, Esq., of this town, which is very simple in its construction, and can be managed by the mere action of pulling a lever or a string. It is a staff," &c. &c. "*The guard,* therefore, cannot avoid seeing it; and in case of any accident, either by fire, the breaking of a spring, or other cause, can either stop the train, *or travel to the carriage, and ascertain the reason* of the signal. [How is he to do that? By scrambling over the carriages as usual in so many cases already? Well, since that is a recognised portion of the official duties of a guard, our intelligencer may as well suggest its adoption as that of the scarcely less objectionable staff or standing reed signal.] This signal has been seen by some of the railway authorities [no doubt of it] who readily gave their opinion in its favour, but *doubt its usefulness, for the ease with which mischievous passengers might unnecessarily stop the trains by its use.* [We should have thought so! Well we are always learning something new.] But this objection might easily be obviated, by the the imposition of a fine in such cases. [Might not nervous old women though, as well as mischievous youths, learn, like our cotemporary, how to bring out the reed? or might not playful children take a quiet opportunity of having a pull at the pulley now and then, for the fun of the thing alone, without either mischief or the fear of fine in their eye?] Mr. Reed has devoted much attention to this and other means of safety, where life is in danger." We scarcely think that justice can have been done to this gentleman's invention by thrusting forward this particular apparatus at this time of day, without at least showing how the guard is to be enabled, safely and legitimately, to "travel to the carriage." That is the grand question here as otherwise so often inadvertently hit upon. But at least let the travail give birth to some little means of preventing his brains from being dashed out by the way. Our pertinaciously suggested plan of a protected line of foot-boards or interior passage through the carriages, already adopted in America, *will* work its way into inevitable favour here too, we perceive, since its rough practice is being so constantly and unavoidably blundered on as a requisite adjunct to all sorts of signals, vocal and mechanical, issuing from the interiors of carriages.*——A self-acting signal of a hopeful kind in idea, at least, if not in adaptation, has been patented by Messrs. Cunningham and Carter, the inventors of the ingenious pneumatic railway, for giving notice, to every approaching train, of the exact distance the preceding one is in advance—and thus enabling the engine-driver to regulate his speed accordingly, and prevent accidents. They are to be placed at certain distances on the line, and are worked on by a mechanical arrangement, acted on by each locomotive engine in its passage, when the signal is immediately displayed by night or day, for directions to the next train. Such a signal, if at all practicable, would be far preferable to the movement of a false dial by hand at stations.——Another signal, some time since suggested, for giving due notice to express trains whether they may pass stations situated near curves, is shortly to be provided on the South-Eastern line. The proper signals in this case will be exhibited at 600 yards' distance from a station, by means of a crank and wire worked at the station itself, and the signals will be seen three-quarters of a mile farther. ——Mr. Black, late superintendent of fire-engines at Glasgow, suggests that the usual fog signals should be discontinued, and the firing of swivels substituted. The ringing of a series of alarm bells, too, along the line, from one point to another, he thinks should be practised in cases of danger from obstructions on the line. On the shoemaker's principle, now made obsolete by the advent of gutta percha, that there is "nothing like leather," Mr. Black recommends that no goods train should be without a small portable fire-engine, water cistern, &c., and certainly much valuable property might thus be saved from destruction. ——The number of passengers who travelled by rail during the last half-year, namely, 26,330,492, comprehends a railway ride for every man, woman, and child in England, Scotland, and Ireland, so that we may now be fairly called a nation of railway travellers, even though dividends do not 'look up' very hopefully at this precise moment. Yet it is calculated that within the next five years there will be upwards of 10,000 miles of railway open in Great Britain, which will give permanent employment, at good wages, to upwards of 140,000 persons, representing about 720,000 of gross population, taking five to a family. When it is considered that there are about 4,000 miles of canals, and about 30,000 miles of turnpike-road in the kingdom, these 10,000 miles of railway in addition, will be an accession of vast importance to our internal communication.—The railway system is still progressing, too, in the United States. There will, probably, be more miles of railway opened this year than in any previous since these works were first commenced. Abut 300 miles will be brought into use this year in the State of New York; about 500 in New England; in New Jersey, 39; Ohio, 50—making in these States nearly 900 miles of railway. Besides this, there are at least 100 miles in progress, part of which will be completed in 1849.——The Saratoga and Whitehall Railway will be finished in October. The Hartford and Providence Company have contracted for 3,000 tons of railway iron, weighing 60 lbs. to the yard. The contract is made at 50 dollars a ton, and the iron is to delivered in New York next spring.

* We are really astonished to find in the recent pages of a scientific contemporary an exactly similar furbishing up of another old modification of the same, identical, and, for the present, useless idea, subject to the same series of objections, so long as we are without the prompt and ready means of enabling the guard to "travel to the carriages," though in all probability some such mode of signalling from carriages may be destined to be of practical utility, over and above the guards' free and constant circuit, *so soon as such means have been provided*, and not one moment sooner. "In fact," says our contemporary, and with obvious truth, "a comprehensive plan of railway signals is the great want of the day. A step in the right direction has been effected by Mr. Edwards, of Cambridge, who has invented an ingenious 'design for railway signal to be applied to passenger carriages, the object being to enable persons travelling to give immediate notice to the guard or driver of the engine, in case of danger, or other circumstances requiring attention.' It would be difficult to describe this invention without reference to the plan; but we may state that, by simple machinery, *at the command of every passenger*, a signal lamp for use by night, and a board by day, may be elevated above the roof of the carriage," &c. &c., of course with all the old apparatus of "spring" and "handle," for which see some old numbers of The Builder. "It thus appears," adds our informant, "that as far as the passenger is concerned, a means of making known his desire for communication with the guard or driver is acquired. *But this does not go far enough*: the person to be communicated with for all effective purposes is the driver, and *the difficulty* of calling his attention from his engine to what is going on behind him, *is yet to be surmounted*; for even supposing the guard to see the signal here described, he has no control over the engine, and till that be the case, we fear that Mr. Edwards's scheme, though good and sufficient as far as it goes, is yet defective and incapable of absolute utility, by reason of its just stepping short of the very link in the chain of communication, without which all the others are comparatively useless." Now, it is indeed remarkable that our contemporary himself does not perceive that he, too, has just stepped short of that very link, namely, in the circuit of the chain of communication by which the guard shall be enabled to "travel to the carriage," and judge for himself as to the necessity or non-necessity of a prompt announcement to the driver, which, if otherwise difficult or impracticable by instant signals, the guard may himself, as the next best, do by the same sort of means by which he was enabled to "travel to the carriage."

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday the 21st inst., at the Court-house, Greek-street. The Hon. Frederick Byng in the chair. The salaries of the officers for the last quarter were ordered to be paid; and it was resolved, "That as the present commission was about to expire, all claims outstanding, both of the present and former commissions, should be sent in, that they might be examined and discharged."

On the production of the cheques for five annuitants, Mr. Hutton objected to the principle of including several amounts in one cheque, and was of opinion that a separate one should be prepared for each person, so that a regularity might be observed in their proceedings. This course was ultimately determined on.

On a sum of 500*l.* being named to a Mr. Peachy, a commissioner inquired what this sum was incurred for.—The clerk replied that it was the interest of 30,000*l.* borrowed by the late commissioners for the Kent and Surrey division, which sum was to be repaid by annual bonds of 1,000*l.*—Ordered.

The case of Thomas Mitchell, of Beresford-street, Newington, which has on two other occasions been noticed, was again brought before the court. On a former occasion, a fine of 50*l.* was ordered to be levied upon him, unless the obstruction caused by him to one of the sewers of this commission was removed to the satisfaction of their surveyor.

The surveyor now reported, that since that time Mr. Mitchell had certainly made some alteration to the building over the sewer, but that the obstruction was as great as ever. (A letter was read from Mr. Mitchell, in which he stated that he now considered that he had complied with the orders of the commissioners.)

Lord Ebrington was of opinion, that not having properly removed the obstruction, was a direct act of contumacy to the court, and that the conditional fine of 50*l.* should now be enforced. A few observations having been made on the subject by Mr. Leslie, Mr. Chadwick, and Mr. Hutton, it was finally resolved that the fine of 50*l.* is now confirmed, unless the obstruction is removed within one week; and in default, the surveyor be empowered at once to abate the nuisance.

Miscellanea.

The "New Patent Gas."—We have received a communication from Ireland, together with documents which clearly prove that what Mr. Stephen White calls his "new patent hydro-carbon gas" is an old "patent water-gas," which cost Mr. John Kelly, of Dublin, architect, 300*l.* to bring it to perfection, and for which he holds a patent for Ireland, useless in Dublin hitherto, on account of monopoly and prejudice on the part of others, and a press of professional engagements on his own part. In 1845 this new patent gas was favourably noticed in the Dublin newspapers, and also in the metropolitan and provincial press of this country. Indeed, that the gas was not *new* we were well aware, but we thought it possible for all that that Mr. White might have been the real originater of the invention. Mr. Kelly's article was thus described in the *Dublin Times* in 1845:—"New Patent Water Gas.—Having last evening visited the house of Mr. Kelly, Upper Gloucester-street, to test the merits of this important invention, we were much pleased at the simplicity of the apparatus, and the brilliancy of the light, which burns without the slightest smoke or smell. As an instance of its adaptation to gentlemen's mansions, shops, &c., in Mr. Kelly's house there can be seen a brilliant gas jet burning within 10 inches of an enriched cornice in two places, and although burning from seven until nine o'clock each night for the last ten, not the slightest stain can be perceived. The gas is made from a retort [the retorts were filled with small pieces of coke, to gain surface] set in the area, with a flue from the furnace to the kitchen chimney: it forms a bench similar to that of a hot hearth in a gentleman's kitchen, over which two cans are placed, one of which is filled with tar or resin oil, and the other with pure water. Each can is fitted with a small straight cock, and by the simultaneous dropping of the water and oil into syphons connected with the retorts, the gas is generated, and passes off by an inch gun barrel pipe into the gasometer, which is placed under the landing of the hall door, a distance of about 60 feet."

Method of Welding Iron, Steel, and Sheet-Iron.—In an earthen vessel melt borax, and add to it 1-10th of sal-ammoniac. When these ingredients are properly fused and mixed, pour them out upon an iron plate, and let them cool. There is thus obtained a glassy matter, to which is to be added an equal quantity of quick lime. The iron or steel which are to be soldered are first heated to redness; then this compound, first reduced to powder, is laid upon them—the composition melts and runs like sealing-wax; the pieces are then replaced in the fire, taking care to heat them at a temperature far below that usually employed in welding; they are then withdrawn and hammered, and the surfaces will be found to be thus perfectly united. The author asserts that this process, which may be applied to welding sheet-iron tubes, never fails.—*Rec. de la Soc. Polytech.*

The Timber Plundering in the New Forest.—The inquiry is far from approaching a close, and a party most seriously implicated has absconded. The officers have found timber "irregularly" obtained at the Northern yards and at Jersey: if the inquiry is fully carried out, in fact, it may be said to be at present only in its commencement.

PROJECTED WORKS.—Advertisements have been issued for tenders by 9th October, for the erection of a pair of semi-detached villas; by 12th, for the erection of a new Independent Chapel at Haverstock-hill, Hampstead; and by 3rd, for a supply of 1,000 tons of Guernsey lumps for St. Luke's, Chelsea.

PERPETUAL MOTION BY A VACUUM.—A correspondent who signs himself "Dædalus" writes,—Sir: It is to be regretted that your correspondent, Mr. Barratt, has contented himself with merely asserting his belief in the possibility of a perpetual motion, by obtaining and keeping a vacuum. If he would favour your readers with his views, their truth or fallacy would appear, and he might be awarded the praise of having discovered some useful application of atmospheric pressure as a working power; which, in his opinion, scientific men have hitherto singularly overlooked. His statement, as made in your journal of the 16th instant, is too vague to convey an adequate idea of his theory and practice. That he should divulge this is the more important inasmuch as he conceives he has already been anticipated by another party abroad, and I may mention that a party in Ireland has patented and made considerable progress in the construction of an engine to be worked on some system of a perpetual vacuum, as I am informed."

WHITWORTH'S STREET-SWEEPING MACHINE.—The inventor, Mr. Whitworth, in a "general summary of the advantages machine-sweeping possesses over hand-sweeping," thus contrasts the two systems:—"By hand-sweeping, the dirt has to be gathered together by one operation, and the carts loaded by another; the machines load and sweep at one operation: in hand-sweeping, the dirt gathered is liable to be splashed over the street and over the passengers; by the machines, it is at once carried away: heaps of dirt are sometimes left by hand-sweepers at the side of the roads, and become a source of danger, as well as of annoyance, to carriages and foot-passengers; by machine-sweeping this evil is entirely obviated: hand-sweeping obliges the carts to stand in the streets, while being loaded, causing loss of time and obstruction of the traffic; the machines load as they sweep, passing along at the rate of a common cart: the cleanliness of a town cannot be greatly increased by hand-sweepers without great increase of cost; the economy of machine-sweeping increases in proportion to the cleanliness produced: hand sweepers cannot easily and cheaply be increased, according to the exigencies of cleansing; an extra number of machines can be kept ready for emergencies, with little trouble or cost: hand-cleansing has but little tendency to improve and consolidate the road; machine-sweeping tends powerfully to remove ridges and improve the surface: the continuance of hand-sweeping tends to perpetuate a degraded and ill-paid class of labourers, whom the introduction of the machine will elevate, or supersede by better paid and better conducted men, who must be employed to manage the machines. All these advantages are obtained, together with greatly-increased cleanliness."

ANOTHER MARY OF GUELDRES.—The Edinburgh antiquaries have been thrown into a state of excitement by the discovery of another female skeleton in a leaden coffin under the site of Trinity College Church. Professor Simpson is likely, it appears, to decide the question of identity even at this rather late inquest, having pointed out marked evidence of cerebral disease. Professor Goodsir, too, has since, it is said, traced out the evidence of congenital malformation in the head; and the two professors are likely to be thus able to prove the total incapability of the ancient tenant of this mouldering tabernacle to display such character or conduct as that ascribed to Queen Mary of Gueldres.

BRADFORD MECHANICS' INSTITUTE.—The annual distribution of prizes was awarded on Tuesday week in the Athenæum of the Institute; the Rev. Dr. Acworth, president, in the chair; when a series of books were distributed as prizes to successful competitors in drawing as well as other branches of ordinary school education. The formation of classes for the study of chemistry and natural philosophy in general was resolved on.

FIRING SHELLS BY ELECTRICITY.—Experiments were some time since announced from America, which were said to have gone far to establish the practicability of this novel operation, and to teach us that there is no end to the unlooked-for and unlikely adaptations of even now it might be thought pretty well exhausted, or at least familiarized discoveries in science, such as that for which a Franklin has already done so much honour to the land of which he was a denizen. Renewed experiments by the inventor, Lieut. Moor, of the United States' Navy, have been gone into, which, according to an American authority, have removed all doubts. The loaded shell is prepared with the end of a coil of wire attached to it, which, on being discharged from the mortar, it carries out with it like the string of a kite. The near end of the coil is free to be taken to a galvanic battery at any moment during the flight. It is a species of electro-magnetic telegraph applied to the flying shell, which it overtakes and explodes at any moment with the rapidity of thought.

THE SPIRE OF ST. MARY'S CHURCH, SNETTISHAM, NORFOLK.—A correspondent informs us that the lofty stone spire of this church, which, on account of its towering eminence, is used by mariners as a sea mark, being 105 feet in height, and together with the church reaching an altitude of 177 feet, has recently undergone a careful restoration, and the upper part to the extent of several feet has been entirely reset, and an iron cross and weather-cock raised on its summit. Crosses have also been added over the gables of each of the spire windows. These designs were furnished by Mr. H. L. S. Le Strange, and the mason's work has been executed by Mr. William Brown, of Lynn. To raise the scaffolding Mr. Brown availed himself of the openings formed by the upper windows of the spire, which are about 30 feet below the summit: through these he passed, at right angles, boards of such a length as to leave the ends projecting—these were secured at the centre and formed a cross: from the projecting ends he carried a gallery round with a hand rail—the whole forming a light and secure stage, of simple materials, and at a small expense.

CAXTON MONUMENT.—Sir: There are several reasons for the interest falling off on the above subject; one of which is the not determining on a proper place for it, as the former situation is wanted for the Westminster improvements, and cannot be kept vacant for an uncertainty. This being the case, I would suggest the site of the three houses in Poet's Corner, as, from old associations, being every way applicable, as well as being ornamental to the neighbourhood, and consistent with the alterations about to be carried on near there also; and I have no doubt this would meet with the approbation of the dean and chapter of Westminster. My reason for addressing you is because you seem to be nearly the only one that takes any interest in the matter. M. P. VITRUVIUS.

TENDERS

For six houses to be built at Lewisham, for Messrs. Aird and Quick. Messrs. W. Smith and Sons, Architects, Greenwich.

Hill	£5,870
Howard	5,143
Harnden	5,140
Rider	5,130
Goodwin	4,890
Paull	4,877
Cooper and Davis	4,875
Taylor	4,797
Coleman	4,771

For new Warehouses at Camden-town Glass Works, for Messrs. Chance, Brothers, and Co. Mr. W. Hambley, architect.

Thompson	£4,899
Lawrence and Son	4,768
Curtis	4,694
Trego	4,648
Jay	4,587
Locke and Nesham	4,458
Grimadell	4,293
Burton	4,191
Glenn	3,964
Frasi	3,650

For the erection of Alms Houses, &c., Wellclose-square, Whitechapel, for Mr. Joel Emanuel. Mr. Moffatt, architect.

Jay	£2,616	0 0
Glenn	2,462	0 0
Bridger and Co.	2,265	0 0
Myers	2,262	2 6
Patrick	2,243	0 0
Smith	2,238	0 0
Howard	2,215	0 0
Goodwin	2,137	0 0
H. W. Cooper	1,987	0 0

TO CORRESPONDENTS.

Correspondents must excuse us till next week.

ADVERTISEMENTS.

CAMDEN TOWN.—R. FULKES'S RANGE and STOVE MANUFACTORY, 91, Park-street. Elliptic Stoves, 3d. per inch. Register Stoves, 6d. per inch Self-acting Ranges, with Oven and Ballet and Revolving Shelves, 3 ft., 55s.; 3 ft. 6 in., 60s. Coppers, 1s. 2d. per lb. Sash-weights, 6s. 6d. per cwt. Close Nails, 1s. 6d per cwt. Lath ditto, 1s. 9d per cwt. Builders' Ironmongery of a l descriptions equally low.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and stove grate Manufactory 13, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, with Bell Register, Bars, &c. &c. Black Registers, from 6d. per inch upwards. Bright ditto with Black and Bright Bars, 7d. per inch upwards Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
36s.	40s.	47s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 198, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£1 6s.	£1 13s.	£1 16s.	£1	£2 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3d., 4d., and 5d. do.
Manufacturer of WOLFANSON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 44s.
Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Patent Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000.
3 t.	4 t.	6 t.	8d	10 t.	20 t.

Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 38s. Do. Scotch, 52s. per cwt.
Best Patent Sash Line.

4s. 3d.	5s.	6s. 8d.	7s 6d.	1 s.	12s. per gross.
1	2	3	4	5	6

At P. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 45, Chiswell-street, Finsbury square
Lists of Prices had on application at the Warehouse, or by letter pre-paid, and sent postage of map.
N.B Warehouse closes at Seven o'clock.

NOTT'S PATENT STOVES, for warming Churches, Chapels, Shops, Warehouses, &c. Architects, Builders, and the most extensive and Economical Heating Apparatus is REMOVED from the premises late in the occupation of Messrs. Benham and Sons, Wigmore-street, Cavendish-square, where there is also a large assortment of other Warm Air Stoves, and a very extensive variety of fashionable Stove Grates, Tenders, and Fire-irons.—N.B. Churches, Conservatories, and their Building supplied with Water

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which consume smoke, economize fuel, and cook better than hitherto attempted. Also HOT WATER APPARATUS upon improved and scientific principles, which they recommend for its peculiar suitability for the Warming of Mansions.
The Hot Water Apparatus for Drying in a strikingly expeditious, and safe manner. They also fit up BATHS with the Hot Water Apparatus with every modern and simple improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO ARCHITECTS AND BUILDERS

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, in the most improved manner and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, for wing from 50 to 100 wards of intricacy, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches of all patterns. CHUBB and SONS' Manufactory, 57, St. Paul's Churchyard, London.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and CO.'S PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hothouses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hemp cord is usually employed. This new and valuable Patent is made in both the usual descriptions of open cord, and is made, as is usual with all builders' and other parties connected with the above. The Wire Cord may be had at Bolesdale, Lancashire, the office of 10, Fenchurch-buildings, No. 16, Fenchurch street, W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet street; T. JAMES, 62, Charing Cross; and GIBBONS and Co., 40, Oxford-street; also of all respectable Ironmongers.

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of Architects, Surveyors, Builders, and others to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, calculating weight and strength. This corrugated material has been used for roofing the new Houses of Parliament, Shipbuilding and timber yards of Her Majesty's Dockyards at Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 4, Moorgate-street, City, London. Works at Millwall, Poplar, Middlesex; Broad street, Birmingham; Cobyn's Hall, near Dudley

LIGHTNING CONDUCTORS for BUILDINGS—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other public buildings from the effects of Storms. It possesses important advantages over other forms. Specimens of which may be seen, with the Lead Tape applied for connecting the same to GUTTERINGS, PUBLIC and PRIVATE BUILDINGS, &c. &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c.
SMITH'S ENGLISH (for the attention of those engaged in building to the IMPROVED PATENT PANELLED and REVOLVING DOOR SHUTTERS. Also, the Patent Weather-tight Fastening and Till Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their
Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,
little need be said, as they are partly generally known and appreciated.
Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and ornamental Palisading, Gates, and Columns, Iron Metal Sashes, Shop fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.
Estimates given for every description of Metal-work.
SMITH and ENGLISH 69, Princes-street, Leicester-square, London.

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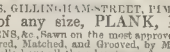
WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now established, at the Midland Railway Depôt, the largest and most complete ever established, a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING, of all sorts, from ¼ inch to 1½ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, laned to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which for accurate finish, great accuracy and attention to quality of workmanship—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms, SEASONED FLOORING, MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedars, Spanish Mahogany, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of dry HONDURAS and SPANISH MAHOGANY and MOULDINGS, cut and planed, suitable for Builders, Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all persons requiring well-seasoned materials at moderate prices, at C. WILSON'S Timber Yards, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon working the same it has proved otherwise.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantage of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
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N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Grand Canal, East Country Dock, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibres. For scale of prices, or further particulars, apply at the Patent Desiccating Establishment, as above, post-paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 29, New Broad-street to 7, ROYAL EXCHANGE BUILDINGS.

TIMBER-PREVENTING COMPANY.— PAYNE'S PATENTS for the PRESERVATION of TIMBER AGAINST DRY ROT, FIRE, RAVAGES of WORMS, &c., to whom they are to be sold, and the Instructions for the Preparation of Timber and other Materials thereunder, are

Whitehall Wharf, Westminster,	Lynn,
Bridge-house-Wyre,	Staines,
Wisbech,	Guildford,
Gateshead,	Southampton,
Barnstaple,	Hartlepool,
Leicester.	Darlington;

and there will create the necessary apparatus wherever there is a considerable quantity of timber to be prepared. Further particulars may be obtained at the Union Works, Whitehall Wharf, Cannon-row, Westminster.

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THE PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one-third less room than any other shutter.

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August 30, 1848.

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W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the limit and the properties of the Duke of Leeds and W. Wright and Co.

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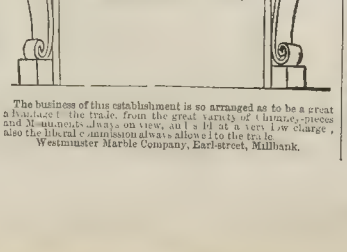
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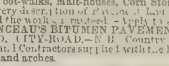


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Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

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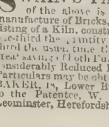
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Ditto, 26 oz. ditto,	ditto	64	"
Ditto, 32 oz. ditto,	ditto	86	"

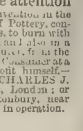
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SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present used, and also in a third the usual time. Goods can be drawn through the kiln as the first saving of both Fuel and Labour, supply to the Consumer at a considerably Reduced Price, and realise a Larger Profit himself.—Particulars may be obtained by application to Mr. CHARLES J. BAKER, 15, Lower Brook street, Grosvenor-square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

The Builder.

No. CCXCVI.

SATURDAY, OCTOBER 7, 1848.

LAST week we led our readers, with a "running pen," to the ancient and interesting city of Caen, the *Cathim* or *Cadhom* of the Saxons, by whom it was probably founded. We touched in our way at Boulogne, Abbeville, Rouen, and Havre, not attempting anything like a connected account of the journey, but just noting such new things as were likely to interest, or be of use to our readers. That they were found new, and not uninteresting to the public generally, is shewn by the fact that there are few of our contemporaries of the daily press who did not reprint some of our memoranda and opinions.

Caen, as we said just now, is a Saxon town, and its connection with England did not stop there. When the Normans became its masters, and the Duke William was installed King of England, the communication between the countries was necessarily considerable. In 1346 Edward III. ravaged Caen and its neighbourhood, and in 1417 it was invaded by Henry V., and remained in the possession of the English nearly 40 years. Several buildings were erected by them here, and in other parts of Normandy; and in 1431 the Duke of Bedford, in the name of Henry VI., organised the University of Caen. The definitive installation of this establishment took place in 1439, in the church of St. Pierre, the elegant spire of which we have already alluded to.

St. Pierre belongs mainly to the fourteenth and fifteenth centuries, but the chapels forming the end of the building were added in 1521, and present very remarkable examples, both internally and externally, of the forms which pointed architecture assumed just previous to the entire abandonment of this style in favour of an imitation of the architecture of classic times. The interior is full of vagaries, carved pendents drop many feet from the vaulting, and the ribs are most curiously involved. Externally, both here and in other churches of the neighbourhood, the style shews much elegance and invention, and is well deserving of study. On this subject, if the divergence can be pardoned, we would note, that amongst *renaissance* works in Normandy of more perfect character than the chapels in St. Pierre, the extraordinary monument to Cardinal Amboise in Rouen Cathedral, dated 1525, should especially be examined. It is one of the most beautiful and elaborate of its class, full of sculptured figures and abounding with ornament.*

Returning, however, to St. Pierre, we would say that the stone used in its construction, which is apparently of the same formation as that now quarried, is for the most part in a good condition, excepting near the ground, where dampness and other causes have acted upon it. A large rose window in the entrance front (north), open tracery in the gable over this, and open parapets on both sides of the nave, but especially on the east side, are remarkably perfect.

A very curious collection of buildings near this church, the old *Bourse, Hotel de Monnaies*, &c., belonging apparently to the end of the sixteenth or beginning of the seventeenth century, and which have been little noticed by travellers, are not in so good a state. These structures, fronting a quadrangle, present columns and entablatures (in two stories), lofty roofs, ornamented stone dormers, turrets, and niches containing sculptured figures. A statue of David with the head of Goliah, and one of Judith, fill two of them. In others groups of sculptured foliage and instruments are held up by a hand which comes through the dome of the niche, while a head, as of the owner of the hand, is seen projecting from the entablature above the niche.

Notwithstanding the abundance of stone, and its general use for a very long period of time, there are many carved wooden houses with gables, precisely similar to some old English houses of the fifteenth and sixteenth centuries.

St. Sauveur, with additions of the *renaissance* period, and the modern shops plastered against it, like swallows' nests (as is unluckily the case all through Normandy), and the elegant tower of *St. Jean*, rent and sunk though it be, would afford subjects for comment; but we must away to the real object of our journey,

THE STONE QUARRIES OF CAEN,

Having first glanced at the quay on the right side of the river Orne, going to it from the town, where the three principal stone merchants, Messrs. Luard and Beedham, M. Foucard, and M. Jobert, have their wharfs, and keep a large quantity of stone ready for shipping.

When we say that, perhaps 400 cargoes of stone, averaging 100 tons each, are shipped hence in the year, and chiefly for England, the importance of the inquiry, and of obtaining, if possible, the best description of stone, becomes evident at once. At Buckingham Palace, Windsor Castle, the Army and Navy Club, Mr. Hope's new mansion in Piccadilly, and scores of churches and other buildings throughout the country, Caen stone is being used at this moment, and its failure, in some instances, has therefore necessarily caused considerable disquiet in many minds.

The importance of using care in the selection of stone for building purposes was not felt till recently,—the fact that the same quarry, of whatever stone it may be, will supply a bad as well as a good material was unnoted;—and the result is that many modern structures are in a state of obliteration. Blackfriars-bridge, built of Portland stone, began to show symptoms of decay before it was finished. Several modern churches, built of the same material, retain little or none of their original carving; and some of the mouldings in the arches at Hyde-park-corner are all to pieces. We could even point to a building of the same material not yet finished, where, in spite of more than usual care, stones have crept in which are not likely to endure any time; and yet we all know that the Portland quarries do furnish stone as lasting and as good as any we can obtain. For this reason we have taken this stone as our example in illustrating the remark on the necessity for care in selection, and the little attention paid to this subject heretofore in England. The appointment of the commission to select stone for the Houses of Parliament, and the report which they published, have led to a different feeling on the subject, and cannot fail to be productive of advantage. Knowledge is now wanted, and that can be obtained only by careful inquiry and diligent investigation. Of this hereafter.

The principal quarries are at *Allemagne*, about a mile and a half due south of Caen. There are others at *La Maladrérie*, a suburb of Caen in another direction, but we shall confine ourselves to the former, simply remarking that the stone from the latter quarries seems to be of an inferior quality, and is distinguished by the occasional occurrence of a long narrow fossil shellfish (apparently a *pholas*), which we had no opportunity of closely examining.

Before entering the quarries we must in justice remind our readers, although we mentioned it last week, that we were accompanied by Mr. C. H. Smith, who has given long and continued attention to the nature and value of building stones, and was a member of the Government commission before referred to.*

On approaching the stone district, the visiter will observe here and there, scattered over an extensive plain, a small erection, with a heap of *débris* around it, and in a few cases a huge wooden wheel, without any building. These severally mark the shaft of a quarry. The use of the wheel, turned by men by means of spokes on the periphery of it, has been abandoned, and a steam-engine in a small building adjoining the shaft, the mouth of the shaft being also roofed over, has been substituted.

In the first we descended, the shaft was 12 feet by 7 feet, getting somewhat larger towards the bottom,—30 feet in depth down to the ceiling of the quarry, and was formed through beds of various thicknesses, from 1 foot to 3 or 4 feet, with a layer of small cherty nodules between the beds, 3 or 4 inches in thickness. From the ceiling to the floor of the quarry, and comprising the whole of the workable beds, it was 22 feet. The latter were very level, and the joints nearly vertical, giving as square and regular an appearance as if formed artificially. A steam-engine of 4-horse power was used, and the blocks raised weighed from 7 to 9 tons. There was a boring to supply the engine with water, 180 feet deep, and the quarry was very dry. It was worked underground, in a north-east direction, in galleries 20 feet wide, with continuous walls of the stone 3 feet thick left in to divide them, and support the superincumbent earth.

The quarries in this respect are under the supervision of a Government inspector, who enforces by constant visits the provision of proper supports. When piers are left in lieu of a continuous support, they are required to be 9 feet square. Notwithstanding the inspector, there were parts where the area unsupported, appeared much greater than 20 feet square (we measured one spot 30 feet square), and, being perfectly level, intersected by occasional fissures, had a somewhat threatening appearance: the rareness of the fall of a ceiling shews the cohesive power of the bed. The quarries each extend a considerable distance, and present in places very striking effects. The arrangement of the beds, looking as if giants had been building, makes quarrying easy and the waste of stone comparatively small. Of these particulars, however, which apply to all the quarries equally, we will speak hereafter.

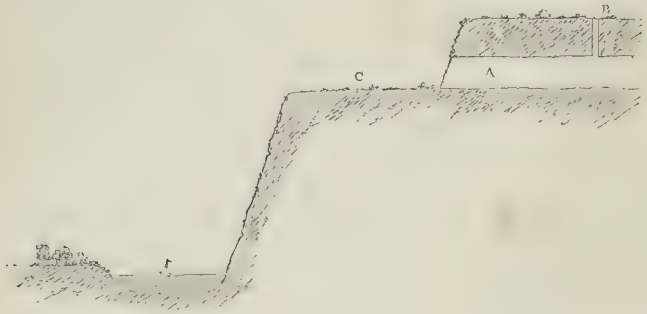
The second quarry into which we went was east of the first, and was unworkable, being full

* Very little good ancient ironwork is to be found in the churches of Normandy. For the rarity' sake, therefore, we must note that there is a cleverly wrought lock and handle of the fifteenth century on the door of a chapel on the south side of the chancel of the building just named—Rouen Cathedral.

* The whole cost to the country of this commission did not exceed 1,250*l*. Had the sum been double it would not have been unwisely spent.

of water. Here the ceiling bed was 50 feet from the surface of the ground. Much money had been spent upon it, and the owner considered that he should be able ultimately to clear the water by means of the engine, and win the stone.

We have described these two quarries as being entered by means of a shaft, and there are many others in the same position. The majority, however, of the Allemagne quarries are in the hill-side, overhanging the river Orne, and need no shaft. The river runs at the foot of a steep escarpment, which rises 60 or 80 feet above it. At this level there is a wide roadway, and then beyond this the hill again rises: and it is in the face of this second escarpment that the quarries are opened. The annexed slight sectional diagram will make their position more evident.



A is the entrance to the quarry; B an occasional shaft for ventilation (there are but very few of these); and C the roadway. On the other side of the river a flat country extends as far as the eye can reach.*

The quarries are worked to a great extent, and from west to east, the joints facing the cardinal points: some of them extend more than a quarter of a mile under-ground. A few of them communicate by lateral passages one with another, and would shelter an army. The glimmer of the quarrymen's lights seen at the end of a gallery, and the sound of their chissels, a scarcely heard "pick, pick," increase the peculiar effect of the scene.

The men remove the stone by cutting a space 6 inches wide between the beds horizontally, and about 4 feet in extent, by means of an iron bar 1 inch in diameter, chisel-pointed, which varies in length according to the period of the operation, but is sometimes as much as 9 feet. Upright joints are cut in the same manner, and the block is then easily removable.†

Let us now note the beds as they are found in the majority of the quarries. Mr. Donaldson gives the names in his paper which we printed some time ago, but it is necessary we should repeat them. The ceiling bed (about 2 feet 6 inches thick) is called the *banc cloutier*. It is cohesive and sound, as we have already seen, but containing pebbles (semi-flints), cannot profitably be worked, and is never taken out.

The workable beds, six in number, are named as follows:—

The *Banc pourri*.—This is under the ceiling bed, and is about 3 feet thick. It is considered a good stone, well indurated, but as it occasionally contains pebbles like those in the *banc cloutier*, although not to the same extent, is not so fit for fine work as the lower beds.

The *Gros banc* lies next, and could be got out 5 feet thick; but as this is too large a size for convenience, it is usually taken out in two thicknesses, 3 feet and 2 feet, and the smaller of the two is called the *banqueret* of the *gros banc*.

The *Pierre franche*, which follows, is about 3 feet deep, and appears to be considered the *best* and most durable bed. Then come

The *Banc de quatre pieds*, which has usually the thickness from which it takes its name, 4 feet; and

The *Pierre de trente pouces*, which, in like manner, is always 30 inches thick. Both of these are good beds, and are the lowest which ought to be used for external work. The last bed which is quarried is termed

The *Banc franc*; and this being like the *gros banc*, nearly 5 feet thick, is split into two thicknesses, 3 feet and 2 feet, of which the upper (2 feet thick) is called the *banqueret* of the *banc franc*.

There seems to be no difference of opinion, amidst the greatest differences in other respects, as to the unfitness of the whole of the *banc franc* for external work. Unfortunately, however, it is from this bed that the largest and most shapely stones can be obtained with the least difficulty; it is the stone from this bed which is least venty, and which cuts with the greatest ease and the least waste, so that many builders, perhaps not fully aware of its unstable nature, prefer to take it rather than the harder and more durable stone. Up to a very recent period the stone from this bed has been sent into the market, by all parties, with that of the other beds, to be used indiscriminately, a fact which is thought to account for the decay which is now observable in various quarters. Caen stone does not differ in this respect from the oolites in our own country: the bottom beds of the Bath quarries and Portland quarries, for example, are softer and much less durable than the top beds.

Of late, one of the Caen houses (Messrs. Luard and Beedham), becoming satisfied that the bottom bed is not fit for outside work, profess to mark with a cross every block which comes from it, so that these may be used in parts not exposed to the effects of weather, and we are disposed, after inquiry, to believe their profession. They further number each block on the upright side of it as it stands in the quarry, so as to show with certainty the way of its bed. If builders, to save labour or through carelessness, will, nevertheless, use the "bad" bed externally, the culpability of course rests with them, and the reputation of the stone is risked in spite of any precaution which may be taken to prevent it.

We did not find that the other merchants profess to distinguish the blocks of the bottom bed from those of the upper. One of the principal of them, who, although he would not admit that the *franc banc* gave the worst stone, still called it in conversation the "bad" bed, said, "If I distinguish this, I shall have to keep it back, and what can I do with it? When dry, the stone looks all alike, and I defy any person then to tell one bed from another." This is true enough; but which bed will *last* the longer, and what is the wise course for those to adopt who are really interested in maintaining a good reputation for the stone, are quite another question.

To distinguish bad stone from the good, when both are dry, appears, indeed, to be almost impossible; but it is not so when fresh from the quarries, or even after rain, when the stone is in its place. It is considered by those who have had the most experience of the stone that blocks which are party-coloured (part dark, part light) are, as is the case with Portland stone, less trustworthy than those which are of an even colour,—more equally indurated. The soft parts of the stone remain dark, perhaps because they absorb water more readily than the harder portions; or it may be that the constituents are different: this, however, we shall speedily prepare to decide by experiment. It is proper to remark that absorbing water is not necessarily the *cause* of the decay (some very absorbent stones are known to be very durable), but is an evidence of the want of solidity and compact agglutination. When quite dry the bad stone would probably be found to have a less specific gravity than the good,—a question which, with many others, we shall endeavour presently to determine. But here we must leave the subject till next week.

George Godwin.

* The appearance of Caen and intervening country, seen from the hill-side, is very beautiful.

† The men begin work at half-past five in the morning. They have one hour allowed them for breakfast, two hours for dinner (one of which they usually pass in sleep at the quarry's mouth), and half-an-hour in the afternoon. They leave off work at eight in the evening. When working by the piece, which is usually the case, some men can earn from 3s. to 5s. a day, many, however, do not earn 2s. a day.

SOME OF THE GREAT NAMES IN ART.

DA VINCI—MICHELANGELO—RAFFAELLE.

With reference to a recent discussion in the pages of The Builder on the value of ancient art, it may not be amiss to glance at some of the great men of the revival. Let us first for a moment consider the wonderful powers of mind of the venerable Da Vinci, who was not only the greatest painter, but the most profound and original thinker, the greatest mathematician and most ingenious mechanic of his time; architect, poet, chemist, musician,—it is marvellous to contemplate all that he excelled in; nor are we only astounded by the variety of his natural gifts and acquired knowledge, but by the practical direction of his amazing powers; for, though it was said of him by Fuseli, "that he was fiter to scatter hints than to teach by example," yet it must be acknowledged that his hints were germs of great truths; he was the first to break up the fallow ground of science and philosophy, that was afterwards cultivated by Galileo, Kepler, and other illustrious names; although his fame now rests on the works he has left as a painter.

And then the sublime genius of Michelangelo, whose very name seems to awaken sensations of awe, and whose works have been universally regarded as the most solemn and impressive that human hand ever produced,—whether we consider him as a painter, illustrating the destinies of man in the sublime circle of the Sistine Chapel—as a sculptor, uniting the greatest magnificence of design with the utmost simplicity and breadth—or as the architect, whose vast and daring genius undertook to lift the cupola of St. Peter's, and as he himself said, "to hang it in the clouds."

And lastly, and certainly the greatest name

take him for all in all, that shines upon the page of the records of art, the wonderful Raffaelle. Who has not heard of his fame, which has for three centuries filled the world—who has not attached some associations of excellence and beauty more or less distinct to his familiar name? The land which gave him birth may be said to have been raised in the scale of nations by the strength and power of his genius, which elevated the standard of art to its climax, and that even amidst the clamours of war: for Italy had been for many centuries the scene of fearful calamities, which had enveloped her states in rapine and conflict, and deluged her fields with blood! And we may here notice that it is not a little remarkable that the arts of peace should have attained their greatest perfection in the very midst of war. It is related of Michelangelo, that while he was executing some of his noblest works, he was strangely interrupted, by being employed by the republic of Florence, after the expulsion of the Medici, to fortify his native city against his former patrons, and that, great as an engineer, as well as in every other department of art and science, he defended the city for nine months. It is related also of Parmagiano, that at the same time (which was on the occasion of Rome being taken and pillaged by the barbarous soldiery of the constable of Bourbon) he was engaged upon his picture of the vision of St. Jerome, now in our National Gallery, and that he was so absorbed in his work that he heard nothing of the tumult around him till some soldiers, headed by an officer, broke into his studio. As he turned round in quiet surprise from his easel, they were so struck with the beauty of the work, as well as with his own calm dignity, that they retired and left him unmolested.

But to return for a few moments to Raffaelle; for, although his name is a household word amongst us, and his works, through the art of the engraver, are in every folio, we cannot too often attempt to discover the secret of his transcendant success; and, indeed, if any apology is needed for thus dwelling on his peculiar excellencies, after it has been done by so many and such able hands, we will only say, that it would be considered almost sacrilegious to mention his name, without pausing a moment to do homage to his genius.

He was a painter so consummate in judgment, so accomplished in science, so much admired in the age in which he flourished, his works have been by common consent so cherished through every succeeding generation, and his memory so revered, that it becomes no less a matter of merit in the estimation of his votaries to dwell on the praises he won, than on the reasons which led to his great distinction and success.

He carried to the highest perfection that union of beautiful mental perception with superlative mechanical skill which constitutes the complete artist. Genius incontestably belonged to him, for in every subject he handled, the demonstrative acquirements of art lie hid beneath the purest character of nature. He possessed to an extraordinary degree the power of displaying in his works the virtues that adorn, and the vices that degrade, humanity; the grace and tenderness of the female character, with the energy, the activity, and the vigour of man. His works appeal by the purity of their sentiment to the best sympathies of our nature; they strike some key note in the mind of every intelligent observer, the vibrations of which cannot but be productive of an elevating and refining influence.*

Such were the men who prepared, and such was the genius that raised to its height the fabric of modern art.

These were the days of the greatest prosperity art ever knew, when princes and potentates considered themselves happy in the possession of the friendships and favors of those who practised it. Such was the brilliance and splendour it had reached in the beginning of the sixteenth century.

The stream of modern art had flowed on, dating its rise so far back as the days of Cimabue, in the thirteenth century: it had rolled on, gathering, age after age, strength and volume and fullness, enlarging its bounds and deepening its channel; until under the auspices and protection of the Medici, it had become a mighty stream, reflecting on its limpid wave the beauties of nature on every side, and taking its majestic course through Italy, the garden of the earth!

And here, let us not be told that these are subjects of little consequence to the artists of Britain in the present day: let it not be said or thought, that it is enough for them to pursue their professional labours from day to day with such advantages as the times or circumstances supply, without examining, either closely or superficially, the causes which led to the great perfection achieved by the painters of a departed age. It is to be feared that the ideas of artists on most subjects are far too circumscribed; and that they seldom look beyond their studio walls for information. They forget the practical lesson conveyed by that eloquent passage in Dr. Johnson's Rasselas, in which he enumerates the qualities a *poet* must possess, and which are so equally necessary for the artist, that we may be excused for quoting it:—"To a poet," he says, "nothing can be useless: whatever is beautiful, whatever is dreadful, must be familiar to his imagination. He must be conversant with all that is awfully vast, or elegantly little. The plants of the garden, the animals of the wood, the minerals of the earth, the meteors of the sky, must all concur to store his mind with inexhaustible variety; for every idea is useful for the enforcement or decoration of moral or religious truth; and he who knows most will have most power of diversifying his scenes with remote allusions, and unexpected instruction. But the knowledge of nature is only half the task of the poet: he must be acquainted likewise with all the modes of life; this character requires that he estimate the happiness and misery of every condition; observe the power of all the passions, in all their various combinations; and trace the changes of the human mind, as they are modified by various institutions and accidental influences of climate or custom, from the sprightliness of infancy to the despondence of decrepitude." T. F. M.

* After these illustrious names followed those who completed the magic circle of art, who applied and directed their powers to decorate the "established system," and by whom "the refinements of taste, grace, sentiment, colour, adorned beauty, grandeur, and expression." These were Titian, Corregio, and others, whose names will be familiar to all.

DISTRICT SURVEYORS' FEES.

REFEREES' AWARD.

In a requisition received by the official referees from Mr. Meears, of Wandsworth, builder, it was set forth that he had recently built a cottage, together with a washhouse consisting of one story, and communicating with the cottage; and that the foundations and footings of the washhouse were put in at the same time with those of the cottage, and a portion built with the back wall of the cottage; but the roof was not on the washhouse until twenty-one days after the main roof of the cottage was on; and that in erecting the said cottage it was necessary, or required by the district-surveyor, to raise the party-wall of the adjoining house (late Forster's) on the west side thereof, above the roof of the cottage, and that it was also necessary, in erecting the external side-wall on the east side of the cottage, to cut off the ends of the rafters forming the overhanging eaves of the house adjoining to the cottage on the east side thereof (occupied by Zeeley). It then set forth that the district-surveyor of Wandsworth in respect of these works, had charged four several fees, amounting in all to the sum of 6*l.* 10s., according to the following account:—

	Rate.	
New building, 1st class, exceeding in area four squares. Roofed in 27th May	3rd	£2 10 0
Addition of attached office to ditto		1 5 0
Alterations (late Forster's) 1st class party-wall	2nd	1 10 0
Alterations, roof, walls, and gutters (Zeeley's)	3rd	1 5 0
Total		£6 10 0

The builder requested the referees to determine,—

First. The rate of the cottage. Secondly. Whether the washhouse, called an "attached office" in the bill, is not a part of the said cottage; or whether the same is to be distinctly rated, and to which of the fees, in the Act appointed, if to any, the erection thereof is liable. Thirdly. Whether the operation of raising the party-wall on the west side of the cottage, as before described, is an alteration of the adjoining building for which any fee is provided by the Act besides the fee for the erection of the said cottage. And fourthly, whether the operation of cutting off the ends of the rafters to the building on the east side, is an alteration for which any fee is provided by the Act, besides the fee for the erection of the said cottage.

At the hearing, the district surveyor admitted that the cottage was by area a building of the third rate of the first class, and was not built with walls of the requisite thickness for that rate, but with walls of the thickness of 8½ inches, as required for buildings of the fourth rate of the first class, to which rate the cottage was at first supposed to belong, according to the notice given to the surveyor; and the surveyor stated that the washhouse consisted of one story only, communicating with the ground story of the cottage, so that there was no back way out of the cottage but through the washhouse.

The referees determined,

"First, that inasmuch as the said cottage, exclusive of the said washhouse, covers more than four squares, and not more than six squares, in area, and is not more than 52 feet in height, and does not contain six stories, the said cottage is a building of the third rate, of the first or dwelling-house class.

Secondly, that the said washhouse is not an attached building to be distinctly rated, and for which a distinct fee would be payable; but is an office belonging to and forming part of the said cottage, and not to be included in ascertaining the area thereof according to the rule of schedule C, part I., of the Metropolitan Buildings Act in that behalf; and that such washhouse was commenced and carried up with the said cottage, within the meaning of the said first-mentioned Act, and is not an addition made after the completion thereof, and that no fee is payable to the district surveyor for the supervision of the erection thereof, besides, or in addition to the fee provided by the Metropolitan Buildings' Act, for the building of which it forms a part.

Thirdly, that the raising of the party wall between the said cottage and the building thereto adjoining on the west side thereof, to the requisite height above the roof of the last-mentioned building, is not an alteration of that building within the meaning of the Act; and that the supervision of such operation is a special duty or service required by the Act to be performed by the district surveyor; and inasmuch as such duty or service has been performed incidentally to the building of the said cottage in respect of which another fee may be payable, it would not be lawful for the said district surveyor to receive any fee for the same in pursuance of the provision of Schedule L, of the Metropolitan Buildings Act in that behalf."

Fourthly, As to the operation of cutting off the ends of the rafters, and forming a gutter to the building on the east side of the said cottage, the same as the last.

"And we do hereby further determine and award, that inasmuch as the said cottage has not been built in every respect agreeably to the directions of the Metropolitan Buildings Act, certain of the inclosing walls thereof being of the thickness of 9 inches instead of 13 inches, as prescribed by the Statute for buildings of the class and rate to which the said cottage belongs, it is not lawful for the said district surveyor to receive any fee in respect thereof."

The costs, 2*l.* 12s. 2d., to be paid by the district surveyor.

BRISTOL.

New sewers are being constructed in the streets of Bristol to a considerable extent, and not before they were wanted. The shape adopted seems to us a bad one,—if we may judge from one specimen we examined the other morning when in that city. The bottom is very wide and nearly flat,—better adapted for retaining deposits than facilitating a quick and cleansing discharge.——Our advocacy of the restoration of the ancient High Cross may have been not unavailing. A meeting of the subscribers to the proposed fountain was held last week, when it was resolved to postpone this project, and to obtain subscriptions for erecting an exact copy of the old cross in College-green, at a cost of about 500*l.* It is to be hoped that an efficient architect will be employed.——A new market is being built, and has the roof nearly on. Some ponderous iron-girders forming the centreing, and providing abutments for stone arches, give the

notion that iron must be pretty plentiful in Bristol: but as the building is unfinished comment might be premature. Mr. Pope is the architect, and Willcox the builder.——Considerable additions are being made at the Infirmary.——Scaffolding is being put up for the restoration of the noted north porch of Redcliffe Church, under Mr. G. Godwin, architect, at the cost of a munificent anonymous correspondent, who signs himself *Nil Desperandum*. The occurrence has so much mystery and romance about it that we may on another occasion go into particulars, and we will then give an engraving of this magnificent specimen of the Decorated style as it will appear when restored.

THE GAS MOVEMENT.

GAS CONSUMERS—'LARGE' *v.* 'SMALL'—STRONG *v.* WEAK AND DISUNITED.

Matter of serious Import.

On more than one occasion we have threatened the general exposure of an iniquity on the part of Gas Companies, and even also, as we shall now show, on the part of Corporations, and public and other associations, in connivance with them, towards the great mass of what are classed by these as 'private' consumers, contradistinct from 'public,' and 'small' consumers, contradistinct from 'large.'

The iniquity under consideration is so gross as to be scarcely credible. On a recent occasion, we characterised a difference of 1s. 6d. on 5s. per 1,000 cubic feet of charge made by the Rugby Company between their contracts with the London and North-Western Railway Company at 5s. per 1,000, and their 'private consumers' at 7s. 6d. per 1,000, as a shameful one, but such a difference shrinks into the modesty of scarcely visible dimensions, when contrasted with a host of others. What will our readers think of a frequent exaction of 30, 40, and 50 per cent. from the great mass of 'small' or 'private' consumers, beyond the rate charged to large or influential associations, companies, or corporations, who might otherwise make their own gas? Nay, of the not unfrequent exaction of several hundreds per cent. beyond municipal corporation prices?

Not to dwell upon mere abstractions however, let us consult the records of the gas companies' own confessional,—ever holding in remembrance, that since there is no fear of their being 'too truthful,' or 'revealing too much' in their own estimation, we can scarcely satisfy ourselves that we have even then fathomed the deepest depths of this mystery of iniquity. Yet out of their own mouths we shall superabundantly condemn them, else we are indeed mistaken.

And first let us square accounts between the 'large' consumer and the 'small,'—ever keeping in view that, in the aggregate, the 'small' are in truth the large, and the 'large' the small; and as for any thing like excuse or justification on the ground of additional risk, or additional expense in distribution of gas or in collection of proceeds, we shall only say, that if the gas companies are able to sell—with a sufficient profit is a matter of course if ABLE to sell—at prices 30, 40, 50, or 100 per cent. below those comparatively enormous charges exacted piecemeal and at will from the great but *unfortunately not associated* mass of 'small' or 'private' consumers, it must indeed demand the swallow of the most voracious and indiscriminate gullibility even to ruminate for a single instant on the defence, pretence, or whatever we may call it, that additional risk or increased expense give anything but the most sidelong and sinister countenance to so iniquitous an overcharge on the disunited mass of the gas-consuming public; even though it were not the self-condemnatory fact that *many of the companies do not consider themselves entitled to exact a single farthing* from small consumers on account of any such expense or risk: good reason why they should not too, considering that, as to risk amongst the small consumers, every individual rogue or other defaulter on the 'large' scale is equivalent to and must absorb the defalcations of a multitude of the small; and that as to expense of distribution and collection, these, in fact, constitute almost the only outlay at all, which renders gas a thing *of any* cost to either large or small; and though they may entitle companies to charge something like a moderate average price from all, whether near their works or not, do by no means entitle any of them to come it over the small and unprotected in particular with so strong a double dose of cost and extras as so many of them do, even in the somewhat more conscientious face of their fellows who have never dreamt, or have now repented, of doing so, or who have pitched their exactions at a much more moderate rate which almost equally condemns the enormity to which this unprincipled and inconsistent system of wholesale plunder occasionally mounts.

At Birmingham, the last price to large consumers, recorded in the Parliamentary abstract, was 3s. 9d. per 1,000 cubic feet, with 10 per cent. discount; while from 4s. 6d. up to 6s. 8d. were exacted from small consumers, and especially from those who paid quarterly in place of only annually.

At Bristol the rate of charge was 6s., with discounts rising from 7½ to 20 per cent., according to the quantity consumed by one individual or establishment.

At Bury it was 7s. 6d., "subject to discounts, varying, according to consumption, from 2½ *up to 30 per cent., and discount also allowed for prompt payment.*" What a lingering love is here displayed for even the shadow of a higher price when the substance has vanished! What a tempting *superfœtation*, too, of discount on the back of discount!

At Derby, discounts have ranged from 10 up to 40, 45, and even 50 per cent., according to the quantity consumed by one 'large' paymaster: that is, the multitude of unassociated shopkeeping neighbours, making up one contiguous, though disunited aggregate of large consumption, taken piecemeal, have been made to pay 6s. 6d. per 1,000 feet overhead, while the fortunate and powerful single holder, or company of holders, of a range of mills or factories, capable of being provoked into erecting gas works of their own, have been only charged somewhere about 3s. 6d., or little more than one half!

At Halifax, the sliding scale of discounts mounts up from 2½ per cent. on 6s. for the poor and helpless devils, to 50 per cent. for the rich and *able*, who therefore enjoy their gas light at the rate of 3s. per 1,000 in place of 6s.

At Kidderminster, the price to the few large consumers is 6s., while 10s. are exacted from the many small.

At Leeds, the bonus offered to the large consumer is 25 per cent. discount; the bone thrown to the mere 'small' consuming dog, but 2½.

At Newcastle, as if to shew that coals at least are guiltless of the imposition, 20 per cent. on 4s. 6d. are presented to the great, but only 10 to the small.

At Over Darwen the company's profitable price has long been 4s. 6d. to the great, while they have come over the small to the tune of 8s. 6d., which shame has at length diminished into 7s. 6d.

At Rochdale, the reduction of the nominal price is 15 per cent. to the large consumers, 5 to the smaller, none at all to the small. At Stalybridge it is 30 to the large, 2½ to the smaller, and none to the small.

At Wakefield the wholesale price is 3s., the retail, 5s.

At Warrington, the discounts fall from 46 per cent. to 4. At Wigan, mills are supplied at 5s., with 15 per cent. discount; shops at 6s. to 7s. with none.

In Scotland, one of the Glasgow companies was wont to present its large customers with a bonus of 25 per cent. discount on a nominal charge of 6s. 8d., while the small were put off with 5; and the other companies made 6s. 8d. and 5s. the distinction between the two; but since 1846, both companies have begun to see the iniquity of even these comparatively moderate distinctions, and have resolved to charge 5s. from all,—a virtual acknowledgment that they have no just claim on the small consumers either for extra risk or additional expense.

There are reasons, it is said, for every thing, whether the reasons be good and sufficient, just and fair, or otherwise. We have already more than once gently hinted the main reason for the state of things revealed in the black list just quoted from; but we need not rest in mere surmise while we have the means of solving the mystery *ipsissimis verbis* of some of the sagacious, but, perhaps, 'too truthful,' shareholding constituents of the gas companies themselves. At page 571 of the last volume of THE BUILDER, it is noted that "in consequence of the important and significant movement of certain manufacturing and other firms towards the manufacture of their own gas, the Lincoln Gas Company were again lately urged by some of their own shareholders to authorise a still further reduction of the price, as a boon to the consumer *and a matter of policy to prevent private enterprise in the manufacture.*"

So! the secret is out! Wherever there is *no chance* of parties making their own gas, there put on the screw; but wherever there is *some chance*, on the contrary, *there be reasonable.* Meditate on this, ye "small consumers!" and take your measures, that is, adjust your meters, accordingly. Unless you can each of you provide yourself with what a sprightly contemporary, the *Gateshead Observer*, calls "Gas for one,"—Associate—Associate—have "Gas for all." If not by individual aggrandizement, still, by mutual adhesion, rise into the commanding attitude of the "large consumer." Then and only then may you expect to enjoy a share of those glorious 50 per cent. bonuses administered "as a matter of policy" to all who can bring the fear of "private enterprise" before the watchful eyes of the gasholder. Then, too, perhaps, as at Norwich and elsewhere, may even be added to the sterling *bonus*, the scarcely less acceptable award of a "large consumer's" share of the feasting *bolus*, all out of the superabundance even then still reaped and harvested out of your 'jolly green' pastures.

ANTIQUITIES OF NORWICH AND YARMOUTH.

THE NORFOLK ARCHÆOLOGICAL SOCIETY.

At the twelfth annual meeting of this society, held on the 28th ult., Mr. Dawson Turner addressed the visiters at some length on the antiquities of the neighbourhood. He said, first, in regard to Yarmouth, it was well known that at no great distance of time, what was now the site of a town was entirely under water. They knew it by tradition, and by an old map of the town still in the possession of the corporation. They knew it, still further, by the construction of Burgh Castle. Yarmouth had nothing of great antiquity to offer. In reference to the restored church, it was only four weeks since that edifice was opened. The castle was formerly a remarkable building in the town, and the site of it was to be seen by reference to a map of the time of Queen Elizabeth, copied from one in the British Museum. That castle has been all swept away, and all they knew of it was that the site of it was in one of the rows still retaining the name of the Castle-row. Turning to the monasteries, they had the remains of six, including the lazar houses. Of these six the sites might now be traced, when they had an opportunity of doing it. One of them was situated between two rows; one called Quay Osten-row, and the other Dene Osten-row; so called from the supposed intercourse between Ostend and Yarmouth in former times; but in reality they derived the name from the St. Augustine, or St. Austin, friars having a monastery in that row, of which monastery little now remained, and it was used by that respectable body the Society of Friends. Turning then from the castle, and from monastic buildings, he came to houses of later date. Two of the time of Queen Elizabeth were of an interesting character. The most remarkable was that now occupied by Mr. Charles Palmer, respecting which he had published an elaborate and beautiful volume, shewing what domestic architecture was in the Elizabethan times. They had an interesting room in the Star Inn, known to have been inhabited by President Bradshaw. They had another house, lately occupied by the Rev. Henry Burroughs, whose absence everybody regretted. They had another room behind the Ballast Quay public-house, the ceiling of which was of the same date; and it was remarkable that it contained the Royal arms of England. Within four miles of the town there were two interesting buildings; he

need hardly say that he alluded to Burgh Castle and to Caister Castle. In regard to the church at Burgh, an interesting fresco was found a few years since, representing St. Christopher. In the church at Belton an interesting fresco had also been found. Those who went to Belton would find it worth their while to take Gorleston Church in their way there,—they would see the arch of the holy sepulchre. On the north side of the altar they would find a cross, which had been uncovered not long ago. The fresco on the font exhibited an individuality which he had not seen any where else.

Mr. Britton then addressed the meeting and said, with Norfolk, Suffolk, Cambridge, Lincolnshire, and all the eastern coast, he was comparatively little acquainted. He had travelled much over them; but such was the march of intellect, and the march of steam, that what had been done forty years since, became now an object of antiquity. A new era had commenced within the last twenty years, and this was an extraordinary epoch in the history of our country, and particularly in the history of archæology, because so many young antiquaries had started into existence, in full-blown intelligence and activity, and full of artistic feeling, and all must be surprised at the quantity of information now given. They found in almost every provincial town a great number, not only of professional artists, but also amateurs, and they had an opportunity of knowing much more than they could formerly. He congratulated the public on the establishment of an archæological society in this peculiar county. He called it peculiar, because, from the time he had become acquainted with Norfolk, he had seen more of antiquarian research among the inhabitants, the clergy, and the middle classes of the county, than in any county of England. He said this advisedly. When he came to this county fifty years since, there was a knot of artists in Norwich—Cotman and others—who gave a taste for the subject, under the direction, advice, and excitement of his friend Mr. Turner. These were things which those present were not very well aware of, and therefore he called attention to them. This county abounded in antiquities of various classes and degrees of interest. There were remains of the Roman, Saxon, and Norman times. There were parochial churches of a curious character. The round tower distinguished this county, but not entirely; and the churches formed a series of the most interesting remains that he knew of in England.

The Rev. R. Hartt read a paper on the mural paintings of the church at Belton; Mr. F. Worship read a paper respecting the bosses in the roof of Yarmouth Church; and the Rev. J. Gunn delivered a discourse, of some length, on the history and architecture of Yarmouth Church, illustrated by numerous drawings.

Excursions were made; and a public dinner in the Town Hall, the Bishop of Norwich in the chair, closed the day.

THE CHURCH AND PHAROS ON DOVER HEIGHTS.

FREEMASONS OF THE CHURCH.

At a meeting of this society on September 12, Mr. French in the chair, Mr. J. W. Archer exhibited a mural brass to the memory of Sir John Mordaunt, of Walton, Bart., executed by the exhibitor, and intended to be placed in an aisle erected in Wellesbourne Church, near Stratford-on-Avon. The wall intended to receive the above, is composed of tiles of the Reading pattern, with borders encompassing the stone containing the brass. The brass is inlayed in the dove coloured stone of the district. A label containing a passage from the Psalms, supports the shields, containing arms pendant. The base containing the legend, in raised characters, the initial letters and numerals being coloured, supports a recumbent effigy of Sir John Mordaunt, the head resting upon a cushion, diapered in blue and scarlet, this being supported by the coil of the mat on which the figure rests. At the head of the effigy is the figure of an angel bearing a model of the chapel at Walton, founded by the deceased.

Mr. Archer afterwards read a paper on an ancient brass, of which he exhibited a rubbing, now in the tower of old Hackney Church: this paper we shall give at length.

Mr. Stothard then read the following paper on the church and Roman *pharos* at Dover, near the castle, illustrated by various sketches.

Hastead, in his "History of Kent," says, "that tradition supposes that Dover Castle was built by Julius Cæsar." Be that as it may, which is very doubtful, one thing is certain, viz., that the Romans, on their first landing, about the forty-fourth year of the Christian era, did erect certain watch towers on the heights of Dover. Varied are the opinions as to the exact site of one of these, but of the Pharos there can, I think, be no doubt whatever; and that it is more than probable that they did so immediately after their first landing, and that it was, as is stated, intended for a speculum or watch tower, and also as a lighthouse, like one erected by them about the same time at Boulogne. The latter was destroyed in the sixth century, while that on our coast stands as an interesting memorial of the first landing of that great people on our own shores. As regards another tower on Dover Heights, near to the pharos, many historians have supposed that the square tower in the centre of the ruins of the Norman church, standing within four feet of the pharos, must be it, because, as they say, there are on each of the four sides circular holes. This hypothesis I am rather inclined to admit in the absence of some better, because I find peculiar marks about that tower which would lead me to believe that it once stood independent of the church, and that for this reason, there does appear on the west side of that tower a window, above which, by some feet, is seen the marks of the apex of the roof of the church, which would appear to have become an adjunct to the tower erected at a more recent period than the tower itself. In the church, like many others where Roman remains were, the materials of the Roman work found a place in the Norman buildings.

This church, it has been supposed by some, was erected about the year 161, by Lucius, King of Britain. This has been doubted, not the period, but as regarded the founder. Be that as it may, Saint Augustine appears, by the request of Ethelbert, to have reconsecrated it about 597, in honour of the blessed Virgin Mary. His son Eadbold, who succeeded him as King of Kent, did, at the latter part of his reign, renounce Paganism, and founded a college of secular canons, and a provost in this church, apartments being provided for them in the precincts of the castle; but it was but for a short period, viz., till about 691, when they were removed by Wedred, King of Kent, to St. Martin's, Dover, they being too great an encumbrance within a fortification. Hastead states again, that it was probable that this same king pulled down the college, reserving only the church for the garrison, and which appears by wills of later times from the Prerogative Office of Canterbury: it was esteemed to be a parochial church, having a district of the castle as a parish annexed to it by the name of "The parish of the Blessed Mary within the Castle of Dover;" for one John Fardrade, in his will, proved 1501, describes himself of the parish of the Blessed Mary in the Castle of Dover; and again Giles Love, of Dover, gent, by his will, proved in 1519, gave to the high altar of the church of Our Lady, in the Castle of Dover, for his tithes forgotten, the sum of 3s. 4d. It continued a church, with its chaplains, diminishing from three to one, until the end of the reign of King James the First, and then it came into disuse; but it is said that a chaplain still exists and receives the salary. There were many monuments erected therein to the memory of the officers of the Castle, one as early as the year 1384; but all have disappeared, and the names of those only on record by the historian. I took the outward dimensions of this church and the outward dimensions of the pharos. The length of church from east to west is 125 feet; width of nave, 35 feet; extreme width, 75 feet; diameter of pharos, 35 feet.

As to the pharos, its form is octagonal without, and, as I am informed, it is square within; the sides of the square and octagon being equal, about 14 feet, giving 10 feet for the thickness of the walls. Upon four sides of the upper part are single windows, said to be 6 feet high; and the door at the east side is about 6 feet wide and 12 feet high, or was so before the accumulation of the soil or debris; but the round head of the door is now about 3 feet from the ground. The walls of the pharos are composed of alternate layers of Roman tiles and that which is called stalactites. The extreme height of this Roman remain is about 40 feet,—how high it did extend it is vain to form a conjecture. Some persons have been ingenious enough to trace eight windows, or stories: such a supposition I have not had ocular demonstration of, and would not venture an opinion corroborative thereof; but that it has been covered with a facing of stone at some much more recent period than that of its erection there are ample proofs, on the north side, where the casing in part remains, as also the more modern windows and battlements; but that exposed to the sea is divested entirely of the coating said to have been put on by Sir Thomas Erpingham, whose arms, fortunately for such memorials stands on the north side, otherwise that also would have perished.

Mr. W. P. Griffith suggested that the so-called Roman Pharos at Dover, which is placed close to the east end of the church, and is an octagon, might be a baptistery. Wallen, in his "History of Little Maplestead Church" (speaking of baptisteries), had remarked, "As the first Christians always practised baptism by immersion, and wherever they formed a nucleus wanted a building for this purpose as much as for that of worship, Constantine no sooner gave his basilica of the Lateran to Pope Sylvester than he erected behind it a baptistery, to which he gave the octagonal shape."

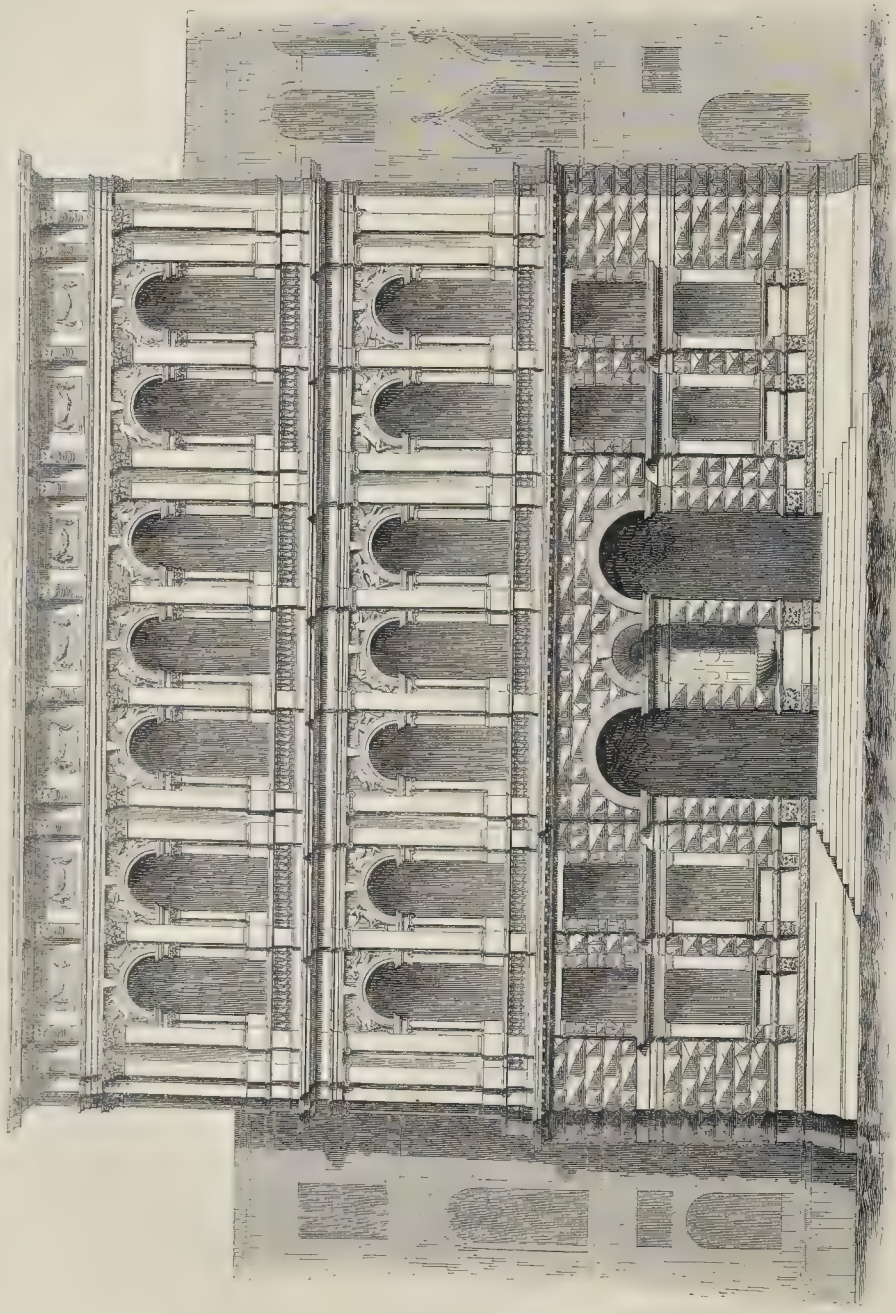
For the sake of the society we regret to hear that Mr. Griffith has resigned the office of honorary secretary, which he has held for several years past. The society meeting once a fortnight during the whole year, the labour of the office must have been very considerable: the able manner in which Mr. Griffith has discharged it, has made the society greatly his debtor.

ARCHITECTURAL CLASSES AT UNIVERSITY COLLEGE, LONDON.

The courses on engineering and architecture pursued at University College will be resumed on the 24th inst., under Professor Donaldson. The professor remarks, in a letter on the subject, that "Professional education has of late made a great advance. Chance has less influence than it once possessed in producing the results required by public intelligence. Those entering on the field of enterprise have sought to qualify themselves for the struggle, resulting from the contest of active and well-informed minds. It is the aim of University College to offer the opportunity to young men of perfecting the instruction to be gained in the office of the architect, or in the counting-house of the builder. They may acquire in the class-room by study, observation, and experiment, a methodical system of investigation, a course of progressive development, an acquaintance with first principles, and a knowledge of the history of art and science and of the great men who have distinguished themselves. These, it is to be hoped, are calculated to infuse a habit of thought and spirit of self-improvement, which must act beneficially upon the student's future career."

The Iron Trade of South Staffordshire.—Birmingham, Friday.—The ironmasters of these districts held their usual preliminary meeting at the hotel, Dudley, yesterday. The attendance was numerous. After a long discussion, it was resolved not to make any advance upon the prices of iron fixed at the last quarter-day. Orders are represented to be plentiful, and contracts which for some months have been suspended are now in course of execution.

Newspapers at the London and North-Western Railway.—The privilege of selling newspapers, &c., at the several stations on this line of railway has been let by tender to Messrs. Smith and Son, news agents, 192, Strand, for the sum of 1,500*l.* a-year. The person who has hitherto supplied Euston station offered the Company the enormous sum of 610*l.* for a stand at that station alone.



THE PESARO PALACE; VENICE.

PERPENDICULAR DOOR, HADLEIGH CHURCH.



THE "PALAZZO PESARO," IN VENICE.

We take from the sketch book of a *ci-devant* pupil, Mr. Tinkler, the annexed view of the *Palazzo Pesaro*, in Venice, which, amongst the numerous palaces on the Grand Canal, ranks nearly the first. It has grandeur with richness, and presents some novel details: the rustication of the ground story is particularly bold and effective. The two entrances seem objectionable, suggesting a division which does not exist.

Baldassare Longhena was the architect, and judging from the date of "Santa Maria della Salute," built 1630, of which Longhena was also architect, this palace was probably built early in the seventeenth century. It is now the Armenian College. Longhena also built the *Palazzo Bataggia* and the *Palazzo Rezonico*.

EXPERIMENTS ON THE COHESION OF MORTAR.

The following record of experiments on the *cohesion* of mortar has been forwarded to us by Mr. B. Baylis, of Chester. The area of the bedjoint was 4½ in. by 4½ in.:—

Materials.	Proportions.	Breaking Weight in lbs.
Common lime and sand ..	2½ to 1	Broke at 160lbs.
Ditto ditto.....	2 ,, 1	Do. by accident.
Ditto ditto.....	1½ ,, 1	Do. at 100lbs.
Ditto ditto.....	1 ,, 1	Do. by accident.
Ground lime and sand	2½ ,, 1	Do. at 95lbs.
Ditto ditto.....	2 ,, 1	Do. at 140lbs.
Ditto ditto.....	1½ ,, 1	Do. at 235lbs.
Ditto ditto.....	1 ,, 1	Do. at 215lbs.
Common lime and fine hammer scale	2½ ,, 1	Do. at 90lbs.
Ditto ditto.....	2 ,, 1	Do. at 100lbs.
Ditto ditto.....	1½ ,, 1	Do. at 90lbs.
Ditto ditto.....	1 ,, 1	Do. at 65lbs.
Ground lime and coarse hammer scale	2½ ,, 1	Do. at 270lbs.
Ditto ditto.....	2 ,, 1	Do. at 280lbs.
Ditto ditto	1½ ,, 1	Do. at 275lbs.
Ditto ditto.....	1 ,, 1	Do. at 260lbs.
Common lime and coarse hammer scale	2½ ,, 1	Do. at 140lbs.
Ditto ditto.....	2 ,, 1	Do. at 80lbs.
Ditto ditto	1½ ,, 1	Do. by accident.
Ditto ditto	1 ,, 1	Do. at 130lbs.
Ground lime and fine hammer scale	2½ ,, 1	Do. at 265lbs.
Ditto ditto.....	2 ,, 1	Do. at 230lbs.
Ditto ditto.....	1½ ,, 1	Do. at 265lbs.
Ditto ditto.....	1 ,, 1	Do. at 265lbs.

Caistor Church.—We understand the Duke of St. Alban's is rebuilding the chancel of Caistor Church, under the superintendence of Mr. E. J. Wilson, of Lincoln. The old walls, which had spread, owing to the looseness of the soil, have been taken down, and the new work already rises about three feet from the ground.

WOODWORK FROM HADLEIGH CHURCH, SUFFOLK.

"Hadleigh Church," says Rickman, "is a large edifice with a tower and spire mostly of Perpendicular character, but with some earlier portions. There are two south porches, and the aisles and clerestory extend along the chancel as well as the nave." In one of the south porches thus particularised the accompanying door is found. The tracery is exceedingly bold, as will be seen by the section; the form of it is also good, considering the period in which it was executed—a period when the flowing and graceful lines of the fourteenth century had given place to stiffness and formality.

In the churchyard is an ancient gateway, called the Rector's Tower, profusely ornamented with moulded brickwork, which appears to have been lately restored.—R. M. P.

HOW TO MOVE THE MARBLE ARCH FROM THE PALACE.

Although, as a work of art, the marble arch in front of Buckingham Palace is not particularly striking, it yet seems a pity to sacrifice so costly a structure by removing it to any less conspicuous situation,—especially when in such removal a very considerable additional expenditure must be incurred. Remain in its present position, built up to behind, as it now is, with the new façade, it certainly cannot; but it appears that it might with practicability, and not without good taste, be moved forward so as to range in the west side of the drive which crosses the head of the mall; and that *without its being taken down at all;* by which course much of the expense otherwise attending its removal would be obviated. I presume that, for privacy, the nearly-semicircular space of ground in front of the palace which is bounded by this drive will become the area to be railed in, now that the new façade occupies the area of the former inclosure.

As to the *modus operandi*, our transatlantic brethren have shewn, although not with quite such weighty materials, how such things may be accomplished; and I am happy to think that our own countrymen have not hesitated to follow precedents wherein such moral nerve has been evinced, but have, lately, in the case at Ipswich,* played a similar move with much credit and, no doubt, equal satisfaction.

The plan which suggests itself to me is that of *circum-inserting* about each pier, below the level of the plinth, a framework of massive oak timbers, the several frames bound to each other diagonally in the archways to prevent derangement, and the lateral timbers extending outward in front and rear, to admit of their being crossed by longitudinal binders: the underside of all these lateral beams to be hollowed in the form of a deep segmental groove, lined with, say 3-8ths of an inch, wrought-iron; under each of these beams corresponding ones to be introduced, having the iron-lined groove in their upper side; these latter to be continued eastward in trenches to the intended new site, in a line straight out from the present one, the centres being truly coincident; the plane of the framework and of the under-beams or tramways to have a gentle decline eastward; the grooves to be filled at short intervals with cannon-balls of suitable diameter—say 8 inches; a strong cylindrical beam, of the length of the building, to be mounted some distance behind it, and there firmly secured, horizontally, as a windlass; stay-ropes of sufficient length to be attached to the building, and wound round this beam, so that, in the descent of the building on the inclined tramways—by virtue mainly of its own gravity, and the tendency of the cannon-balls to roll in their channels—its progress may be controlled simultaneously in its several parts. The framework and tramways being properly supported, the foundations to be now carefully removed till the building rests solely on its timber carriage; then man the windlass and ply the levers, and, with good watchful management, I should not fear for the result.

It would be proper to have intermediate timbers under each pier; and these should, therefore, be provided for in the framing and tramways, and be introduced at the time of removing the foundations. It would also be prudent to secure the safety of the structure by binding it round at the springing-line of the arch, and elsewhere if necessary.

James Wylson.

* *Vide ante*, page 422.

Balmoral Castle (the late retreat of the Queen) is a large house, of modern structure, situated on the south bank of the Dee, about fifty miles from Aberdeen. The house consists of a centre, square and lofty, and of two wings: projecting windows and balconies give an extensive and beautiful prospect. The rooms of the house are spacious and handsome for a country residence, but not too many in number, and dressing-rooms are used as dormitories. Adjoined to the western wing is a conservatory, containing a good collection of exotics. Round the eastern wing is a garden about an acre in size, planted chiefly with roses and annuals. The house has been taken for the remainder of a lease of 27 years.

RESPONSIBILITY IN BUILDING.

RECENT ACCIDENTS.

The formation of overhanging cornices demands great care on the part of builders. The accident in this respect, at the soldiers' chapel in the Birdcage-walk, some time ago, is doubtless remembered.

The death of a man was caused a few days ago at the Scotch Presbyterian Church, in Bradford, by the overbalancing of a stone cornice, and the jury included in their verdict censure of the parties concerned in the superintendence of the building. The architects, Messrs. Mallinson and Healey, have addressed letters to the local papers disclaiming any part in the transaction, and urging justly that the jury ought to have heard their evidence, and as there was neither architect nor mason on the jury, they ought to have obtained competent professional assistance—"since they appear greatly to have misapprehended the duties and responsibilities of an architect, and confounded them with those of the builder."

The resident partner says,—

"I requested the builder to take the precaution of *weighting the cornice*, which, had it then been done, would have prevented its fall. Had I not given this warning, I should, nevertheless, not hold myself in the slightest degree responsible for what has occurred. The cornice had to receive upon it the weight of the pediment, which would have kept it in its place with much less hold on the wall than it actually had, and I am no more answerable for the neglect of its not being temporarily secured than I should be for the breaking of a rope, or the failure of a lewis. There are many cornices in this town, as well as in other places, which overhang the supporting walls so considerably, that they are only kept in their places by cramps: would any reasonable person hold the architect responsible for what might occur in the interval betwixt laying the stone and securing it with the cramp; yet in what do the cases essentially differ? Every contractor is responsible for the work in his own department, and he as well as his workmen must be presumed to exercise sufficient care to prevent injury to others, failing which it is only just that they should sustain the blame themselves."

Fixing Balconies.—A poor girl was seriously injured and nearly killed last week, in Percy-street, Pentonville, through a balcony, supposed to be fastened to the wall of the house, giving way. We have before this endeavoured to impress on builders the importance of care in securing such appendages. A committal to Newgate for manslaughter is one of the risks the careless in such matters run.

EXTINGUISHING FIRE BY EVOLVEMENT OF CARBONIC ACID GAS.

Sir,—I trust you will have the politeness to permit me a few lines in your journal, in reply to the letter of Mr. Dredge (inserted on the 30th ultimo), as I conceive there are inaccuracies and misapprehensions contained therein (to speak gently) which affect the soundness and practical character of my plan for extinguishing fires at sea. After summarily detailing my plan he remarks, "all this is perfectly correct in theory. *It is just in the application* where the difficulty lies;" and by way of illustrating this he refers to the imperfect state of combustion in furnaces generally, which, no doubt, demonstrates his idea of the discordance between theory and practice. For ourselves, we have always been of opinion, that there was a fallacy in the common axiom, as to the discordance between theory and practice; and, as chemists say, *fiat experimentum*, "test the plan by experiment." Has Mr. Dredge done this before he thought proper to pronounce his opinion on this matter? I have made many hundred experiments on the subject, in every form, mode, and shape, and *invariably* found the practice to correspond with the theory. A different result would give me much interest to investigate. Besides, I have proposed to different boards in different places, to demonstrate the truth of the *theory* by a variety of *practical* illustrations at twenty hours' notice; and should my other avocations permit, propose a public lecture on the subject. Mr. D. is in error when he states that 1 ton of timber will give 60,000 cubic feet of carbonic acid gas. Timber dried at 350° loses 15 per cent. of its weight; and 100 per cent. of the remainder contains about 45 oxygen, 5 hydrogen, and 50 carbon in round numbers, so that it will give little more than 24 or 25,000 cubic feet.

Further, there is a positive inaccuracy in the statement, "that a small portion, however, of atmospheric air is sufficient to keep alive combustion." If Mr. D. has made experiments on the subject, it would be desirable to know the result. Mr. Taylor, an experienced chemist, states combustion is almost invariably checked in an atmosphere of 80 parts atmospheric air and 20 of carbonic acid gas. My numerous experiments prove the same. It *cannot*, therefore, be concluded "that this would prove fatal to Dr. Reid's plan." As certain as air is necessary to respiration, so I conceive it is as certain that my plan practically, when efficiently adopted, will extinguish *all* combustion.—I am, sir, &c.,

William Reid.

DRAINAGE OF THE KENSINGTON NEW WORKHOUSES.

STATE OF THE SEWERS.

We have received the following from an influential member of the Kensington Board of Guardians, and know personally the facts of the case:—

Sir,—As a constant reader of "The Builder," I know that you take an interest in sanitary regulations, and that it is within your province to notice them.

I send you therefore the copy of a report from the surveyors of the Sewers Commission, in respect of an abominable nuisance in the shape of the common sewer, of which the guardians of this parish have complained, and which they constructed, at a large outlay, for the drainage of the new workhouse, under the promise that the outlet from it should be deepened.

When it is known that the sewer in question takes almost the whole of the drainage of the town of Kensington and its contributary streams of filth, and that its *solid matter remains as a deposit in the sewer*, the injurious effects of which are admitted, and their increase contemplated,—is it not an insult to common sense, in the face of Boards of Health and the expected arrival of the cholera, to be told nothing at present can be done, but that "shortly," "when," &c., &c., some remedy may *perhaps* be found.—Yours, &c.

October 3.

[Copy.]

"*On Barrow's-walk, Kensington.*—If the surveyors could recommend any large case as urgently requiring attention, this is one. A workhouse is built, to contain 400 to 500 inmates on an average, the drainage for which premises is into a new sewer, which stands full of foul water and deposits, the evils of which will be fearfully extended when the new workhouse is fully occupied.

The sewer was put in, very properly, at a level which, by lowering the outlet, would have free discharge. What is required, therefore, is the bringing up an improved outlet. The nearest point for such purpose is Warwick-road, a distance of 2,500 feet from the end of the new sewer. The inclination to be obtained is rather more than 5 inches in 100 feet. But however much the surveyors regret the adverse circumstances under which the workhouse drainage rests, they do not feel justified in recommending, at this moment, the carrying out of this work; but as they are led to believe that the general survey will be (very shortly) completed, when a general view will be taken of the drainage of the whole district, they trust that the state of things complained of above will not remain long without a remedy.

(Signed) "John Roe.
Henry Austin.
John Phillips.

September 21, 1848."

Zinc Labels.—Labels of an economical and durable kind may be made in the following manner:—Damp zinc labels with a solution of alum, and while they are damp, write the name you require, and you will find the letters, when dry, are very difficult to efface.—*Gardeners' Journal.*

RAILWAY JOTTINGS.

The Rother viaduct, near the junction of the Manchester, Sheffield, and Lincoln w the Midland, at Beighton, twenty of the thir six arches of which had been completed duri the last twelvemonth, is now a mass of ruit which, in falling, killed several of the wo men, and dammed up the river Rother so to flood the whole neighbourhood. T piers having sunk fourteen inches and a h the nineteenth arch was about to be shored when it fell without further notice, follow immediately by 13 or 14 of those adjoining, a in a few minutes by the remainder. The pi still stand, but the water which overflowed t river during rains had found its way ir their foundations, and hence the sinking, a contingency which, surely, it would be na ral to look for, and provide sufficiently again on the banks or channel of *any* river, howev usually moderate in its overflows. No cle cutting of contract competitions can exc such suicidal inefficiencies as these, ev altogether irrespective of the question of t public safety. 'Rains' and 'overflows' are y after year blamed for such fatalities as if th were so unprecedented that no one wo think of anticipating their destructive efficac or as if concrete and other available mea were quite inadequate as safeguards and sur ties against them. There is at all events clear no sense in building up laborious and cost structures such as this *without* sufficient guarding against the utmost possible lim of the power of such well-known agencie wherever there is any risk of their occasion occurrence.——A portion of the hill ne Yarmsworth Church, upon which the Sou Yorkshire line of railway and the spoil ban rests, has slipped several feet. The spoil ban which runs parallel to the line, consists redundant material from the cutting in t cliff. It is of great height and breadth, and supposed to have caused the slip in questio ——We lately noticed an instance of a curate tunneling; here is one of anoth kind:—In a railway tunnel in course of co struction near Huddersfield, which had bee bored at each end, thinking that the excavato would meet in the centre (says the *Presto Guardian*), it was discovered last week, th through defective engineering, the two sets workmen were passing each other, having g six yards asunder, instead of meeting face t face. The tunnel will be about 7-8ths of mile in length, and should have consisted of gentle curve, but now it takes the shape of dog's hind leg!——The Great Western Compan have discharged 250 men from their works Swindon, and the whole of the men employe at their factory are now working on sho time, and probably will have to remain on sho time during the whole winter. The company we lately observed, have been inviting lecture at Swindon, on emigration or colonizatio ——The atmospheric principle, during th time it was applied to the South Devon lin is said to have cost 108*l.* to carry 100*l.* worth of passengers. The workmen on this line a actively engaged between Lairn and Mutle tunnel.

ELECTRO-TELEGRAPHIC PROGRESS.

The autographic telegraph, if we may s call it, invented by Mr. Bakewell, and whereb "original writing, the character of whic might be readily recognised," is copied a least, or written at second hand, if not at firs hand, has been successfully experimented wit between the metropolis and Slough, where has been found that the same power which i requisite to work the needle telegraph is ampl sufficient for the copying process. Message written in London were received at Sloug and copied on paper by means of a singl wire and with double the rapidity of the needl telegraph. Mr. Bakewell, it is said, expects t be able to transmit *fac simile* copies of mor than 400 letters of the alphabet per minut with a single wire; and, by using two wires as now practised, to have the rapidity doubled ——A more perfect mode of insulation, b help of gutta percha, has been suggested b Mr. Hamerton, superintendent of the Electro telegraph Company. The Gutta Percha Com pany itself, too, it seems, have found out th perfectly insulating properties of this perfectl protean substance, for which we fear mor

es are being discovered than its limited sources will long supply; more especially if be true that to get at it the more readily d abundantly, the improvident Malays, emu- nt of the celebrity of the proprietor of the ose with the golden eggs, are now in the bit of exerting themselves in providing for e eagerly looked for supply to Europe—and nerica, too, we suppose—by cutting down e trees which supply it, in place of tapping em, as the prudent Yankees do their maple es for sugar.

NOTES IN THE PROVINCES.

The new market-house at Botley was opened Monday week. The exterior consists of a rtico, the pediment of which is supported by ir Tuscan columns, and encloses an area ved with stone. The hall is 40 feet long 25 feet wide, and 17 feet high, and lighted by four windows. Mr. Charles nk, of Hambledon, surveyor, supplied the ns. The cost was about 500*l.*——The w Corn Exchange and the public room Saffron Walden are nearly completed, d the front of the new post-office is finished. —Designs and estimates for a Corn Ex- ange and public room at Worksop have been lled for.——Building at Stratford has been her in an active state for several years. merous houses on the Plaistow road are in ogress, and a new street, called Longthorne- eet, opens a way to the station on the North olwich railway. Ninety villas are about to erected in the Romford-road.——The Glas- w iron-founders have secured the extensive ntract for the water-pipes of the town of rpool. Thirty thousand tons will be re- red. The contract is taken up by four ns, and will amount to about 130,000*l.* ce 4*l.* 10s. per ton.——A large chimney con- ted with the works of Messrs. Hayes and , soapboilers, Preston, fell on Monday, ing a little son of one of the proprietors l breaking the leg of a man who happened be near. The foundation was defective. —It appears that there are now in Bradford 00 unoccupied houses and shops, assessed about 4*l.* per annum, and representing a al rateable value of nearly 12,000*l.*——At last general meeting of the Hull Glass mpany no dividend was declared, but the ort showed that the present Directors had, an extent beyond expectation, overcome the iculties of the concern, and that the works l been resumed with the prospect of suc- s.——A gaswork for the use of the North tish Railway at Edinburgh is being built at hort distance from their extensive works at adow Bank. The exterior is of stone.

CHURCHES AND CHAPELS.

The new synagogue at Canterbury, built, by ribution, as it were, upon the site of a razed ice belonging to their ancient mortal ene- s, the Knights Templars, was consecrated on esday week by the chief Rabbi, Dr. Adler. —Preparations are in progress in the dis- ntling of Holy Rhood Church, South- oton, for its re-erection. It is said to be 500 years since this venerable edifice was rebuilt, and the *Hampshire Advertiser* arks that he lately read the date 1011 on a ulchral stone taken from the pavement of previous church, and used in the last re- ding. Such a serviceable old slab deserves rominent place in the next re-edification. contract for the new erection is for 2,365*l.*, the whole cost, with extras, will be in- ased to 3,000*l.*, of which the Exchequer ls 2,000*l.*, and of the rest 900*l.* have been mised.—— The chapel of St. Michael, ntly erected in connection with Marl- ough College, was consecrated on Friday k. It has been erected from designs by E. Blore, architect, in the early middle ated style, with high pitched roof, seats for , and plain interior. The cost was about 00*l.*——A new Roman Catholic chapel is t to be erected at Liverpool, it is said, in mory of the priests who sacrificed their lives tendance on their poor parishioners during raging of the 'Irish fever' there.——The man church of Stoke Prior having been ired and restored, was re-opened on Wed- day week. The south transept, formerly bricked up, has been laid open; a gallery, which obscured the western window, taken away; the whole church repewed with oak sittings, 114 additional, free; the old oak roof laid bare; the whitewash on the stone arches removed; great part of northern aisle rebuilt, &c.; cost about 500*l.* The superintendence was committed to Mr. H. Eginton, of Worcester, and the work was executed by Mr. Moss, of Bromsgrove.——St. Paul's Church, Manningham, is a cruciform structure, in the later period of the English style, with nave and aisles, transepts, chancel, and a tower and spire springing from the intersection, and supported within by clustered columns and arches. The nave is decorated with stained glass by Messrs. Barnettt and Son, of York,—one of the lancet lights, a contribution by the architects, Messrs. Mallison and Healey. The sum of 3,000*l.* was contributed towards the erection of this church by Mr. John Hollings.——The church of Sigglesthorne was re-opened on 21st ult. The gallery has been removed, the tower thrown open, the high box-like pews replaced by open seats, greater part free. The alterations were designed by Mr. L. Pearson, architect, and the work was executed by Messrs. Whitton, mason, of Beverley; Barr, capenter; Clappison, blacksmith, of Sigglesthorpe; and Grantham, bricklayer, of Hornsea. The windows, except one at east end, were supplied by Mr. Wailes, and the church is heated on the Polmaise plan by Messrs. Seward, of Lancaster.

METROPOLITAN COMMISSION OF SEWERS AND THE SEWAGE MANURE COMPANY.

An extraordinary court was held at the Sewers'-office, Greek-street, Soho-square, on Friday, Lord Ebrington, M.P., in the chair, for the purpose of taking into consideration a communication received from Mr. Roe, surveyor, to the effect that the Metropolitan Sewage Manure Company had cut through the bank of the Counters' Creek Sewer, for the purpose of connecting a pipe with the sewer, contrary to the warning given them to desist from the attempt, and that the trench thus cut was 10 feet wide, and the bottom thereof nearly as low as low-water mark.

It may be remembered by the readers of this journal that towards the latter end of the year 1847, the Westminster Commissioners of Sewers passed a resolution to this effect on the application of the company:—"That the application of the Metropolitan Sewage Manure Company submitted to the court this day, being a diversion of the sewage from the Ranelagh Sewer and the intervening sewers to the Company's intended station at Stanley-bridge, Fulham, and as shown by the plans deposited, be agreed to, the works from time to time being executed under the direction, and to the satisfaction, of the commissioners and their officers." Within a few weeks application has been made to the present commissioners to allow the company to divert the sewage of another main line of sewer (the Counters' Creek Sewer), which permission the commissioners refused to give, on the ground chiefly of the extravagant expenditure of the shareholders' money, when notice was given by the solicitor of the Company, that "*the Directors had determined on making the communication.*"

Upon the receipt of this the commissioners lost no time in directing their clerk to send notice, in reply, that they refused their consent to the work.

Notwithstanding this communication the work was commenced, a trench being cut into the sewer by the agents and workmen of the company.

After some discussion the following resolutions were carried unanimously:—

"That a fine of 500*l.* be imposed on the Metropolitan Sewage Manure Company, for having (without having first obtained the sanction of the Commissioners of Sewers), cut through, or caused to be cut through, the western bank of the Counters' Creek Sewer, commonly called the Kensington Canal, as reported to the commissioners by their surveyor, and proved upon oath before them, in court assembled, this day.

"That the said fine be paid to Mr. Lewis Cooke Hertslet, the clerk of the court, upon demand.

"That a fine of 50*l.* be imposed on Thomas Docwra, of Cheshunt, Hertfordshire, the contractor, for having (without having first obtained the sanction of the Commissioners of Sewers), cut through, or caused to be cut through, the western bank of that part of the Counters' Creek Sewer commonly called the Kensington Canal, as reported to the commissioners by their surveyor, at their meeting held yesterday, and proved upon oath before them, in court assembled, this day."

"That the surveyor do forthwith proceed to repair and amend effectually, for the protection of the public, the western bank of the Counters' Creek Sewer so cut through, as above-mentioned, and that the cost thereof be paid by the Metropolitan Sewage Manure Company."

It was stated that if the plan of the Company had been allowed to proceed, several hundred acres of land would have been flooded.

Correspondence.

PROTECTION OF PILES IN SEA WATER—INQUIRY.

Sir,—Among the many existing schemes at the present day for the protection and preservation of piles, I should feel obliged if any of your correspondents can inform me of that which has been put to the strongest test, and has stood it effectually.

A plan was proposed some time since by Sir Samuel Brown, which I believe has been partially carried out: it was simply by covering the surface of the timber with broad-headed iron nails, which, shortly after their immersion in the water, form an armour of rust, so that insects cannot penetrate, and the heads being made square, the size of the interstices between them are reduced to a minimum.

For temporary purposes, a soluble paint mingled with arsenic will prevent their attacks as long as the paint lasts, and the same may be said of copper. The discovery of any antidote relative to the preservation of timber so exposed would be an important achievement, as the devastation committed by the *teredo navalis* is very great.—I am, Sir, &c.,

G. J. R.

Miscellanea.

The Don Bridge on the Northern Railway.—The pile-driving at the Don-bridge is completed, and the masonry work for the abutments commenced. We learn from the *Doncaster Chronicle*, that the bridge will be constructed of wrought-iron, on the principle of Fairbairn's patent hollow bridge, and will consist of two hollow iron girders, which will span the stream, transverse girders for the rails to rest upon, and iron-plate sides. The bridge will be 5 feet 6 inches high in the middle, 4 feet 8 inches at the ends, the side plates being only 5-16th of an inch thick; the plates at the bottom of the bridge are 9-16th of an inch thick. All these will be firmly riveted together, to form a rectangular beam. The bridge will be remarkable chiefly for its combination of lightness with strength and durability. The principle of construction is the same as that adopted at Conway, and which is now being very generally adopted for railway bridges. The span of the bridge will be 70 feet.

The Bridge over the New Cut on the same line (near Doncaster) will consist of two brick piers—one on each side—with stone quoins, built upon piles, sunk four feet below the natural surface of the stream. From these piers will be thrown cast metal circular tubes, instead of the usually solid girders, and upon the tubes the permanent way will be laid. At present the foundation of the south pier only has been laid, but as all the piles for the other have been driven, not a long time will elapse before it is commenced. Mr. Moody is the sub-contractor for this and the other bridges.

Caution to Builders.—On Saturday evening, a child, two years and a half old, son of a mechanic, of Great Garden-street, Burmantofts, was drowned by falling into a tub of water which had been used by Charles Wray, bricklayer (who is building some houses in the neighbourhood), for the purpose of slaking lime. The tub was inserted into the earth, the top being on a level or nearly so with the surface of the ground, and had been left without any covering. The deceased child had strolled from its parents' house only five minutes before it was found in the tub, but life was quite extinct.

Figures.—Sir: The property of figures, mentioned in a paragraph in your last number but one, may be shewn to hold true for all cases by a very simple algebraic operation:—

Let n = any number; then

$$n^2 + 1 = n^2 + 1$$
$$n^2 = n^2 - 1 + 1$$
$$n^2 = (n + 1)(n - 1) + 1$$

Old Ford. E. F.

Projected Works.—Advertisements have been issued for tenders by 18th inst., for the erection of two houses at Camden-town; and by 31st, for cast-iron pipes, sluice cocks, and other iron works for the Folkestone Water Works Company.

Day, the Architectural Modeller.—There are few architects who are not acquainted with the admirable models made by Mr. Day. We are sorry to hear, that after struggling for some years to make a living by the practice of his art, he finds his efforts fruitless, and that he must either seek some other occupation or starve. It seems sad as well as surprising, that with the ability he has acquired in this particular path he should not be enabled to maintain himself by the exercise of it. Some of our readers may, perhaps, be disposed to aid him.

St. Marylebone Baths and Washhouses—Laying the Foundation-stone.—The foundation-stone of this institution has been laid. The building will adjoin the St. Marylebone County Court, and in architectural character is Italian. The design is that of Mr. C. Eales, and is to be carried out by Messrs. Haynes and Co., builders. The cost for the building is put down at 13,000*l.*, to include all the fittings, which are adapted to 126 baths of different classes, and 86 washing-tubs.

Premiated Design for Labourers' Cottages.—In reply to the offer of a premium of 10*l.* offered by a correspondent of the *Art-Journal* for the best design for a pair of labourers' cottages, twenty sets of drawings were submitted. From these five were selected, marked C. & A.; J. C. N.; J. M. McC.; Utility; and W. N. G. Ultimately the premium was awarded to the first of these, the work of Messrs. Curtis and Allason, of Trinity Church, Charing-cross. The selected design will be published in the *Art-Journal*. None of the designs displayed any great advance over others already published. The design marked "W. N. G." has some points of considerable merit: should the journal in question not engrave this we would willingly do so.

St. Osmund's Roman Catholic Church, Salisbury, was opened on the 6th inst. The style is Early Decorated. The church consists of nave, chancel, and south aisle, having a chapel at east and tower at its west end. The latter is finished with a low broach spire, covered with tiles. The organ gallery is over the sacristy, at the south side of chancel, opening into the church in the chancel and east end of aisle. The altars, pulpit, and font are of stone, elaborately carved, the two former relieved by painting and gilding. The windows in chancel and Lady Chapel are all filled with stained glass, by Hardman, of Birmingham. Chancel and chapel are separated from the nave and aisle by oak screens, the former being surmounted by the Crucifixion, and Mary and John: the chancel roof is pannelled, and richly painted and gilt. The body of the church is filled with low open benches, of a simple but substantial character. The exterior of the church is built of flint, with stone quoins. Mr. Pugin is the architect; the flint and brickwork by Messrs. Crook, of Whiteparish; the stonework and plastering by Messrs. Lane, of Chilmark, and roofs and woodwork by Mr. Fisher. The accommodation is for 300, and the estimated cost between 2,000*l.* and 3,000*l.*

Completion of the Paris Louvre.—M. Visconti is, we believe, empowered to proceed with the completion of the Louvre. The Paris *Illustration* lately published a large number of the different plans which have been submitted for uniting the Tuileries and the Louvre, beginning from a very early period. It has been proposed to line the *Champs Elysées* with a row of statues on each side, commemorating the great men of France.

Liverpool Timber Trade.—The arrivals from America during September, are comprised in 32 vessels, 21,156 tons, against 38 vessels, 18,375 tons, in the corresponding month last year. So far the import is fully an average one, being in excess of both last year and the year before up to the same period. For St. John pine timber the price is well sustained, as also for Quebec. Spruce deals continue very much depressed. There is still considerable complaint of the want of country demand.

The Bedfordshire Archæological and Architectural Society held their second public meeting at Bedford, on Tuesday week, the Hon. George Rice Trevor, M.P., a vice-president, in the chair; when various letters were read, and a circular, with queries by the council, on various points relative to the state of churches, was exhibited. Mr. French read a paper on Ancient Egypt, and Mr. C. L. Higgins exhibited several bricks from the pyramids, made of earth and straw. Mr. Inskip then read a paper on the archæology of Bedfordshire, and various antiquarian specimens were afterwards handed round.

The Church of St. Isaac, at St. Petersburgh.—Mr. Anderson, known as the "Wizard of the North," gives in a sketch book which he has published the following rose-coloured notice of St. Isaac's Church, in the Russian capital, which has been fifty years in progress, and is still unfinished:—It has four fronts, each of which has its pediment supported by Corinthian pillars. The whole exterior of the church is of polished Finland granite, and each of the four fronts is formed of twenty-four pillars of the same material, red-coloured, and beautifully polished, the base and capital of the several pillars being bronze. On the entablature of every pediment is a bronze casting, illustrative of some portion of scripture history—the figures of which are twice the size of life. The entire structure is surmounted by a dome and minarets, which seem to rise up into the clouds, and the effect of the whole is grand and imposing. But if the outside of the building is rich and striking in appearance, what can one say of the interior? It is at once gorgeous and awe inspiring. The church on the inside is supported by one hundred and twenty-five pillars of malachite, a green stone of immense value: each column is twenty-five feet in height by three feet in circumference, with bases and capitals of solid gold, while the altars, which are covered with burnished gold, sparkle with thousands of diamonds.

Sculpture and Drawing in Wales.—The Cymreigyddion have offered, amongst the prizes to be awarded at the next Eisteddfod, a premium of 70 guineas for the best model in plaster, illustrative of the Cambro-British history, from either of the following subjects:—"1. The escape of Gruffydd ap Cynan, from Chester, borne by Cynfrig Hir; 2. Blegwryd, Archdeacon of Llandaff, sitting with Hywel Dda and his Counsellors at Ty Gwyn a'r Dâf, preparing the code of laws known as 'Cyfreithiau Hywel Dda;' 3. The Death of Tewdric, King of Gwent, in the moment of victory over the Saxons at Mathern on the Wye; 4. Ifor Bach, after storming Caerdiff Castle, leading Robert Consul and other Norman prisoners to his mountain fortress, Castell Coch." This is the first prize, we are informed, ever offered by an institution of this character *for encouragement of native artists in sculpture*. A prize of ten guineas is offered "for the best cartoon of the subject of Brân Fendigaid (the blessed) introducing Christianity into Britain, accompanied by Ilid Sant, who preached the Gospel to the men of Glamorgan; Druids standing by the side of a Cromlech frowning at the new doctrine; the old king wearing the aurdorch and talaith."

A Note for Auctioneers.—At Bolton county court, on Friday, the judge allowed a defendant to set off a claim which he had against a party who had sold his goods by auction, and a portion of which were bought by defendant. The action was brought by the auctioneer on the occasion. His Honour said though the auctioneer had a right to sue, he must do so subject to the claim of the defendant against the owner of the goods.

New Patent Iron Girders.—Mr. J. H. Porter, of Blackheath, engineer, has taken out a patent for girders, on a principle asserted to realise strength of form and substance with the least possible amount of metal, and greatly reduced cost. The patent consists in the application of corrugated iron—whether in curved or angular lines, and for parts of cylinders, or tubes, with compression lengthwise—to the formation of beams, girders, trusses, or supports, generally; and in the particular application of said iron,—with the corrugations both vertical and horizontal—to the rendering of floors of buildings fire-proof.

Competition.—Plans and estimates wanted from architects for a church at Hali for 1,100 persons, at a cost not exceed 4,500*l.* Premiums, 10*l.*, 7*l.*, and 5*l.*, w other terms, as advertised.

Lectures on Perspective.—The first a course of lectures on "Perspective" was livered at the Society of British Artists, by M John Saddler, on Tuesday evening last (2 inst.) The lecturer shewed that objects w viewed by the uninitiated in their abstract not perspective form, and the necessity, the fore, of its study was insisted upon by a re ence to the alteration of the circle, dom &c., in perspective; "geometrical definitio theory and practice of perspective explain some observations upon the horizontal line vanishing points, &c.; Problem 1, to dra line in perspective; Problem 2, to draw a squ in perspective; Problem 3, to draw a pavem in perspective—the application and importa of this problem to the historical painter." second lecture, to be given on the 10th, treat of "Problem 4, to draw a cube in p spective—its application; Problem 5, to dra parallelopiped in perspective—its applicatio Problem 6, to draw a pyramid; Problem to draw an octagon; Problem 8, to draw a r of houses; Problem 9, to draw a house w roof inclined to the horizon; to draw lines t point which is out of limits of the picture."

Condie's Patent Steam Hammer: An improvement on Mr. Nasmyth's hamm has been patented by Mr. Condie, and introdu at Mr. Dixon's iron works, at Govan, n Glasgow. It has a stroke of 3½ ft., with weight of 41 cwt., and has been constantly work, night and day, since March, and, includi scrap furnaces, has kept, it is said, as many fourteen puddling furnaces in full work duri the whole of that time. The manager decla that "the tool will pay its own cost in the fi year." The framework of this hammer, wh is about 14 ft. high, is not very dissimilar to t of Mr. Nasmyth. Instead, however, of a cyl der standing upon the cross frame at the top the two side bearers, a piston-rod descends fr the head frame. This piston-rod is held b ball and socket joint to the head frame-wo and the cylinder, to the lower end of which attached the ram, moves up and down, s ported by the side frames. The steam is into the cylinder down through the centre the piston-rod. Mr. Condie's hammer is c sidered to be not liable to the same risk breaking by concussion as that of N Nasmyth's, and the cylinder and hamm (measuring together about 6½ ft., with groo in each side), sliding on feathers on the s frames, move throughout almost without os lation.

TENDERS

For the erection of the Birmingham Free Indust Schools. Mr. M. C. W. Orford, architect.

Davis	£2,650
Bradshaw	2,636
Cresswell	2,490
Heathfield	2,465
Branson and Gwyther	2,400
Briggs	2,330
Wilson	2,250
Turner	2,178

For rebuilding a portion of a Villa, at Taplow, Be Mr. Richard Tress, architect.

Brown, College-hill	£2,996
Piper, Bishopsgate	2,850
Herd, Paddington (accepted)	2,525

TO CORRESPONDENTS.

"*Drying Rooms.*"—In reply to our correspondent asks to know the best means of drying wood, a correspo ent wishes us to remind him of the Patent Desiccating C pany's process, which is said to render wood fit for use few days.

"*Bridgewater House.*"—Our arrangements do not per us to comply with the request of "P." at this moment. lices between the corridor and the principal staircase portion of the skylight over. The staircase is lighted wh from the top. The fire-places in gallery are as shewn.

"*C. Z.*"—The profit (say 20 *per cent.*) is added to cost.

"*B. W.*" (Bristol).—Apply to secretary of Society of A John-street, Adelphi.

"*Delta.*"—Apply to the manufacturers themselves.

"*Site for the Arch.*"—For half a dozen suggestions this subject we have not room.

"*R. S. D.*"—We cannot say anything of the inventio question.

"*Correspondent.*"—The duty is 5s. 10d. per thousand

"*W. H.*"—Stone may be porous, yet very hard.

"*Received.*"—"J. P." "X. Y. Z.," "C. B.," "R H." (thanks: we did without), "E. F.," "L. and R "Monsieur H. de G.," "W. H.," "W. J." (apply to Newlands, Liverpool), "W. S.," "W. H.," "Subscribe London (the medals of the institute are *not* confined members), "J. B.," "J. C.," "T. F. and T." (Mr. Whi address is 9, Lincoln's-Inn Fields), "S. W.," "W. T "Archi," "J. M." (the substance of letter to the Tr appeared in Builder long ago), "S. S. S.," "C. E." have not time to call), "J. G." (a similar plan was s gested in The Builder some time ago), "R. K." (trans

le on a subject in hand, but *w'importe*), "A. B.," "G. ," "Constant Subscriber" (there is, or was, one of the indices, so to call it, at the Society of Arts, Adelphi), Youngster" (apply to 19, Hanover-square, London), Y. Z." (ditto), "J. M·D." (ditto), "Working School" are unable to recommend a school), "Rev. J. L. P.," M.," "Subscriber," "M. A. A.," "J. M." (a remis- of the duties may be obtained: the committee are en- k to the advantage), "Ingenieur," "J. H." (declined thanks), "W. C. F." (steeping in lime water, or ting with oil is considered useful), "W. C." (there are rbitrary proportions), "S. E. P." (Peel's Coffee-house, Fleet-street, or the Hall of Commerce), "Aliquis" (next week).—"Contractors' and Builders' Pocket Guide," by E. V. Gardner, second edition (Trelawney and Saunders); "Is Cholera Contagious or not?" by W. Read, M.D. (London, Highley); "The Westminster Review," "Blackwood," "Anglo-Jewish Magazine," "Dolman's," "Man in the Moon," "Milner's Atlas of Astronomy" (part 6); "Companion to the Builder's Friend, by Henry Fitzgerald, being the last List of Sawyers' Prices of Work, as agreed between Masters and Men in London" (Purdy, Yarmouth).

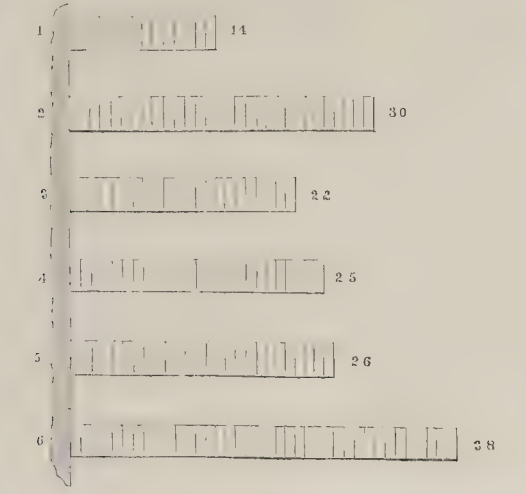
"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

[Advertisement.]

THE STRENGTH OF PORTLAND CEMENT.

ESSRS. ROBINS, ASPDIN and Company an- nce the result of the *public experiments* made their Portland Cement, in the presence of many essional and scientific gentlemen, at Scotland-yard, on Monday, the 18th ult., and by adjournment at Messrs. Robinson and Sons (late Bramah and Robinson), engineers, Pimlico, on Tuesday, the 26th ult.

First Series of Trials.



o. 1. All Cement.—14 bricks bore a weight of t. for some minutes, a small additional weight g added, broke in the brick.

o. 2. 1 Cement to 1 Sand.—30 bricks, with . weight on the last brick, stood till 7 lb. ht added, when the bricks broke in three places.

o. 3. 1 Cement, 2 Sand.—22 bricks, broke in bricks, after weights to the amount of 168 lbs. on the 22nd brick.

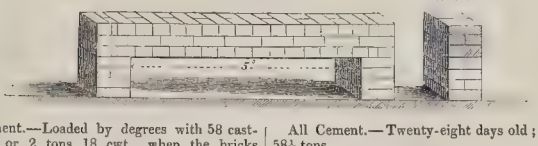
No. 4. 1 Cement, 4 Sand.—25 bricks, sustained 56 lb. on the 25th brick till brick broke.

No. 5. 1 Cement, 5 Sand.—26 bricks, 56 lb. put on the 26th brick, stood 15 minutes, the weight increased to 74 lb., when a brick broke, with slight accidental pressure.

No. 6. All Cement.—38 bricks, with weight on 38th, equal in all to 40 bricks, broke in the brick, with small additional weight.

Second.

Brick beam, three courses deep, tested on 27th day after formation.



ll Cement.—Loaded by degrees with 58 cast- bars, or 2 tons 18 cwt., when the bricks ke across in two places. A fragment picked up isted of a splinter from four bricks, with the ent like stone, combining them in a cruciform e.

Cement, 3 Sand.—Split partially in the bricks er a weight of 47 cwt., but did not break down struck repeatedly with a sledge hammer.

Cement, 5 Sand.—Weight on the beam 31 cwt.

Cement, 6 Sand.—Weight on the beam 24 cwt., roke in six out of nine bricks, having been acci- ally struck.

Third.

wo pieces of the best Portland stone, united Portland Cement, the stones being 2 feet long 9 inches broad in superficies, having been ented together for twenty-eight days, the whole g on a bearing 3 feet 6 inches across, between pairs of dogs or nippers, with a weight scale w, in an elevation of 11 feet in height.

he stone scaled and broke under a weight of cwt., the lower stone leaving the cement nearly re, with a stony scaling over its surface above.

ourth, tested by Bramah's Hydraulic Press.

small piece of *Pure Cement*, 1½ inch surface by ch, six months old, and laid on its inch surface, stood pressure till partially crushed at 18 tons rt.

small piece of *Portland stone* of the same size, hed under a pressure of 23 cwt.

locks of cement and cement and sand.

8 inches long × 9 × 9 inches, placed vertically. All Cement.—Twenty-eight days old; pressure, 58½ tons.

1 Cement, 1 Sand.—Do.; pressure, 47 tons.

The hydraulic press not being powerful enough to test the strength of the pure cement and its slighter mixture with sand, the meeting was adjourned till the 26th ult., when one of the previous blocks, all cement, then thirty-five days old, bore a pressure of 68 tons, when it cracked at one angle, but ultimately bore a pressure of 90 tons previous to its breaking down.

An exactly similar block bore 104 tons.

Another block of the same size and age, bore a pressure of *one hundred and forty-one tons*, and stood under such pressure upwards of a minute, when it broke up with a report!!

The block, 1 cement and 1 sand, previously submitted to a pressure of 47 tons, now cracked or severed in the centre at that pressure: the two pieces ultimately bore a pressure of 108 tons before breaking down, the form of the crack not altering.

Certificates, signed by many highly respectable professional and scientific gentlemen present at the trials, may be seen at the Counting-houses, Great Scotland-yard, Whitehall.

Messrs. Robins, Aspdin, and Company submit the foregoing experiments and tests to the public, without deeming it necessary to make any comment or observations beyond referring them to the experiments on the strength of cements, published in THE BUILDER on the 15th and 22d days of July last, by comparison with which the great superiority of Robins, Aspdin, and Company's Portland Cement will be manifest and apparent.

ADVERTISEMENTS.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls, Capitals, Bases, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price. 25, Providence-row, Finsbury square, from Albion Wharf, Blackfriars-bridge.

TO BUILDERS, ARCHITECTS, AND THE TRADE
WROUGHT-IRON LANCASHIRE HINGES of every description supplied at the lowest prices by JOHN SUMNER, Hinge Manufacturer, Ashton, near Warrington.
*** Lists of prices forwarded on application.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, Keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

TO BUILDERS AND OTHERS.
RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sink and stable traps and gratings, air bricks, close and open coal plates, scrapers, tile lights, balcony panels, barrow wheels, &c. GAS and WATER-PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, with all the usual connexions. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. —Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.
Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, 6 Sewell mews, Goswell-road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

GALVANIZED IRON FOR ROOFING, &c. The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, calculating weight and strength. This fire-proof material has been used for roofing the new Houses of Parliament, shipbuilding and timber sheds in her Majesty's dock-yards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No 4, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

TO ARCHITECTS AND BUILDERS.
CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, allowing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's churchyard, London.

PRO BONO PUBLICO
CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb, LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for numerous purposes, STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.
LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong-room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors with ventilating gates, made expressly for a banker's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabitted frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 10£ each, always on hand at LEADBEATER'S MANUFACTORY, 95, ALDERSGATE-STREET, LONDON.

REDUCED PRICES.

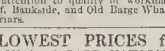
WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.— T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms SEASONED FLOORING and MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in Planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

MAHOGANY.—Twenty Thousand Pounds' worth of dry HONDURAS and SPANISH MAHOGANY and WAINSCOT always on hand, suitable for Builders, Pianoforte Manufacturers, Cabinet and Coachmakers, Railway Contractors, and all persons requiring well-seasoned materials at moderate prices, at PLUMBE'S Timber Yard, 13, Greek-street, Soho.—T. C. WILSON adopts this mode of informing the public where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, where upon working the same it has proved otherwise.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work patent, or for further information, address, post-paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street, No. 1, GRACECHURCH-STREET, CITY.

COOZE'S IMPROVED MARBLE PAPERS. The Trade are supplied with these beautiful Papers, which are the sole invention of W. W. COOZE, Decorator to her Majesty. They will be found fully equal, in effect, to painting, and a considerable saving of expense. W. W. C. invites an inspection at his Manufactory, 39, Frith-street, Soho-square, where also may be seen designs of every style of decoration, which are executed on the most economic terms. Contracts taken and work immediately put to any part of the United Kingdom.—39, Frith-street, Soho-square.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Establishment, 29, County years W. CROSBY, 29, Lowther Arcade, Charing Cross.

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E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above—451, Oxford-street.

TO BRICKMAKERS, POTTERS, AND LIMEBURNERS.

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in a third the usual time, thereby enabling the Manufacturer, from the great saving of both Fuel and Labour, to supply to the Consumer at a considerably Reduced Price, and realise a Larger Profit himself. Particulars may be obtained by application to Mr. CHARLES J. BAKER, 18, Lower Brook-street, Grosvenor-square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

FIRE BRICKS, LUMPS, QUARRIES, &c., from the celebrated WORTLEY BED of CLAY, near Leeds, a range of which may now be seen at the Cash Stone Wharf, Rotherhithe, are supplied in Yorkshire, Lancashire, Derbyshire, &c., by some of the principal gas, iron, and glass works, and the proprietors have no doubt but they can supply them on such terms as London, Liverpool, and Manchester parties are using such articles. The bricks, &c., can be seen, and every information as to price, &c., obtained, by applying to SAMUEL COOPER, Cash Stone Wharf, Rotherhithe, or to the Farnley Iron Works, near Leeds, Yorkshire.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers. Stock Bricks, Whilder Bricks, Oven Tiles, Pan, Plain, Ridge, and Valley Tiles, Paving Tiles, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, Tiles in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tile-ends, &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT. Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney pots of every pattern.

ROMAN CEMENT.—Great complaints having been made of the inferior quality of some descriptions of Roman Cement, which for some time have been offered to the Building public, Contractors, &c., THOMAS FREEN and Co. beg to assure Architects, Surveyors, Contractors, Builders, &c., that the CEMENT manufactured by them continues in every respect the same as that produced at their Works during the last five-and-twenty years, and can, consequently, be warranted of the best quality.—Roman Cement Works, Canal road, Kingsland-road.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a valuable and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements. These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for uniting the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufactory, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely Manufac- tured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their permanence, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shown by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 23, Steel-yard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or blister in any degree. The fine quality will incorporate with the most delicate colours; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishments. So perfect are its setting or crystalizing properties, that the coarse quality, when applied to newly-built or damp walls, may be immediately polished, painted, or papered; and it will be rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT. REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a greatly reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal work. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball, near Bridgwater.—The Proprietor of these Works begs to inform the public that he is now enabled to supply them with an unlimited quantity of the above Cements, and that the Bath and Portland will be found to resemble those celebrated stones both in colour and durability. They are recommended as being superior to all others, for the following reasons:—Being made of Inland Stone (and not dredged from the sea as stone for Roman is), they are not impregnated with salt, therefore never vegetate or turn green (a fault so generally complained of with Roman), they take a much larger quantity of sand than other cements, and, consequently, labour is off, and will be found even preferable to stone. They are perfectly Hydraulic, and will set under water in a few minutes; as an external Stucco they are hard as stone, impervious of water, and not affected by frost or heat; they improve both in texture and durability, and retain neither paint nor colour to make them resemble the best Bath and Portland stone, or any other mixture being required than common sand. When used as an internal Stucco for walls, staircases, passages, &c., the Bath and Portland Cements may if required be trowelled up to the most equal to marble, or may be painted or papered on in a few days. The IMPROVED ROMAN CEMENT is made of the same kind of material, and will be found to possess all the qualities of Bath and Portland, except that of colour); it is cheaper, and in every respect better than any previously offered to the public, and only requires one trial to be appreciated.

A stock of those Cements, as well as Blue Lias Lime ground for concrete, always on hand, which may be had at BOARD'S Depot Stone-yard, Paddington Basin, and of the following Agents—viz., Mr. R. Creft, Surrey-street, Kent-square, Liverpool; Mr. Baker, 78, Dirgbeth, Birmingham; Mr. Furze, Hotwells-road, Bristol; Messrs. Todhill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay, Bath; Mr. Grimsly, Oxford; Messrs. Charles, Reading; Mr. Thos. George, Windsor; Mr. Burnham, Taunton; Mr. Tackett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. Southam and Evans, Gloucester.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly 8 years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence.—Orders to be addressed to Mr. B. TODD, Patentee, 83, Dean street Soho, London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-mouldings, Paterae, &c., &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-Front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-st., Drury-lane.

CHEAP ORNAMENTAL GLASS.—I to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which execute orders, I am enabled to reduce my former prices consi ably. The prices are now from ONE SHILLING PER FOOT r and borders from SIXPENCE PER FOOT RUN. A large q tity of the cheapest patterns always in stock. Embossing painted work on the most moderate terms.—CHARLES H No. 1, King-street, Bakers-street, Portman-square. Cash only.

E. & W. H. JACKSON beg to call attention of builders to the reduced prices of their PAT PLATE GLASS, which, from its cheapness, is now superse Crown in all respectable dwelling-houses. BRITISH and RO PLATE, CROWN, SHEET, and ORNAMENTAL GLASS plied at the lowest terms.—Lists of prices, and every informa can be had on application at their warehouse, 315, Oxford-stre

PATENT PLATE GLASS.—HETL and CO. beg to inform Architects, Builders, and the T generally, that their new Tariff of PRICES for the above is ready, and will be forwarded on application. A REDUCTIO about 40 per cent. has been made on the usual Glazing si Sheet, Crown, and Ornamental Window Glass Warehouse, Soho-square, London.—ROUGH PLATE GLASS.

WINDOW GLASS.—JAMES PHILLI and Co. begs to inform the trade and consumers he h large STOCK of SHEET GLASS of superior quality on h which he will supply in cases containing 3 to 4 of sizes, a 4 to 20, at 42s. 6d. per case—delivered free in any part of Lon Address, 116, Bishopsgate-street Without.

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WINDOW-GLASS, VARNIS COLOURS, and PLUMBERS' BRASS-WORK. THOS. MILLINGTON, 87, Bishopsgate-street Without, Lon begs to inform the Trade, and consumers generally, that he is plying the above articles of the best materials and upon the lo terms for cash.

CROWN SHEET and PLATE GLASS, in any quan VARNISH: fine Oak or Walnut, 10s; Carriage, 12s per gall White Lead, 27s., and Colours and Brushes; Water Closets c plete, 30s.; Lifting Pumps and Cocks of every description.

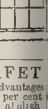
Milk Pans; Propagating, Bee, and Cucumber Glasses; Pa hangings from 1s. per piece upwards, of very superior descripti

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MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



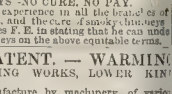
HERRING'S PATENT SAFET WINDOW. No invention ever offered the advantages builders and the public; it will positively add 5 to 10 per cent all houses having it; repay the cost every two years; at obsh danger to life and limb, cleaning and repairing. It is in full o ration (four different ways), forms a complete ventilator and w blind; all simple, cheap, and effective.—Apply for liscences, and inspect its real merits, to HERRING'S Patent Steam Bell-Pull Factory, 14, Kingsgate-street, London.



GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Val- VENTILATORS, supplied at a reduction of 40 per ce from the original Tariff. Their extensive and successful appli tion to public offices, bed-rooms, and the cure of smokey chimne prove their great value. Glass of every tint at wholes prices. Designs and estimates for church and ornamental windo forwarded on application to EDWARD BAILLIE, Glass Paint Stainer, and Embosser, 20, Cumberland Market, Regent's-pa London, where specimens are to be seen.

DR. ARNOTT'S CHIM- NEY VENTILATOR.



F. EDWARDS, Stove Maker to her Majesty, 42, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters, and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 35s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of stove manufacturing business, and the cure of smoky chimneys every description, fully justifies F. E. in stating that he can undo take the cure of any chimney on the above equitable terms.

WALKER'S PATENT. — WARMIN and VENTILATING WORKS, LOWER KIN STREET, MANCHESTER.

Established for the manufacture by machinery, of variou descriptions of approved apparatus for warming and ventilating a kinds of buildings by STEAM, HOT WATER, and WAR AIR, and for the economical application of heat generally t manufacturing and domestic purposes.—The proprietor havin been one of the most extensive practical practice of this art various parts of the kingdom, and reduced it to certain and acc rate data, and feeling satisfied, from the frequency of failure warming and ventilating, that there exists a field for the operation of properly qualified persons, is prepared to undertake works this kind, on the principle of guaranteeing any required temper nature and quantity of ventilation. Drying rooms a stoves heated, where required, up to 300 deg. Fahrenheit, and dr ing operations generally planned and executed on improved pri ciples. Having also branched more intensively to reducing the e pense and cumbrous nature of ventilating arrangements, he solici public notice to the following highly useful, compact, and wel tried inventions.

Walker's Patent HEAT-BOXES. Portable SELF-FEEDIN BOILERS, improved SCREW-WARMING and VENTILATIN MACHINES, PANNAM STOVES, for PUBLIC and oth WARM AIR STOVES. Portable Steam-Engines of useful size with cylinders or tubular boiler.

Correspondence and specifications sent to any part of the country. Reference to numbers of public institutions, churches, nobility and gentry architects, manufacturers, &c., throughout England, Ireland, Sco land, and Wales.

COMPOSITIONS for WRITING wit STEEL PENS.—STEPHENS'S WRITING FLUID compose the most splendid and durable inkours, and the most indelible composition which art can produce; they consist of BLUE FLUID, changing into an intense black colour. PATEN UNCHANGEABLE BLUE LIQUIDS, remaining a deep blu colour. Two sorts are prepared, a light and dark blue. A superio BLACK INK, of the common character, but more fluid. A superio CARMINE RED, for contrast writing. A liquid ROUG CARMINE, for artists and contrast writing, in glass bottles. carbonaceous RECORD INK, which writes instantly black, an being proof against any chemical agent, is most valuable in the prevention of frauds. A liquid MECHANICAL and ARCHI TECTURAL DRAWING INK, superior to Indian ink. Marking inks for linen, steel steel pens, inkholders. Prepared by the inventor, HENRY STEPHENS, 63, Stamford-street, Blackfriars and sold by booksellers and stationers everywhere, in bottles, a 1d., 2d., 3d., 6d., 1s., and 3s.

The Builder.

No. CCXCVII.

SATURDAY, OCTOBER 14, 1848.

PURSUING our observations on the building-stone of Caen and its neighbourhood, it seems desirable, while repeating our caution against the use, exterally, of the bottom bed—the *franc-banc*—hat we should mention the opinions of some f the merchants who are disposed to find ther reasons for the occasional failure of the one rather than admit that they ship stone hich must almost certainly decay. One onsidered that it was the stone which came om *wet* quarries, quarries to which the water ained access, that decomposed when exosed to the action of the weather; and a econd maintained stoutly that the bottom bed as as good as the others,—that the stone om it was always chosen by the builders in ngland (without knowing any thing about s position in the quarry of course), and that hen Caen stone failed, it was an evidence hat the *sea-water* had been over it. To keep ack the bottom bed they thought was out of e question, as they would in that case be bliged to charge a greater price for the stone ey did sell.

We are not prepared to assent to these inions, especially as the whole tenor of their nversation shewed clearly (notwithstanding ey would not admit it in words) that they d little real faith in the durability of the ttom bed.

The injurious effect of sea-water on stone s been often urged, but has few believers at is time. The failure of the stone in Blackiars-bridge was ascribed to the action of seater; but recent inquirers have found more kely causes in examining the position whence e stone was taken. In Portland, Mr. Smith lls us, there is a bath formed of Portland one, which has been there, partly immersed the sea, for forty or fifty years, and of which e stone is quite sound.

Bad stone would probably be injured by seater, but we are not disposed to think that od sound stone would be. At all events, in spect of its being the sole cause of the decay Caen stone, the opinion is not tenable an instant; there being much of the stone ed in modern times in the immediate locality hich is in a bad state.

The fact that when the early churches in en were built, the masons probably restricted emselves for a supply of stone to the upper ds, not desiring large blocks, as they had t rude means for raising them, may go some y towards explaining the good state in hich much of the masonry remains both ere and in England where it was used.

The difference to be observed, looking at ne of the modern buildings, between parts of e structure is very striking. At one of the ard-houses, for example, perhaps fifty years l, while the majority of the columns are nd and perfect, two or three of them are neycombed all over, and fast falling to n.

Amongst the older modern buildings which m to have stood well, is that appropriated the law courts, built perhaps seventy years ago, and which is now in the course of repair. The large Ionic portico and remainder of the entrance front have been scraped, and probably repaired, and looks the same as new. The columns of this portico have a curiously ugly effect, in consequence of the "swell" given to them, which renders them larger in their diameter at about one-fourth of their height from the ground than they are at the bottom: they look like gigantic skittles or attenuated water-butts.*

In some even more recent buildings, where care was used, the stone looks very beautiful. An instance of its differing durability presented itself to us in the churchyard of the ancient church of *La Haute Allemagne*, close to the quarries, where we found some of the tombstones, dated 1833, much decayed, while others, marked 1814, were as perfect in all their lines as when first cut; and these not more so than some parts of the tower of the church (the only part of the original edifice remaining, restorers having been at work), which, although 700 years old, appear quite sound.

We observed here and elsewhere that the stone from the *franc-banc* is used not merely for mangers, troughs, and other purposes, but is preferred by the local builders for quoinstones and window-dressings, because it is softer; and speedy decay, the certain result, is not considered by *them* a vital objection!

As we have already said, when the Caen stone is cut up and dry, it is scarcely possible to say what bed it is from, although when first quarried or thoroughly wetted, the bottom bed is easily to be distinguished; and we may add to our remarks in the last paper under this head, that the stone from that part of the quarry has then a *soapy* feel, hangs to the rasp when scraped, and is sometimes redder in grain.

The consumer, in England, is necessarily to a great extent at the mercy of the merchants who supply it: it is necessary for the latter, if they would maintain the market, to use the greatest care, and to justify the confidence which must per-force be placed in them.

We must not have it inferred from what has been said, that none of the stone from the best beds decays: we are not by any means in a position to say so: indeed it is more than likely that there may be defective stone at times in each of the beds, but we have no reason to doubt that much of it is an admirable and lasting material.

Further, there are particular positions in which it is more liable to decay than in others. Thus in several buildings we observed that the Caen stone immediately on the plinth was decomposed, while in all other parts it was sound. This may result either from the retention of moisture in the bottom course by the harder and less absorbent stone employed for the plinth beneath, or by the splashing up of the rain-water from the projecting stone. The same effect is sometimes observable at the same point in brick buildings with a stone plinth.

The stone occasionally used for plinths of buildings where the *Allemagne* stone is used above, as, for example, at the *Havre* Museum, described in a previous paper, is from

THE RANVILLE QUARRIES,

a few miles off,—a stone which is, however, chiefly used for water-works, for which purpose it is said to endure well.

These quarries are seen on the *left* bank of the Orne, when going up that river towards Caen, five or six miles perhaps from that city. They are opened in the face of the cliff, 18 or 20 feet from the surface; have loose and friable beds at top, and yield, apparently, but a small quantity of good stone. The beds are level. Judging from the quantity of *débris* lying about, it would seem that these quarries are ancient, and have been worked many years: they extend perhaps half a mile along the banks.

The material is a coarse-grained highly-chrystalline limestone, which may have been oolitic, and that which comes from the *good* beds seems well calculated to endure. The quay walls at *Havre* are faced with it, and appear to stand well. We understood that a quantity of it had been sent to Dover for the Government works now going on there; but it was thought in Caen not to be a good specimen. There is a considerable difference in the stone from different parts of the same quarry.

It appears to be a general rule, though not without exceptions, that the *coarse-grained* limestones and oolites will stand the weather better than those with finer grain; while in the case of sandstones the reverse is thought to be the case,—those of the finest grain lasting the longest. We shall shortly lay before our readers an account of the *Aubigny Quarries*, near *Falaise*, which produce what appears to be an excellent stone, and is now being brought into the market.

In the present and the previous papers we have laid before our readers some general observations on the building stone of Caen, but we are prepared, and hope, to do something more than this. When in the quarries, we marked on the untouched rock certain portions of each bed, saw them removed from their position, and shipped for England. These specimens, to the extent of some tons in weight, are now in our hands, and we propose, in conjunction with Mr. Smith, whose added experience will ensure accuracy, to subject them to a series of experiments, both chemical and mechanical, and lay the results before the public. To carry these out thoroughly and carefully will of course require time, but none will be lost.

George Godwin.

* We measured the diameter of one of these columns, and found it 11 feet 3¼ inches at the bottom, while at one-fourth its height from the ground it is 11 feet 8 inches.

THE STORY OF BUILDING.

It was a long time ago, and we can hardly judge of it, when man first began to build. He pulled down branches one day, perhaps, and set them up against a rock-side, or around the parent trunk, and covered them with twigs and leaves, and crept in under for rude shelter, and thus began to build. Not barbarously though, perhaps,—for he *learnt* barbarism afterwards,—sank into the Indian of America, the South Sea islander, the rootdigger and bushman of the Cape, by gradual influences not yet begun. He was still doubtless in the balmy East; he had the spreading shadow of the forest for noonday shade, and for cover from the rain—store for a few fruits—shelter, perhaps, if he were luxurious, from the night dew in his sleep—he had built himself a house and home.

Presently his sons ranged abroad, emigrated, spread around into other districts of the earth, and founded the small beginnings of the nations. Their diversity was greater now than before. Different climate, different life, different circumstances in every way, formed and moulded them in difference. Now some theorists would have us think that still their houses and homes would be the same,—the old pattern of their father in the eastern garden alike in the sultry south and the cold tempestuous north, in the luxuriance of the forest and amongst the barren stones of the mountains. Innovation, they tell us, must be

accident, or spring out of old patterns by self-evolution and spontaneous growth. So far true, doubtless, that Ham in Ethiopia and Japhet in Gothland might, equally with Shem, who settled beside his father at home, think first of the old home-pattern for everything else as well as his house: but with different sky overhead and different earth underfoot and different things around in every shape, that which formed the old pattern for the old home now formed a new one for the new; and the different nations built different houses for themselves. The hunter and the shepherd drove stakes into the ground, and covered them with skins, and tied them with thongs; the cultivator in the north piled up a grotto of stones; the dweller in the marsh wove wattle-work of canes, and coated it with mud.

The several buildings of the nations having been thus originated, as men advanced in ingenuity their houses increased in contrivance. Tools were invented and crafts learned; and the story of building progressed step by step with constant improvement. But all this history is among the unrecorded history of the world, and we lose it, and must take it up again where records begin,—although the loss is perhaps of no mighty moment either, as the story is simply this,—that for their chief and lasting material the foremost in building at length adopted *stones;* and ingenuity found means for hewing them from the rock, shaping them with tools, building them up in structure, and even carving them in ornament. How much of this had been done before the works which still stand as memorials and first examples for our history, of course we can only guess at; and if we would (as it is our purpose to do) inquire into the spirit of the practice of various times,—the right and wrong, better and worse, of their building,—we can commence practically only with the commencement of definite record, and turn to Egypt and India.

By this time men had multiplied into myriads, and had been tossed about by the troublous agencies of rude humanity, till they had gathered themselves into governments, and constructed schemes of law and order, and constituted dignities and rule, and formed national interests and aims and purposes. Otherwise no structures of theirs could have lived throughout so many centuries as to our day. But live they do, and in magnitude and vastness of patient labour enough to startle the mind and to proclaim them as the work, not of uncultivated or barbarian men, but of mighty peoples, well advanced in practised ingenuity and studied wisdom of the mind.

In early philosophies these two agencies—the truthful thinking of the mind untrammelled, and the feeble thinking of the mind too much restricted to individual resources—combine to produce a species of powerful thought and simple wisdom, self-involved all the while in superstitious faith and misleading fancy, which is so different from the system in which we live at the present day—of truth, by the mere discovery of error, and error through established traditional educational obliquity of judgment—that we can hardly form a proper estimate of the spirit of ancient nations at all. The expositor and guiding teacher of our day, in almost every branch of knowledge, is the old-fashioned man,—he who carries in his heart and soul simply traditions—the institutions of his fathers, the *dicta* of their records and remains, most filial reverence for their venerable ways. And although the self-important soothsayer of old Egypt, musing moodily over a fable as he stalked among the reverential crowd, might seem not much removed in practical influence from the spirit of our old-fashioned man, yet we shall find that the ancient teacher, weak and consequential as he was, was perhaps less doggedly preventive of progress than is the modern; and, half-seeing, as he must have been, was perhaps less obstinately dull of sight. What are the differences of influence between the ancient spirit and the modern we need not care to inquire, till we come to look into the peculiar weaknesses of the modern; in the meantime we shall inquire into the strength and vigour of the ancient, and we shall find peculiarities there which it will be useful to trace. For the strength and vigour of the ancient is more positive,—that of the modern, more negative; the ancient weaknesses are more negative—want of light, not blindness,—the modern weaknesses more positive. The modern disciplinarian is a dutiful son teaching children,—the ancient disciplinarian was a father teaching men.

Therefore, in the building of the ancient nations—the Hindoos, the Egyptians, the Persians, and (judging from what record we possess of their works) the Jews—we observe, in the midst of all that which we call rudeness and crudity, and notwithstanding the similarity which circumstances produced in their systems, a boldness and originality of fancy which causes us only to regret that their record is so imperfect. Be assured that they were mighty thinkers—the wise men of that old day,—in spite of their fetishism and astrology and omen-seeking, men in real original comprehension of pure truth beyond our reach,—their weaknesses the wants of opening life, our strength the mere experience of age,—their strength the vigour of youth, our weakness the feebleness of dotage.

The building of the great Assyrians, and several other nations of those ages, seems to be utterly without memorial,—perhaps from the destructiveness of war; and the works of those nations of whom memorials are extant—in India, Egypt, and Persia,—together with those of the Jews, from the idea we are able to form of them from the description of the temple—sufficiently clear to be reconcileable with the idiosyncracy of the family,—these works, although possessed of strongly marked distinctive features of original conception, are still, so far as our present history is concerned, to be taken as one class and step in building.

The material here is *stone*. The common edifices of these nations, we are reasonably allowed to think, were of some wood construction, upon the analogy of the accounts of building operations given throughout the Old Testament writings; but what were the principles followed we are quite unable particularly to ascertain, as no remains of such building exist, even in description. The imperishable stone, however, of the temples of Egypt and India is a perfect record, and in these we have our earliest specimens of the great building works of man.

It is folly to teach that architecture sprang from religious feeling—that churches are its noblest means of art—that nothing else is truly worthy of its name, and so forth; but it is undoubtedly true that, with those old nations, it was in their temples to divinity that their skill was most powerfully exerted, and all the resources of the mind most fully brought into requisition. The sentiment of religious veneration was the strongest of which the human mind was then possessed. And this, notwithstanding all the bloodshed and tyranny of those times, for the reason simply that their religion was based on different principles from ours. To build a house to Deity must have been a work always of great virtue, and not to be lightly undertaken or slightingly performed; but to raise a mighty temple, like those of Thebes, in world-enduring stone, was a purpose to inspirit a generation and spread wonder and envy through the world.

And we must not forget their tombs. Next to the mightiness of the temple of Deity, came the solemn grandeur of the mausoleum of the dead. Great men and heroes died and were buried, and venerating worshippers built over them everlasting monuments. And kings, too, built mausoleums for themselves; and put forth their utmost power, while they lived, to secure the utmost perpetuation of their fame when they should be dead. The poor man raised over the grave of his son a carved and painted post, commended it to the care of the unseen agencies, and had thus recorded for an age his honour of the departed; but Pharaoh brought ten thousand slaves, and built a pyramid or hewed a vast cavern in the mountain, and set up images and carved pompous inscriptions, and ordained that a nation should follow him to burial and seal up the mighty tomb, for the opening of astonished men when thousands of years had gone by.

No less exalted sentiments than these could account for the stupendous ruins we behold. We turn, then, to examine the spirit of their building.

The material may be taken, then, as simply stone (what brick structure remains is quite insignificant), and the principles evolved are worthy of study. Some antiquaries appear to think that the edifices or works more properly *built*, succeeded and were moulded after the cavern works, or those more properly *excavated*,—that these ancient builders of Egypt and India formed their first temples and tombs as excavations in the rock, and built their structural temples and tombs at an after date, and followed the old excavational model. But this is only another manifestation of our old enemy, the prejudice against human ingenuity. If such had been their mode of operation, we should not have had it to say, as we have it to say, that their principles were worthy of study, but quite the reverse. A cavern dug out of the solid rock, and a house built up of stones, are things of very widely different principles; and to say that these ancients knew no better than to build up their houses of stone after the model of the caves their fathers hewed out of the mountain, however consistent such procedure would be with the spirit of modern fancy, is a libel. More likely it is that they were somewhat to blame in copying in their excavation-works the forms of their building-work, as we may observe in the larger cavern temples in the straight lintel and flat ceiling, and the too *column*-like pier; and it is, of course, no argument to tell us how manifestly, if it be so, the caverns are all more ancient than the buildings,—because we can reply that there have been previous buildings of which no trace remains. The massiveness of their building work, which in some eyes seems deducible from an imitation of the cavern work, is properly to be referred to the simplicity of their mind, their small experience, and their purpose of mightiness and enduring strength. If their building had been fashioned on a cavern model, we should have seen a ponderous gothic, with heavy vaults and huge buttresses. Instead of this, however, the style of building is exactly in accordance with the principles of the material, large stone, courts of great columns, and great walls, with great lintel work of small span.

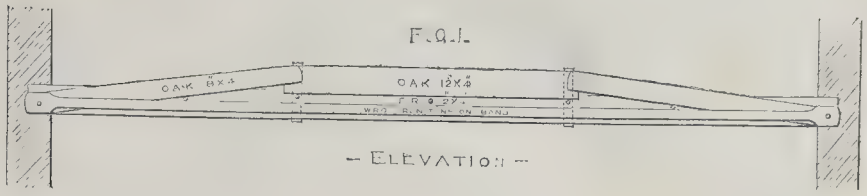
The same unbelievers in man's intellectuality, of whose theories we have already complained, tell us again that the Egyptian principle of the inclining wall is copied from the pyramids. And in this they would deprive us of a feature of excellence and characteristic spirit which we ought to be allowed particularly to set down to the credit of these old architects. Those of us who have never visited the Nile, if we can divest our minds of the Piccadilly specimen, and paint in the fancy the full effect of such a structure as that of Apolinopolis Magna, will give to the inclining wall the merit of one of its best principles of simple structural beauty. If anticipation be admitted in our history, let us observe that the mediæval architects possessed it in another form, and relied upon it as a grand part of their system; and even in almost the same form in such a case as the simple round tower of the early churches, and the towers of their castellated structures. In the works of the classic styles also, and in the Italian sometimes, it is equally present. So that we must not say that the old Egyptians copied it from the accident of their pyramids, but give them the honest credit of an excellent principle which later builders equally approved after them, and which it is worth our while to study for our own improvement, happening to be deficient therein.

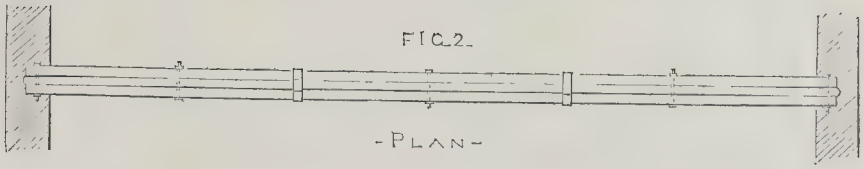
Still, however, this principle in the Egyptian works, in its fullness and precise management, is quite different from the others we have mentioned. It is a broad-based, bold, strong principle, in particular force, imparting to the structure its broad-based, bold, strong character, with a virtue peculiar to those buildings beyond all buildings of the after world, as the mind of man itself seems to have been more simply massive in its vigour in these old days than ever since.

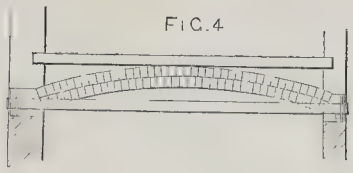
The direct result of the manner of building under review is grandeur in magnitude and simplicity; and the details of structure and decoration were calculated fully to carry it out. The enrichment, in the best works, was simple and severe, rude in design, merely because design was in its infancy; but, although often without principle, seldom averse to truth.

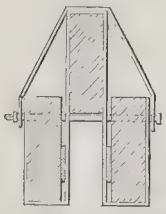
In the late works of the period—chiefly in Persia and India, when more of luxury and refinement had crept into the habits of the people—more of endeavour after elegance is observable, and more enrichment and intricacy

GIRDERS AND ARCHES AT MIDDLESEX HOSPITAL.



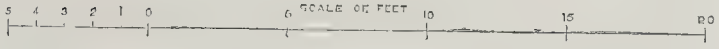






TRANSVERSE SECTION OF C.PORT
½ IN TO A FOOT

W.D.C. C.D.L.Sc.



id thus, the infancy of design being not yet rmounted, the greater demand upon the practised fancy produced the result of more equent aberration, and there is more to con- mn than in the earlier works, and perhaps ss to praise: a story this, which has often be told in many forms, in all histories, as ll as ours; for in nothing is the vigour of e prime of life allowed to last, or the fresh- ss of summer to have no end, but always d age and weakness—autumn and the sere d yellow leaf—lead inevitably on to the nb and winter of the world.* K.

Electro-Telegraphic.—An experiment s lately made at Manchester by Mr. Cox, perintendent of the Electric Telegraph Com- ny, as to the practicability of passing electric rrents along covered wires under water. The re was of copper, wrapped with cotton, and en passed through shellac, and coated outside h India-rubber (cold naptha being used to nent the latter). A portion of the wire, in- ding a coil of about half a mile in length, s submerged in the river Irwell. Communi- ions were passed along with the ordinary ility. —— A new Metropolitan Telegraph mpany has been announced, under the name the General Telegraph Company.

Peat Tiles.—A description of tile is being nufactured for the use of his estates by Mr. ason, of Corwar, consisting entirely of peat, d cut out of the moss by an instrument for purpose.

* To be continued.

NOVEL GIRDERS AT MIDDLESEX HOSPITAL.

Very considerable additions and alterations, at a large cost, are being made at Middlesex Hospital. In the course of the works some girders have been put up, the arrangement of a working man, J. Alderson, which deserve illustration. The main point in the arrangement is the introduction of a continuous thin wrought-iron tension band, as shown by the annexed elevation, plan, and transverse section. The truss is formed of oak, secured at the foot to the tension band, and has at each side a flitch of deal 12 inches by 4 inches, the whole very ingeniously strapped and bolted together. The span of the girder represented is 27 feet 6 inches, and the height of it in the centre 22 inches.

We are told that they were tested by means of the hydraulic press. When the pressure was raised to 9 tons 2 cwt., the deflection was 1⅛ inches. The pressure being taken off, they sprang back to their position.

The same principle has been applied to brick arches where there is no abutment, and they are intended to carry landings. Two pieces of stone are introduced to form abutments, and these are bound together by a thin wrought-iron band, as shown by the diagram.

Neuber's Washable Water Varnish is intended for maps, drawings, &c., and requires no size or other previous preparation. It appears to answer the purpose very well, and will be found useful.

ARCHITECTURAL ASSOCIATION.

The opening meeting of the session was held on the evening of Friday, October 6th, several gentlemen of eminence in the profession being present. The walls and tables were covered with architectural drawings and sketches. Some beautiful models by Mr. Day, of Southwark, were on the table.

Prof. Donaldson took the chair, and, after the minutes of the previous meeting had been read and confirmed, stated that he had been requested by the late president, Mr. Robert Kerr (who was prevented attending the meeting), to preside over the early part of the proceedings, in order to introduce to the association their new president, Mr. C. Creeke. He experienced great pleasure in observing the progress which the association had made in one year, and had no doubt that it would produce architects of eminence. He had seen exhibitions of drawings by students in France and Italy, but the exhibition of that evening convinced him that English students were able fully to compete with them. He was very glad to see that that carelessness of drawing which was very prevalent a few years ago, existed no longer. He had looked round the rooms, and had seen original designs and delineations of existing remains which shewed that the rising generation of architects possessed a feeling for ancient precedents, an originality of taste, and a power of drawing which were to him peculiarly gratifying. The professor alluded to some botanical studies by Mr. Dwyer, which were hung on the walls, and urged strongly the importance of an acquaintance with nature

for the perfection of art. The productions of the vegetable kingdom were of the greatest value in suggesting new forms for ornamental detail. He had lately heard the tale of Vitruvius, about the origin of the Corinthian capital, treated with greater levity than he thought it should be: as a matter of history the fable was worthless, but the moral was excellent. The professor then vacated the chair to Mr. Creeke, whom he introduced to the association as their future president.

Letters of apology for non-attendance, but expressing their cordial sympathy with the association, were read from Mr. Ferrey, Mr. G. Godwin, and Mr. G. Bailey.

The report of the session 1847-48 was then read to the meeting, shewing very satisfactory advance.

Mr. W. Young then moved the adoption of the report, congratulating the members generally on the promising state of the association with regard to the number of members, and the state of its funds. He called the attention of the visiters to the sketches made in the class of design, which were the production of six months only, and hoped that the association would, in the forthcoming session, memorialise the institute to take into consideration the abuses of architectural competitions, which was a subject of great consequence to the younger members of the profession. He hoped that this society would always look up to the institute with respect, and felt much gratified at seeing several of its members present.

The president stated that Prof. Cockerell had expressed his warm sympathy in the objects of the association, and had only been prevented from attending by an engagement on the continent. The president then delivered an able address, taking for his subject the art-memorials of England, considered as exponents of the spirit of the age in which they were erected, shewing how every structure was a reflection of the minds and dispositions of the men of the days in which they were erected. The same principle was traced through the feudal castles of the Normans, the monkish architecture of the middle ages, and the styles which prevailed subsequent to the reformation. The parallel was brought down to our own time, and the present state of our architectural prospects was touched upon, special reference being made to the practice of adjudication by committees of taste.

Prof. Donaldson thought the paper just read was most suggestive; it was a subject of great practical usefulness. It had been said that the student of zoology, when he finds a tooth, can from it determine the form and structure of the animal to which it belonged: give to the architect an antique memorial, and he will from it describe a whole nation. Chester was a most remarkable city, and so was Coventry, but the men who built Coventry must have been of a more refined class than those who erected Chester. Go to the city of York, and you have a city embattled and fortified, or go further north, to Edinburgh, and you see in the *ancient* portion—the castle and the rock—the characteristics of a hardy, warlike race; and then cast your eye below, and you see *modern* Edinburgh, extending its ramifications over the plain,—a perfect emblem of a busy, plodding, peaceful people.

Mr. Billings expressed himself much pleased with the proceedings of the evening. He was glad to hear that the association purposed to get up an annual architectural exhibition. He felt quite confident in its success if put in practice. He perhaps ought not to grumble at the Royal Academy: he had had seven drawings in last year's exhibition: four were hung near the ceiling, three were placed near the ground; but this was not the worst of it; —his *eighth* drawing had been rejected, although he had sold it next day for thirty guineas: this was surely a fact worth recording. Allusion had been made to modes of getting up drawings: he certainly had a prejudice in favour of skies and landscape, because they showed the connection of the buildings with the surrounding scenery; the Greek skies harmonized admirably with the Greek style, which, when transported into this climate, produced, in his opinion, dead failures. The way in which the Gothic structures harmonized with English hill and valley was worthy of remark.

Mr. C. H. Smith said, that although not an architect, he was a great lover of architecture, and being *stonewise* rather than *otherwise*, he would make a few observations on that material. The structures of the middle ages and the portico of St. Genevieve of Paris, were peculiar examples of large buildings erected with very small stones. Mr. Smith made some very interesting observations on the increased use of iron at the present day, and said that he would be always happy to afford information to any member of the association on subjects within his own province.

Mr. J. W. Papworth made some observations on Saxon architecture, and remarked with reference to the connection between history and art, that art was always at its zenith when commerce was at its highest prosperity, which he illustrated by referring to Athens at the time of Pericles, to Rome, Florence, and France under Louis XIV.—Mr. Scoles, as secretary to the institute, expressed the interest which he felt in the welfare of the society, and his readiness to lend his assistance to the association in anything that they might do with reference to architectural competitions, and to lay before them what the institute had done on the subject.

Mr. Jacob Bell and Mr. Dwyer briefly addressed the meeting; the latter gentleman taking up the theme started by Prof. Donaldson, and urging the importance of the study of botany to the architect. The acanthus had been copied, modified, remodified, and used *usque ad nauseam*, and he hoped the British flower gardens would suggest some new ideas for architectural detail.

LECTURES ON PRINCIPLES AND PRACTICE OF ORNAMENTAL ART.

THE GOVERNMENT SCHOOL OF DESIGN.

On Friday evening in last week Mr. Ralph N. Wornum gave the first of a course of lectures on the History, Principles and Practice of Ornamental Art, and sketched the manner in which he proposes to divide his subject.

Omitting mention of the historical course, we may say that in the *Analytic* course he proposes to treat of the principles and objects of decoration, giving an analysis of the various styles and the motive or sentiment by which each is characterised, so as to present an æsthetical view of the subject. After explaining the term *æsthetic* as expressing sensuous perception of the beautiful, Mr. Wornum gave an exposition of the importance of observing *fitness* and *utility* in ornamental designs; and illustrated the motive causes of the three primary forms of ornament by examples of use, symbolism, and embellishment, from Egyptian chairs, the winged globe of the Egyptian temples, and the so-called egg-and-tongue moulding of Greek architecture, which he proved to be derived from the horse-chesnut ἐχινος. Other motives were adverted to, and that of ostentation was shown to be a constant indication of barbarism and decay of taste, as instanced in the passion of the savage for mere glitter and finery, and that of the civilized man for mere display of wealth. Every gaudy elaboration of form and colour is not ornament. Forms of beauty are as strictly dependent on natural laws as the forms of use, and above all it is necessary to bear in mind the *fitness* of a design to its destined use. The essential principles and elementary laws of ornament are contrast, unity produced by symmetry, balance, and proportion of parts, repetition in series—horizontal, diagonal, vertical, curvilinear, &c. Every beautiful form or shape is composed of symmetrical parts: these principles illustrated in the kaleidoscope, in decoration of surfaces, diaper work, paper-hangings, architectural mouldings. Ornamental forms are rather suggested by than imitated from natural objects. This constitutes the distinction between an ornament and a picture. The painter imitates natural forms, the ornamentist only applies them. It is against reason to suppose there can be any beauty in impossibilities and absurdities. The ornamentist should be rational when he can. The remarkable passage from Vitruvius was cited in condemnation of the vicious taste of the style of decoration known as the Pompeian or grotesque style, falsely denominated the Arabesque.

The *Practical Course* will furnish a general knowledge of every mechanical process and condition of reproduction which it is necessary the students should observe, in order to render their designs capable of being executed by the manufacturer. As an example of the kind of practical information which he should supply in this course, Mr. Wornum explained the process of manufacturing paper-hangings by printing with blocks, and pointed out the conditions to be observed by the designer. In conclusion, the lecturer observed that all ornamental manufactures have been most popular and most successful in those periods when the greatest efforts have been made to render them objects of taste; so that, taking a mere utilitarian view, it is the interest of the manufacturer to cultivate beauty of design to the utmost of his power; but we must also regard the moral and social advantages of a universal diffusion of artistic taste. The object of this school is not to aggrandize, but to disseminate art. Neither is it for the manufacturer only, but also for the consumer; for gratifying and elevating the minds of the family of the daily labourer It is not, therefore, the architectural decorator alone who will fulfil its great mission, but the designer of those articles of use and comfort which our manufacturers send to the remotest regions of the globe. "It rests with you, then," said the lecturer to the students, "to make this school a source from which all the suggestions of the beautiful, and every benefit that can result from its contemplation, may flow in an ever-increasing stream, even to the utmost limits of society. Let the furniture and domestic utensils of the *rich* and the *poor* differ only in *material*, not in qualities of taste; so that the cottage of the peasant may, notwithstanding its frugal simplicity, be as refined and as cheerful in its degree as the more gorgeous palace of the prince. The potter's clay is as capable of displaying the forms of beauty as was ever marble of Paros, or the famed bronze of Corinth or of Delos, or, as is now, the purest gold of Brazil. The Egyptian potter, more than three thousand years ago, produced with his simple earth forms as beautiful as all the wealth and art of Greece and Rome combined have ever accomplished since. And what is the fatality that hangs over us that *our* poor alone should be wholly debarred from the enjoyment of the beautiful? If they can be reproached as indifferent to or incapable of appreciating such things, whose fault is that? They cannot appreciate what they have never seen; and while our manufacturers have for ages overwhelmed *their* markets with the most outrageous abortions in design that could well be conceived, how is it possible that these people should be otherwise than unconscious of any notion of art or idea of beauty? But this is not altogether the fault of the manufacturer. It is to the indifference or ignorance of the designers that we must attribute it. Just or not such is the manufacturers' complaint, and it is for you to look to this, and to render the reproach impossible at least for the future. But you must look to it with both your eyes. Little is to be hoped from you if you turn only one eye here while the other is fixed on the doors of the Royal Academy. Persevere where you are—a high mission calls you here—the *cultivation and the elevation of the million* by the dissemination of those forms of beauty and taste which it is in your power to identify with the designs of even the most ordinary of our manufactures. Be of good heart, an adequate reward is ever awaiting honest industry; and be assured, that by industry alone can talents, however brilliant, be successfully developed."

Dalmellington Iron-Works. — These works, belonging to the Messrs. Houldsworth, Glasgow, were blown in for the first time on Monday week, and the first casting took place on Wednesday. The machinery was found to work smoothly, and everything went off well. Ayrshire is now nearly girdled round with iron-works; and, should trade improve, many more will be set going, as minerals and coals are found in abundance in almost every corner of the county. An English Company have been exploring the hills around Dalmellington for the last few weeks, and have found leads, black-band ironstone, &c., in great abundance. —*Glasgow Herald.*

AN ARCHÆOLOGIST ON ARCHÆOLOGY.*

The deposits of time and of a former race, whether of the elegant Etruscan vase or the huge fossil skeleton, are gathered up by the palm of the archæologist, and history marks their records with notes of admiration! Mere admiration, however, is not his legitimate object,—his desire, on the discovery of a fresh novelty, being to compare the products of a remote age with those of the current era, and thus to mark the progress of art, of knowledge, of civilisation, and refinement.

A very slender signet ring, found in one of the vaults at Stanford Bury derives an interest from the mere conjecture that it may be one of those "light summer rings" alluded to by Juvenal when lashing the effeminacy of the landies of Rome, the great satirist little dreaming the day would come when the *barbarian*, the future dandy of Britain, would, in his own sole person, wed effeminacy to a beard? Thanks to the poets of antiquity, we can glean from them the minutiæ of the manners of a people: through the smiles of a Horace or the frowns of a Juvenal we trace the ridiculous or the flagitious of the era in which they flourished. History gives the *generale*, but satire the *personnel* of every period: without the censures of a Juvenal we could never have dreamed of the degree of effeminacy of the men or the masculinity of the Roman women, and, trifling as such objects may appear, they contribute to the agreeable variety of archæological pursuit. The time has arrived when those most ignorant of its utility will accord its value, when semi-barbarism chuckling with conceit, shall no longer pronounce the antiquary

"——————— the slave of whim,
Thanking his stars he's not a fool like him."

Is it nothing to explore the solitudes of the six and twenty cities and temples and ruins of central America? To translate the hieroglyphics of its walls and pyramids, to prove from its altars that its living children were worshippers of their living god, the Sun? That they were the pledge of prophecy, the gleanings of Tyre, saved from the slaughter of a demoniac king?

These cities had long slumbered under the black mould of oblivion, till the step of the antiquary startled their silence, and ere long their most valued treasures—the sculptures of their temples and their palaces,—shall record their histories on the walls of our British Museum. Already have the cities of Palenque, of Uxmal, Ocosingo and Copan, revealed much of their hidden knowledge. Some future adventurer from our shores, thirsting for more, shall,

"With giant grasp fling back the folds of night,
And bring the buried fugitives to light."

It is from what has been we may augur of what will be;—the shadows of the past become the beams of prophecy,—

"Dim rays cast forward by old time,
Shot glimmering o'er his dark abyss,"

and man reads his future destiny where history hangs her records in Time's roofless temple! With such unerring guides for our judgment, may we not predict with certainty, the day will come when after the lapse of ages, the feet of the future antiquary (wearied with the search) may inquire on what spot stood the modern Babylon—London! The day shall come when the very shadow of Time's wings shall so often have kissed her burial, it shall sweep away the last hillock of the dust that marked her silent and capacious tomb! When we contemplate such events, who but must exclaim—"What in this world is permanent?" Even worlds themselves are but the food of eternal change.

"Yes, Time shall feel this world's last shock,
See the race of the planets run;
Shall dash his glass in the molten rock
As it mingles with the sun!"

Every nation, every people, every city, shall become a subject for the antiquary;—the winds of desolation shall fill the ruins strewn over the once living masses, sighing sad epitaphs to the feast of death!

What profound sensations do not such reflections awaken in the breast of the antiquary and the philosopher, who glancing down the backward path of time link the past with the present and the future!

"Look through the framework of a brighter sphere,
And read the solid mass we tread on here."

Honour then to the studies of archæology and to the spirit that fosters them! May the patrons of this society see deposited within these walls the reliquiæ of remote ages, both natural and artificial, and may the literati—the *élite* of the county—come here to behold and contemplate in their specimens the wonders of God and the knowledge of man!

* From an address by Mr. Inskipp, read at the last meeting of the Bedfordshire Architectural Society, mentioned in our last number.

ARRANGEMENT OF HOUSES TO PREVENT FIRE.

Mr. Editor,—We have long been promised, and are anxiously looking forward to, Lord Morpeth's *amended* Metropolis Buildings Bill; and from the patience exhibited by his lordship in carrying through the Health of Towns Bill, we may confidently anticipate not only another Act, but a *really amended* Act. But while we are full of hope, let us not forget the old story of the showman, who proclaimed to a wondering crowd that his caravan contained two most astonishing curiosities,—the one a sea-horse, and the other a "wusser,"—and how the eager visiters, having disposed of the former, impatiently sought a peep at the more wonderful and mysterious part of the exhibition, the "wusser;" and how, at length, they descended from the caravan after being favoured with a sight of a smaller animal of the same genus as the former, and which the showman, with much seeming simplicity, informed his patrons must, by reason of its inferiority to the former, be a "wusser," or, in more genteel and grammatical phrase, a "worse one." We are all acquainted with the Act now in force; let us hope that we shall not be surprised by a "wusser." We would rather hope, however, that when the Bill comes before the public, it will be such a Bill as, whilst it shall impose no *unnecessary* restrictions, will, at the same time, fully secure for us all the proper objects of a Metropolitan Buildings Act—viz., ample security (in every sense) to individuals as well as to the public, against fire, and, to a reasonable extent, the aids to the promotion of health. Let us hope, too, that there will be no difficulty, uncertainty, or tediousness, in enforcing a strict observance of all the provisions of the Act in behalf of these objects.

These few remarks are, however, only preliminary to one or two humble suggestions of a practical nature, which I am desirous to put forward, for the consideration of the parties intrusted, or to be intrusted, with the preparation of the Bill. I consider, and I have no doubt that you, Mr. Editor, will agree with me, that for this huge metropolis, looking at the number of its inhabitants, and the ways and means had recourse to by a large proportion of them to ensure a place of habitation, and looking also at the lamentable daily accounts of the destruction of life and property,—any Act of Parliament for the "prevention of mischiefs by fire," should have, for one of its grandest objects, the prevention of the spread of fire from apartment to apartment, and from floor to floor, in dwelling-houses. I am aware of the importance of bearing in mind that there is a market price for buildings; but no large reform or improvement can ever be effected without seeming, for the moment, to do some little violence to parties interested in the then present state of things. As regards buildings, however, I think I may say that any violence which I shall propose would be only imaginary, as legislative improvements in buildings would meet with an early and ready remunerative acknowledgment; for where is the occupier of a house who would hesitate to pay a merely nominal tax, for the advantage of having a house so built as to ensure the safety not only of its contents, but also of the lives of its inmates.

But to come immediately to my object. I have to propose that, in the erection of dwelling-houses, no *open* timber floors, ceilings, or partitions, be admitted, as it is well known that fire, without draft to assist it, is not a dangerously destructive element, but that, with this ally, there is no limit to the range of its greedy and devouring appetite. I would therefore insist that all internal partitions be composed either entirely of brickwork, or of brick nogging or pugging; that the floors, if not composed entirely of fire-proof materials, should, in like manner, be filled in solid with some incombustible materials; and that the stairs, if not of stone (which they might be without any great increase of expense), should be (that is, the steps and risers) fixed upon some solid and almost wholly incombustible material, the construction of which might follow that adopted for the floors. So far these suggestions have reference only to the prevention of the spread of fire, but probably some further regard should be had to the stability of the building in case of fire arising. By the existing law fourth-rate buildings may be built with one brick party walls, but no timbers may be laid endwise into any party wall within 4 inches of its centre, and thus fourth-rate houses may be built without any material structural assistance being derived from or given to the party wall on either of its sides, except, at least, by placing the timbers on corbels or shoes. To remedy this, I would propose that substantially no party wall should be less in thickness than one brick and a half, and this could be effected by one-fourth only of the wall being of this thickness. The result of this would be to afford, to some extent, better means of connecting the floors and partitions, &c., with *each* of the four walls of the building, instead of throwing nearly the whole duty on the front and back walls, and incurring the liability, in case of fire, of the whole of the internal constructions of the building falling in on being deprived of their support in any lower story of the building.

I trust I have made myself sufficiently understood, without entering into any details of the construction—a point, indeed, which I have avoided, as I am aware that others before me have already made public their views on the subject of fire-proof constructions in connection with domestic architecture; but before concluding I must venture to suggest for consideration whether the rules of the Buildings Act, regulating stairs and accesses, might not be transposed so far as they are made to apply to particular classes of buildings—that is to say, that hereafter *dwelling-houses* should be required to have such appendages of fire-proof materials, whilst for *public buildings*, such as schools for day instruction, churches, chapels, &c., wooden stairs, if desired, should be allowed, a reservation, however, being made in respect of hospitals, colleges, and all other buildings occupied by night (as well as by day) as dwellings, so as to ensure ample protection to the occupants in cases of fire. There is also one matter more to which I would direct attention, and that is the importance of requiring that in every dwelling ready means should be provided for escape, in case of fire, through or into the roof, whereby to obtain access to the roofs of the adjoining houses, or to the fire escapes or other source of safety: as a matter of course a ladder should always be in readiness as a means of ascent from the topmost floor.

Aliquis.

P.S. The importance of the above remarks are confirmed, in my opinion, by the account of the late fire in the parish of Whitechapel, which was attended with a serious loss of life under more than ordinarily distressing circumstances: see the *Times* of the 18th inst.

EFFECT OF IVY ON MASONRY.

Sir,—In order to strengthen the opinion of those persons who assert that the growth of ivy upon the walls of churches causes a disruption of the masonry, I beg to communicate through the medium of your pages the following instance.

One of the angle buttresses of the south aisle of Stone Church, Kent, has one of its sides covered with ivy, the stem of which, between 2 and 3 inches in diameter, first makes its appearance at the top of the base of the buttress, at least 2 feet from the ground.

Here it has forced out one of the stones, and after showing its stem the height of the first quoin, it disappears in the buttress, and again emerges at the height of another quoin, causing, in its progress from the ground, a fissure in the masonry and brickwork of considerable extent.—I am, Sir, &c.

Gravesend. Alfred Bevan.

STUDY FOR ORNAMENTATION FROM THE HAWTHORN.



STUDY FOR DECORATION FROM THE HAWTHORN.

Annexed is a sketch for an ornamentation from nature, from the common hawthorn, applicable for carving, &c., viz., a panel moulded and sunk. The four compartments around the centre may each be varied in detail. I have reversed the one sketched to show the effect. The centre is composed of five leaves; the small flowers confined to three in number. The variations of course are infinite, and the delight in composition amply repays the time spent in so doing.

121, Drury-lane. G. B. C.

CLEANING AWAY CHOLERA.

The General Board of Health have issued a notification respecting the Diseases' Prevention Act, which contains the following passages:—

"Great benefit having been derived from the cleansings that were resorted to on the former visitation of cholera, and experience having shown that preventive measures against cholera are also preventive against typhus and other epidemic and endemic diseases, the boards of guardians should carry into immediate effect all practical measures of external and internal cleansing of dwellings in the ill-conditioned districts.

The chief predisposing causes of every epidemic, and especially of cholera, are damp, moisture, filth, animal and vegetable matters in a state of decomposition, and, in general, whatever produces atmospheric impurity; all of which have the effect of lowering the health and vigour of the system, and of increasing the susceptibility to disease, particularly among the young, the aged, and the feeble.

The attacks of cholera are uniformly found to be most frequent and virulent in low lying districts, on the banks of rivers, in the neighbourhood of sewer-mouths, and wherever there are large collections of refuse, particularly amidst human dwellings. In a recent proclamation, issued for the protection of the population of the Russian empire, the important influence of these and similar causes has been recognized, and the practical recommendations founded thereon are 'to keep the person and the dwelling place clean; to allow of no sinks close to the house; to admit of no poultry or animals within the house, to keep every apartment as airy as possible by ventilation; and to prevent crowding wherever there are sick.'

Householders of all classes should be warned, that their first means of safety lies in the removal of dung heaps and solid and liquid filth of every description from beneath or about their houses and premises. Though persons long familiarized to the presence of such refuse may not perceive its offensiveness, nor believe in its noxious properties, yet all who desire to secure themselves from danger should labour for the entire removal of filth and the thorough cleansing of their premises; which also the law will require of each person for the protection of his neighbours as well as for his own safety.

Next to the perfect cleansing of the premises, dryness ought to be carefully promoted, which will of course require the keeping up of sufficient fires, particularly in the damp and unhealthy districts, where this means should be resorted to for the sake of ventilation as well as of warmth and dryness.

From information recently obtained from Russia it appears that in some barracks, and other places in which large numbers of people are congregated, where these conditions have been attended to in a manner that may be equally practised in private houses, there has been a comparative immunity from the prevailing epidemic, exactly as in this country, where in public institutions, though as yet by no means perfect in the means of ventilation, there has been an almost entire exemption from epidemics which have ravaged private houses in the very same districts.

But while a certain amount of cleansing can be effected by every householder, each in his own premises, the means of thoroughly purifying the densely populated districts are beyond the power of private individuals.

Accordingly, by the recent Act (11th & 12th Vict., c. 123, s. 1) in cases of inability, insufficiency, or neglect, the law has charged the cleansing operations upon certain public bodies —namely, "the town councils, or any trustees or commissioners for the drainage, paving, lighting, or cleansing, or managing or directing the police or any other body of a like nature, or any commissioners of sewers, or guardians of the poor."

By this Act it is provided, that upon notice

in writing, signed by two or more inhabitant householders, that any dwelling-house or building is in a filthy and unwholesome condition, or that there are upon such premises any foul and offensive cesspool, drain, gutter, or ditch, or any accumulations of filth, or that swine are so kept as to be a nuisance or injurious to health, the authorities shall examine or cause the premises to be examined; and if upon examination, or upon a medical certificate of two legally qualified practitioners, it appears that the nuisance exists, the public authority shall make complaint before two justices, who are required to make order for the removal of such nuisance. The amended provisions contained in this Act should be early considered, promulgated, and enforced, especially those for the proper cleansing of open and foul ditches near habitations, by the labourers under the direction of surveyors or trustees of highways."

NOTES IN THE PROVINCES.

The Portland Prison is so far completed as to be capable of accommodating about 350 convicts for work on the breakwater, whose immediate arrival is now anticipated. The building already forms a very prominent object in the island.——The piling of the breakwater at the Dover harbour of refuge has been carried out to 5 feet water at low spring tides, and the masonry forming the pier on either hand is in rapid progress.——A new masonic hall has been recently erected at Newport, Isle of Wight.——The new church of Llanfihangel, Abercowin, was consecrated on Tuesday week. It has been built at the entire expense of Mr. Richard Richards, of Tregadwgan.——At Tavistock a new Guildhall has lately been erected in the castellated early English style, from a design by Mr. Jones, architect, prepared in accordance with the old portion of the abbey, on the site of which it has been built. The hall is 53 feet long and 23 broad, with 260 sittings, or standing room for 500. There is a police station beneath it, the cells of which are heated in winter by a hot-water apparatus, and ventilated by valves. The hall and station are fitted up for gas. There are other apartments, one 21 feet square, and the tower is to be converted into an observatory. The whole has been done at the expense of the Duke of Bedford, who lately drained the town and supplied it with water, fire-plugs, &c.——The chancel of Frome Church has been repaired under the auspices of the Marchioness of Bath. The great west window now displays a design in coloured glass, obtained by subscription. Three monumental windows of stained glass have also been placed in the church. ——The stone spire of St. Mary's Church, Snettisham, Norfolk, which is used by mariners as a sea-mark, being 105 feet in height, and with the church reaching an altitude of 177 feet, has recently been restored, the upper part to the extent of several feet reset, with an iron cross, &c., on its summit.——It is estimated that eight persons, who have erected and endowed churches at their own cost during the present year, have together contributed 50,000*l.* to the Established Church.——On 5th inst. the foundation-stone was laid of a school and teacher's house at Winterton, Norfolk. Mr. Hume, M.P., entertained a numerous party of the friends of the undertaking at his seat in the neighbourhood, and the ceremony of foundation was performed by Miss Hume, in the presence of a large assemblage of the villagers. Mr. Kerr, of Norwich, officiated as architect of the building. The expense is partly met by grants from the Committee of Council and the National Society, the site being given freehold by Mr. Hume.——The first buildings of the Britannia-terrace, Yarmouth, were commenced on Wednesday week. A proposition is on foot to continue an esplanade and carriage-drive from Britannia-terrace to Victoria-terrace.——The foundation stone of a new Baptist chapel, to be erected at Barnsley, was laid on Friday week.——A new church is to be built for the townships of Moss and Fenwick, in the parish of Campsall. The intention is supported by Miss Brooke, of Gateforth House, Mr. G. C. Yarborough, Mr. F. B. Frank, and other landed proprietors.

CONGREGATIONAL CHAPEL, COURTENAY-STREET, PLYMOUTH.

Mr. WIGHTWICK, Architect.



CONGREGATIONAL CHAPEL, COURTENAY-STREET, PLYMOUTH.

The accompanying engraving represents the street front of a chapel just erected in Courtenay-street, Plymouth, and belonging to the denomination of Congregational Dissenters; the Rev. T. C. Hine having undertaken the responsibility of its erection by voluntary subscription. It is 65 feet long by 44 feet 6 inches in the clear; and when furnished with its proposed galleries, will hold about 900 persons. The façade only is by Mr. Wightwick, the body of the chapel being erected under the superintendence of Mr. Dwelley. The style is Anglo-Norman: the dressings are of Caen stone: the plain walling, of Plymouth marble, or lime stone. The cost of the building, apart from that of the land, is about 2,000*l.*

A large chapel for the Baptists, of Italian architecture, has recently been erected by Mr. Wightwick, also two spacious Episcopal chapels—one in the Tudor Gothic, the other in the Roman style.

The Anniversary Exhibition of the Cornwall Polytechnic Society comprises—In the mechanical department, 53 articles; architectural and mechanical drawings, 128; sculpture, modelling, and paintings, 168; fancy work, 68; school productions, 149; and oil paintings for exhibition, 61.

Great Chain.—At Stourbridge, lately, Messrs. Bailey manufactured for a Liverpool firm a link chain for an incline: length, 2,400 yards, or rather more than 1⅓rd mile; and weight, about 14 tons. It was removed by eight horses.

VENTILATION OF SEWERS.

At a late meeting of the City Sewers Commission, a Mr. Elliott proposed as something quite new,—

"Premising that the sewers are constructed on the best principle, regularly flashed, with proper receptacles for discharges, and all gully holes, street and surface drainage, to be properly trapped,—that chimneys be erected at necessary and convenient distances, their interior hollow and of an inverted funnel shape, their height to be regulated by circumstances. At their tops, or other apertures, a jet of ignited burning gas may be kept constantly directed against their openings."

Now, this same plan was proposed in The Builder some years ago, and has since been re-urged in various quarters.

The editor of the *Army and Navy Register* has just now *re*-discovered the same plan, and suggests that the gas lamp-posts made hollow should be used for the purpose. He remarks that,—

"The whole of the parish gas lamps might, by the adoption of this plan, become the best disinfecting medium, and the expense would be comparatively trifling compared with the great public good and preservation of the health of the poor in large towns. The only objection that can be made against the adoption of columns, which would prove useful and ornamental as gas lamp-posts, is the advantage possessed by gratings of allowing the sewers being flashed with rain water entering through them. The columns could, however, by a very simple plan, be made to open at the bottom on the side against which the

rain-water pressed, and the force of the current would prevent the escape of any considerable quantity of foul air, while the water continued to enter at the base of the column into the common sewer. On the pressure ceasing from the outside, the opening would be closed, and sufficiently air-tight to cause the noxious vapour to ascend and become purified by passing through the gas flame, before it mixes with the external air."

An experiment on the practicability of destroying the foul air in sewers by means of a shaft and furnace is being tried, we understand, in the Blackfriars road.

THE CITY OF LONDON SEWERS' ACT.

The city of London Sewers' Act, which is to come into operation on the 1st January, 1849, and continue in force two years and a session, contains, amongst others, the following provisions:—

It continues as at present the powers of constructing, cleansing, and repairing sewers, and of paving, lighting, cleansing, and improving the streets of the city, in commissioners to be appointed under the common seal of the City by the Court of Common Council.

A map of the City to be provided, on which all sewers are to be marked, and all water and gas mains to be set down thereon; this map to be altered as necessary from time to time.

Sewers are vested in the commissioners, who are empowered to construct new sewers, discontinue and stop up or alter old sewers, and to ventilate, cleanse, and flash such sewers as may be needed; and for this purpose to build, carry, and continue the same through any land, building, or other place, which is not a public way, upon making full compensation. They are also empowered to make such new openings into the Thames as they may think necessary, or otherwise to collect the refuse for the purposes of manure, but so that no nuisance be thereby caused.

The water companies having mains within the City are required to supply the commissioners with water (if they can do so without injury to the regular supply of water for domestic purposes), for flashing the sewers, and for watering or cleansing the streets and pavements, or for supplying any public baths, cisterns, &c., for the use of the poorer classes, upon remuneration by the commissioners for the same; and in case of dispute, such remuneration to be fixed by two justices. Penalty for the non-supply of water as aforesaid, 50*l.* a day, except through frost, drought, or unavoidable accident.

Private drains are to be cleansed and repaired at owner's or occupier's cost, under commissioners' directions, and whenever required by them so to be cleansed or repaired; and private drains are not to be destroyed or obstructed by the commissioners in any of their works, under penalties.

Commissioners may call upon the owner of any house or building not already drained into the sewer, to construct a drain therefrom into the sewer, if the same be within 50 feet of any part of such house or building, on a lower level than such house or building, under commissioners' directions; and no house hereafter is to be built within the City unless a drain be constructed to the satisfaction of the commissioners.

Persons about to build or rebuild any house or building, or to make any drain therefrom into the sewer, are to give fourteen days' notice in writing of such intention to the commissioners, who are to determine the level on which such house, building, or drain, is to be built or made; and any house or building taken down within 12 feet of the ground is to be deemed a rebuilding. Power is given to the commissioners to demolish any house, building, or drain, erected or made contrary to their directions, or without such notice being sent as above. Penalty on making or altering sewers or drains without commissioners' leave, 10*l.*

All gulley-holes, gratings, or other openings of sewers, are to be trapped so as to prevent the effluvia from the sewer exhaling therefrom; and any one sweeping, raking, or placing any soil, dirt, &c., into any sewer, or over any sewer-grate, liable to a penalty of 5*l.*

Any gas company permitting or conveying any washings, or foul or offensive refuse of gas to run into any sewer, shall forfeit the sum of 200*l.* a day.

Commissioners empowered to appoint one or more legally-qualified medical practitioners of skill and experience to inspect and report periodically upon the sanitary condition of the City, to ascertain the existence of diseases, more especially epidemics, and to point out the existence of any nuisance or other causes injuriously affecting health; also as to most efficient modes of ventilating churches, chapels, schools, lodging-houses, or other public edifices; to be called "The Medical Officer of Health," and to pay them such salaries as they think fit.

Commissioners empowered to appoint one or more inspectors of nuisances to inquire into and report all cases of nuisance, neglect of scavengers, &c., whose duties are for the preservation of due order and cleanliness.

Full power given to the Commissioners and their officers to enter any land, house, or premises, to carry into execution the purposes of this Act; and to cause the erection of privies, water-closets, cisterns for water, ash-pits, &c., in any premises, under penalties; and to regulate offensive trades, as candle-houses, &c.

No grave hereafter to be used in the City for interment, which shall not leave five feet clear of soil above the coffin; and any sexton offending, to be suspended from his office, and made liable to a penalty of 20*l.* Private vaults and catacombs excepted under certain limitations.

Persons causing offensive smells, or carrying offensive matter in the streets, made liable to certain penalties.

Commissioners empowered to light the public streets, and all public lamps vested in them; and persons damaging them made liable to certain penalties, or to make satisfaction for the same.

Pavements and other materials vested in the commissioners, and power given them to pave the streets and alter their levels, and alter the mains and pipes as they shall think best, excepting courts, &c., of which the freehold is vested in the owner of adjoining property, in which case, such owner is to pave and repair them.

Commissioners empowered to alter and fix the names of streets, to order the numbering of houses, &c., with penalties on persons obliterating or altering the same.

Commissioners are also empowered to prevent buildings projecting over the line of street from being rebuilt in such line; also to set back and remove various existing projections and obstructions, upon compensation being made; and to cause all ruinous and dangerous houses, &c., to be repaired.

THE USE OF DUTY-FREE BRICKS.

Having been asked on several occasions the extent to which bricks, *duty free*, can be legally used, we are glad to be enabled to give a statement on the subject, made by the Board of Excise some years ago, in reply to the following queries proposed by Mr. John Higgins, of Alford:—

"1st. Whether bricks (duty free) can be legally applied in building sea gowts, sluices, dams, culverts under roads and rivers, gate tunnels, and such other edifices as are exclusively appurtenant to, and necessary for, works of sewers?

2ndly. Whether they cannot be legally used in the construction and rebuilding of bridges crossing over public drains, in cases where the renewal of the bridge is rendered necessary by the enlargement or improvement of the drain?"

The answer was:—

"By 7 Geo. 4, c. 49, s. 3, it is enacted that it shall be lawful for any person or persons to make tiles or bricks for the sole purpose of draining wet or marshy land, without being charged or chargeable with any duty for and in respect of such tiles or bricks; provided that all such tiles or bricks shall be stamped or moulded by the person or persons making the same with the word 'Drain' in or near the centre of one of the surfaces of such tile or brick, in so plain and distinct a manner that the same may be easily and distinctly legible to any officer of excise or other person examining the same, both before and after such tiles or bricks shall have gone through the process of burning and become fit for use; and if any person or persons making such tiles or bricks as aforesaid, or any other person or persons shall sell or deliver, use or employ, any such tiles or bricks so stamped or moulded as aforesaid for any other purpose than that of draining wet or marshy land, he, she, or they, for every such offence shall forfeit and lose the sum of 50*l.*; such penalty to be recovered and applied as any other penalty incurred under any Act or Acts of Parliament relating to the duties of excise.

"The words of the clause will be seen to be very extensive; and, it being a remedial Act, extensive as they are, they are to be liberally construed. On this principle, the words, 'for the sole purpose of draining wet or marshy land,' in my opinion authorise the use of these bricks in the construction of all such works as are necessary for rendering the drainage effectual. Amongst these would be the works enumerated, sea gowts, sluices, dams, culverts under roads or rivers, gate tunnels, &c. For whatever work of this description is necessary for effecting or preserving the drainage, in the construction of it these bricks may lawfully be used. The collector has referred to one of the main drains being made applicable to purposes of navigation: the question in this case would be, are the bricks used in any works which are to improve the navigation of this sluice, or are they used for the preserving of it as a drain? In the former case, the bricks must be duty paid; in the latter, drainage-bricks may be used. The question as to the bridges is more doubtful; but this distinction seems to be proper to be made,—if by widening a drain, a bridge is required to be taken down and rebuilt, and it is done by those who are effecting the drainage there, in the reconstruction of it duty-free bricks may be used; but in any other repair of the bridge, by the county or parish, the bricks used must be duty-paid. With respect to rivers, I understand Mr. Higgins to allude to culverts under them: if any sluices in the river banks, or in any drains, are constructed for the purposes of irrigation in dry weather, and not for the purpose of draining or carrying off water from the lands, it will not be legal to use the drainage-bricks in the construction of such works. Mr. Higgins should be informed that if the bricks are sold or applied for any other purpose than those of the drainage, a penalty of 50*l.* is incurred."

THE BUILDING MANIA.

No one who has recently travelled with his eyes open in search of a home, a friend, or a little fresh air, in the environs of this overgrown metropolis, can have failed to observe that houses are springing up in all quarters for the reception of the ever-increasing population of densely-populated London. In the vicinity of other large cities, especially if they boast the advantage of a railway, the same observation will have been made. There is no lack of brick and mortar, east, west, north, and south; our cities are extending themselves into the country. Money is scarce; the whole nation is in difficulties; but houses spring up everywhere, as though capital were abundant—as though one-half of the world were on the look out for investments, and the other half continually in search of eligible family residences, desirable villas, and aristocratic cottages, which have nothing in the world of the cottage about them except the name.

Houses, we say, spring up everywhere in the outskirts of our great towns. A suburb, in these days, is one congeries of crude brick and mortar. It is the most melancholy thing in existence. Streets, squares, crescents, terraces, Albert villas, Victoria villas, and things of the same inviting character, stand up everywhere against the horizon, and minutely beseech us to take them. You may get a new house, of almost every conceivable pattern, and at any conceivable price down to 60*l.* per annum. You may take your choice, according to the length of your purse, of "noble reception rooms" and "neat parlours." But your purse must have some length to accomplish even this latter. There is a leaven of aristocracy in the parlour with folding-doors. We only build, now-a-days, for the gentry.

a man has a little land, or a little money, a little speculativeness, or a little unemployed timber, or a number of idle workmen, he straightway buildeth a villa. The villa mania is everywhere most obtrusive. You could smile, perhaps, at the vulgarity of the thing, if it were not for the certainty that every enterprising villa-builder must be building a fortune to death. Fortune must grow upwards, even more rapidly than they are growing downwards in these days, before all these splendid visions of wealthy tenants can be realised. Indeed, when we come to consider the number of pursy citizens that it will take to populate these snug suburbs, we are absolutely lost in wonder to determine where they can all come from.

We may talk about "signs of the times," but there is not one more surprising than this. When it was asked with reference to the astounding array of good husbands, fathers, citizens, &c., whom we meet, in monumental existence, in our churchyards, where all the bad ones were buried, so we are disposed to ask in these days, when we contemplate the number of houses in course of erection for the rich, where are the poor to be housed? One would think that there was no increase of population, lower down than the classes which rejoice in 500*l.* a year, or that there was something of so accumulative a character in the times that every man must needs be on the look-out for the means of expending a larger income than he was heretofore had facilities of scattering abroad. But there is a fatal error in all this. In an age of progress it may be, but not of financial progress. Retrenchment is the order of the day. We are fain to live over our shops. The trade of London is not now on the look-out for splendid suburban villas. There are enough, and more than enough, already in existence—unfurnished houses which we shall not soon see furnished—shells which will not very speedily be ready for occupation. But the poor want dwelling-places. Whilst we are exhausting our ingenuity to supply our villas with "every possible convenience," we are leaving our working-classes to the enjoyment of every possible inconvenience, in wretched stalls, to which men of substance would not consign their beasts of burden.—*Morning Herald.*

RAILWAY JOTTINGS.

From a misunderstanding as to money matters between Mr. H. H. Bird, a contractor on the Oxford and Wolverhampton line, and some of his subcontractors, the labourers employed by them have been threatening an outbreak at Moreton in Marsh. Headed by two subcontractors, named Pain and Bell, they marched into the town, 'determined to have money or be revenged;' but the police interfered, and the subcontractors were subsequently apprehended on the alleged charge of stealing eight cart-horses belonging to Mr. Bird, and valued at 160*l.*——The large bridge over the Tweed, below Galashiels, is nearly completed. It is about 300 feet long, and consists of five arches, two dry. The works between this and Melrose are nearly completed. ——The rightful proprietors of the Lancaster and Preston Railway can't be found, and the companies using it run their trains between Preston and Lancaster, it is said, without paying toll to any one.——The report of Mr. R. Stephenson to the Chester and Holyhead, on Wednesday week, stated that the construction of the second tube of the Conway-bridge was far advanced, and there was no doubt it would be ready for removal by the middle of October. Since then active preparations were made for floating the tube into its proper place, prior to being finally fixed upon the piers and abutments on 10th inst. The six pontoons on which the tube was to be cradled during the process of raising were in readiness, each being 95 feet long, 25 broad, and 8 deep—capable separately of sustaining 400 tons, though only for 220. The castings at the pier ends were completed, and the hydraulic machines for lifting ready. The total weight of the tube is 1,300 tons; span over the river, 400 feet; inside width of tube, 14 feet. About three-fourths of the masonry of the Britannia-bridge have been completed; and it is calculated that the first tube will be ready for lifting to its place in the course of next March or April. The cost of these structures has very much exceeded what was originally calculated on. —— The works at London-bridge for enlarging the station and widening the Greenwich viaduct have been resumed. The bridge to cross Bermondsey-street is rapidly progressing. The Gravesend branch is also in a forward state. It is expected to be opened early in the spring.——A Stockholm letter states that the works for the formation of a railway between Ocrebro and Hulst, the first undertaking of the kind in Sweden, were commenced on the 4th ult.

DISTRICT SURVEYORS' CHARGES.

Sir,—May I beg of you to let me know whether the district surveyor can claim a fee of me by my taking out an old sash, lowering the stall board, and putting in a new sash, for there has been nothing done to any other part of the front besides what I have named. I have another to do, and the district surveyor wants half a guinea for the first, and, as a matter of course, the same for the other.

Now, Sir, it appears to me that if this claim is legal, the public dare not renew their doors or shutters without giving notice to a district surveyor, and paying him a fee. The cost of both these jobs will not amount to 10*l.*, and must the hardworking tradesman pay 10 per cent. for the nominal supervision of such small alterations as these, when a duke, lord, or merchant, may build a house that costs 4,000*l.*, and this selfsame surveyor would be satisfied with a very different per centage, and about forty times the trouble? Now, this is a vile impost which ought not to be tolerated, nor enforced upon tradesmen; and I think that the fairest way would be to tax each building in proportion to its cost; for this is like all the taxes that ruin trade and commerce, for it prevents improvements in many quarters, and where they are most needed. It is a singular fact that there are no taxes in this country but what fall unmercifully on the middle classes. What, I ask, can be more ruinous to the building classes than the tax on bricks?—for if a man builds a house with 20,000 bricks in it, he has to pay 6*l.* for the same, no matter the quality. Then comes the window tax, as if an impious Government said, Thou shalt not have light and health, without we are handsomely paid for it; and so we might go on to fill a volume with similar complaints.—I am, Sir, &c.,

W. Trench, Builder.

Hackney, Oct. 4, 1848.

*** If nothing more be done than what is stated, the district surveyor ought not to require a fee.

METROPOLITAN COMMISSION OF SEWERS.

The Metropolitan Sewage Manure Company.—A special court was held on Thursday, last week, at the Court House, Greek-street, Soho-square, for the purpose of further considering what steps should be taken as to the fine of 500*l.* upon the above Company for cutting the bank of the Counters' Creek sewer without permission from the commissioners. Lord Ebrington, M.P., took the chair.

The minutes of the former meeting having been read, the clerk laid before the court reports, shewing that the Manure Company had come to the following resolution:—

"Resolved, that in the opinion of the board, the imposition of such fines is illegal, but having been given to understand that these proceedings had arisen from a misapprehension of the nature of the works, it was resolved that an application be made to the commissioners that a deputation of the board, attended by the secretary and solicitor, may be permitted to wait upon them, with a view to explain the matter to the commissioners, and endeavour to bring it to an amicable conclusion."

A deputation from the company was in attendance, consisting of Dr. Guy (chairman), Mr. Bailey, solicitor, Dr. Hodgkin, and several of the directors. Mr. Bailey then addressed the court at considerable length, contending that there was no wish on the part of the company to do any thing in opposition to the powers of the commissioners, whose powers, they were perfectly aware, were almost unlimited. In fact, every act of the company proved the deference paid by it to the powers of the commissioners. There was a great distinction, however, to be drawn in the powers exercised by them over closed sewers, only used for the purposes of sewage, to the control over the waters of a navigable canal. The works of the company, too, were as innocuous as he believed they were free from objection, and being under the impression that the commission was about expiring, they had determined upon making the communication with the canal; and their first act would have been to go to the new commissioners, no injury having been committed, and place the whole question before them. It might be, that the company had come to a wrong conclusion, but he must repeat that there was no desire to place themselves in opposition to the commissioners, knowing the great powers they possessed. He hoped the commissioners would take a favourable view of the question, and allow the works to be constructed, especially as the eyes of other companies for similar objects in other large towns were turned upon this, being the first incorporated by Act of Parliament. In fact, it had been expressed through Dr. Sutherland, that a company in Liverpool were anxiously waiting to know the result in this case, so that if successful the sewage of that town might be made useful for agricultural purposes. The market gardeners in the neighbourhood of London were anxious to make a trial of the sewage waters.

Lord Ebrington said, for himself, he felt some embarassment as to how to treat the question, as Mr. Bailey, in his address, had neither admitted nor denied the powers of the commissioners. He had been waiting to hear him arrive at this point, believing as he (Lord E.) did that the commissioners had as much power over the banks of the canal as they possessed over closed sewers. He did not clearly understand what the application of Mr. Bailey was.

Mr. Bailey believed that a fine would never have been imposed if a proper explanation had been given. The company was of opinion that there was an interregnum in the commission, and that the work might be done under a right they possessed as the freeholders of the bank of the canal, secured to them by Act of Parliament. "We come (said Mr. Bailey) to ask your consent, if we cannot make the communication without it, and if you levy a small fine, of course it will be paid under protest."

Lord Ebrington—What will be the nature of that protest? Will it be on the ground of hardship or of legality?

Mr. Bailey—Oh, of course, against its legality. I wish that to be clearly understood.

Lord Ebrington believing that he had a clear view himself of the question, scarcely felt disposed to say another word until the legality of the commissioners was recognised.

Mr. Bailey here, having conferred with some of the deputation, wished to retire for a few minutes, to allow the directors to consider the question as to the powers of the commissioners, which was acceded to; and on their return, Dr. Guy, as chairman of the deputation, said they had come to the following resolution,—"The directors of the Metropolitan Sewage Manure Company, assembled at the office of the Commissioners of Sewers, after mature consideration, have resolved that, feeling the inexpediency of involving their shareholders in an expensive law-suit, and placing every confidence in the public spirit of the commissioners, and wishing to give additional proof of their own desire to act in a spirit of conciliation, do hereby place themselves unreservedly in the hands of the commissioners in respect of the matter now in question, and request their permission to replace the pipe under the superintendence, and to the satisfaction, of the surveyor of the commissioners."

Mr. Leslie was of opinion that, if the company were to take the water of the Kensington Canal, to use it in a quantity so great that Mr. Norris would pay 1,800*l.* per year for it, it might interrupt the passage of barges two or three hours every tide.

The Rev. W. Stone looked upon the question as one of such great importance, that if they could guard against injury to the works of the commission, he was prepared to accede to the request of the company. If such could be done, he was prepared at once to move that permission be granted to the company for twelve months.

Mr. Chadwick seconded the motion, as a trial work, as they had evidence before them that cheaper and better modes could be adopted. At the same time, he thought experiments carried out under the authority of the commissioners would be the most satisfactory to the public and to the shareholders themselves. He was sorry for the delay that had arisen, but that was not the fault of the members of this commission.

A resolution to the following effect was then submitted:—"That under clause 8 of the Westminster Sewers Act, 10 & 11 Vict., this court feels itself disposed to give the desired consent for a period not exceeding fifteen months, the company constructing as a trial work, and subject to the approbation of the consulting engineer, surveyors, and officers of this court."

The motion was put and carried with but one dissentient.

It was also agreed that the fines of 500*l.* on the company, and 50*l.* on the contractor, should be remitted.

Miscellanea.

Von Rathen's compressed Air Locomotive.—In noticing an experiment with the Baron's machine, identical, if we mistake not, with one some weeks since recorded in "The Builder," even down to a stoppage at Wandsworth, a correspondent, who "hails with pleasure the ingenuity of the idea of fabricating, wholesale, a propelling power, as if it were cotton" [gun cotton?], says that "the plan of the inventor," so far as he understands it, "is to have large steam engines fitted up at stations, at nearly voluntary distances, to be regulated by the nature and extent of the traffic—say at 10, 20, or 30 miles the one from the other; also to have extensive stationary reservoirs at each of these stations, where the propelling power is extensively fabricated. The locomotive reservoir-tenders are filled with compressed air from these, of an adequate power calculated for the distance, and the locomotive is then charged." "The economy," he continues, "must be very great in thus fabricating the power wholesale, by one large steam-engine, for supplying or working ten or twenty locomotives, for which, in the present system, ten or twenty locomotive steam-engines have to be employed, and worked under the most disadvantageous circumstances. This might have been (long before the invention of the Baron Von Rathen) readily acknowledged; but the problem was to obviate the immense loss of power and difficulties hitherto experienced and never before resolved, in compressing large quantities of air to a high degree of condensation, and using it when expanded out to an uniform working pressure. This has been effected by the inventions of Baron Von Rathen." The apparatus we have already noticed. Without identifying our own opinion with that of our correspondent, or indeed offering any opinion on the merits of the Baron's persevering endeavours to perfect his new mode of propulsion, we may here remark that the idea reminds us of one some time since started for the fabrication of locomotive force by means of powerful springs, wound up by stationary steam-engines, and shipped—like the Baron's bottles of wind, or rather like the main-spring and drum of a watch,—with fitting apparatus, regulators, &c., on to some simple wheeled machinery for locomotion.

Coal and Gold.—A curious fact is stated in the Philadelphia newspapers. From the annual report of the Director of the United States Mint, it appears that the value of all gold coined during the twenty-four years prior to 1848, was 12,741,653 dollars, or somewhat exceeding the average sum of half a million a year—a very considerable addition to the stock of American wealth; but it appears, from the returns of the coal trade in Pennsylvania, that the value of this commodity brought to market in this State is annually equal to the above large amount: that last year, for example, the value of her anthracite brought down to tide-water—nearly 3,000,000 tons—was actually equal to the value of all the gold produced in the south during the twenty-four years. From this it appears that the northern (Maryland as well as Pennsylvania) "coal" mines are more valuable "gold" mines than those of that metal in the south.—*Miners' Journal.*

Figures.—Sir: Allow me to send you the rule by which the differences between the proportions and products of numbers are governed, which you allude to in your number of the 23rd September, under the head of "Figures."

If $\overline{n-4}$, $\overline{n-3}$, $\overline{n-2}$, $n-1$, n, $n+1$, $n+2$, $n+3$, $n+4$, be any consecutive numbers, it is evident that

$n \times n = n^2$

$(n-1) \times (n+1) = n^2 - 1$

$(n-2) \times (n+2) = n^2 - 1 - 3$

$(n-3) \times (n+3) = n^2 - 1 - 3 - 5$

$(n-4) \times (n+4) = n^2 - 1 - 3 - 5 - 7$

&c. = &c.

$(n-s) \times (n+s) = n^2 - 1 - 3 - 5 - (2s-3) - (2s-1)$,

Hence, if $(n-s)(n+s)$ be the two sides of any rectangle, the area is always

$= n^2 - 1 - 3 - 5, -(2s-3) - (2s-1)$,

and if n, $n(n-s)(n+s)$ be any two rectangles, the difference of their areas

$= 1 + 3 + 5 + 7 +, \; +(2s-3) + (2s-1)$.

Wm. Jeakes, Jun.

The Church of Notre Dame, at Bruges, remarkable for a spire 400 feet in altitude, contains a great number of pictures, and by a very judicious act, the name of the painter of each is placed on a tablet attached to the frame. The highest attraction is in a small chapel in the right side aisle, where are the magnificent tombs of Charles the Bold and Mary of Burgundy. The construction, including the reposing full-length figures, is of brass, chased to exquisite perfection, and entirely gilt, with the exception of the several armorial shields, which are richly enamelled in colours. The form and design of these tombs are well shown in a lithograph by Louis Haghe, among his scenes in Belgium. A little beyond, in a niche above an altar, stands a marble statue of the Virgin and Child, about 5 feet in height, said to be a work by Michaelangelo; the grandeur of the pose, the dignity of expression, the composition and the execution of the details, are of a very high order. It has always been attributed to this great master, and Descamps, in his travels, relates by what means it became placed in a church in Flanders. He says, "it was executed for the city of Genoa, but the ship which conveyed it was captured by a Dutch crusier and carried to Amsterdam. A merchant of Bruges purchased the group and presented it to the Church of Nôtre Dame." The description of the church, written by Beaucourt, contains the act of donation by one Pierre Mouscron, who constructed the altar and was interred in front of it, where an inscription records the event on the sepulchral stone. Behind the high altar a pair of iron gates inclose the choir; they are of hammered iron, bearing the date of 1699, as well as the name of the artist who made them,—Ryckam, of Ostend: for elegance of design and exquisite workmanship, they are works of art of a high order: every figure or ornament is in full relief and worked up to the most exquisite finish.—*Art-Journal.*

Houses of the Ancient Peruvians.*—All large towns had a square in their centre, where the religious dances were performed. From the square a certain number of regular roads and streets always ran in the direction of the four quarters of the firmament. There are great varieties in the construction of the houses. Small insignificant huts often stand close to a palace having twenty or twenty-five windows in one front. Private dwellings in the mountainous parts are built of unhewn stone, cemented with a very strong calcareous mortar. On the coast the walls are of brick. In the departments of Junin and Ayacucho, I met with the ruins of great villages, consisting of dwellings of a peculiar construction, in the form of a tower. Each house is quadrangular, with a diameter of about six feet, and seventeen or eighteen feet high. The walls are from one to one and a half feet thick. The doors which open to the east or the south, are only a foot and a half high, and two feet wide. After creeping in (which is a work of some difficulty), the explorer finds himself in an apartment about five and a half feet in height, and of equal breadth, without any windows. In the walls there are closets or cupboards, which served to contain domestic utensils, food, &c. Earthen pots with maize, cocoa, and other things, are still often found in these closets. The ceiling of the rooms is overlaid with flat plates of stone, and in the centre an aperture, two feet wide, is left, forming a communication with the second floor, which is precisely like the first, but has two small windows. The roof of this apartment has also an aperture, affording access to the third floor, the ceiling of which forms the roof of the house, and consists of rather thick plates of stone. The upper room is usually less lofty than the two rooms below it, and seems to have been used as a provision store-room. I found in one of these upper rooms the mummy of a child very well embalmed. The family appear to have lived chiefly on the ground-floors. The place for cooking is often plainly perceptible. The second floor was probably the sleeping apartment.

Interesting to Railway Contractors. *Ward* v. *Davy and Coomb.*—In this case (which was heard at the sitting of the County Court, Birmingham, and reported in the *Birmingham Journal*) the plaintiff claimed 19*l.* 14s. 11d. for work done by him on t South Staffordshire Railway, according contract, at 12s. 6d. per chain, and was t balance claimed for fifty-eight chains, a other work done. The defendants endeavour to shew that the contract had not been co pleted, and that the account had been settle The contract and price were admitted by M Coomb, but defendants attempted to dedu 2s. 6d. per chain without having the plaintiff party to the new contract, while they were t cause of the incomplete execution of t original contract; and Kent, a witness for t defence, swore that he only knew from wh his master told him. The price, according t the original contract, was therefore maintaine Ward was not able to read or write, or to as a question, and was also unwilling to admit th settlement of the account, which his hono also affirmed did not appear to be settled b the statement produced by defendants. In hi judgment his honour stated that it was th bounden duty of an employer to see that n mistake occurred between him and the person employed by him; the agreement at 12s. 6d per chain was proved and quite clear, and th same could only be set aside by the same par ties who made it; it could not be set aside b one party only. The case contained three clea points, two (the contract and its execution) t be proved by the plaintiff, and the other (th payment according to the contract) to b proved by the defendants. This the defend ants had failed to prove. Therefore the ver dict must be for the plaintiff.

Improvement of Clerkenwell.—The street to Clerkenwell-green, in continuation o the new street from Farringdon-street, wil shortly be completed under the Act obtained in the late session (11 & 12 Vict., c. 162—local). It seems that difficulties have arisen in raising sufficient money for the completion of the street, the security offered being deemed in sufficient. The sum of 25,000*l.* advanced by the Treasury has been expended, as also 27,000*l.* borrowed on mortgage. It is now provided that money may be raised by the sale of the property to be completed, and the existing mortgages paid off, so that the subscriptions to be raised for the purpose do not exceed 20,000*l.* If the Commissioners of Woods and Forests, or the City of London, should carry the improvements into effect, the powers of the Act are to be transferred to them. Under this new Act, which has recently been printed, the street is expected in a short time to be completed.

Metallic Lava for Stone, Brick, Tile, Cement, &c.—A patent has been taken out by Mr. J. Orsi for a composition of gravel, or stone broken into small pieces, 3 parts; pounded chalk, 2 parts; tar, 1 part; wax, 1-10th. The tar is first melted in a cauldron, and the wax, gravel, or broken stone, chalk, and mineral colour are successively added. The artificial stone, or metallic lava, thus formed, is cast in moulds, either into solid blocks of any required form, or into hollow vessels, as troughs and tanks. It is also made into pipes, by rolling on a circular core of wood, enveloped in paper, three or more iron ribs being attached lengthways above the first coating, by winding wire round them, when a second coating is added, by rolling as before.—Also for ornamental tiles, bricks, and quarries, a combination of ground flint, 2 parts; marble broken into small pieces, 3 parts; resin, 1 part; wax, 1-10th part; and some mineral colour, 2-10th parts.—Also for cement from either combination in a comminuted state, and used while warm.

Value of Land in South Wales.—Landed property has for some time produced a very high price in South Wales,—a circumstance which the *Gloucester Chronicle* partly attributes to the effect expected to be produced by the railway, and partly to the great capabilities for improvement which much of the land in the southern division of the principality, especially in the western counties, possesses. Some considerable freehold estates in Carmarthenshire, which were sold by auction, by Mr. George Goode, at Carmarthen, last week, realised on an average from 35 to 40 years' purchase on the present rentals.

Health of Towns.—Steps are being taken for the adoption of the salutary provisions of the Health of Towns Bill at Cambridge and Ely, and also at Worcester and Birmingham.

* From Tschudi's "Travels in Peru."

ROJECTED WORKS.—Advertisements have n issued for tenders, by 6th November, for erection of the right wing of the soldiers' racks and outbuildings at Sheerness; by t inst., for the erection of three shops in nduit-street, Chelmsford, Essex; by 23rd, boiler and hot water apparatus required in Martin-in-the Fields workhouse, also for erection of a chimney shaft and drains; 21st, for the erection of a gentleman's resi-ce, with stabling, &c., at Higham-hill, near lthamstow; for 800 feet run of Herm or erdeen granite curb, a quantity of Yorkshire ing and granite crossings, all by 21st parate tenders); by 21st, for a new hospital, l additions to the St. Alban's union work-se; by a short time not limited, for the ction of a house and offices, at Dursley; 18th inst., for an addition to the Belfast son for debtors; by 23rd, for building and npleting offices, sheds, platforms, fencing, ., for roadside stations on the Staffordshire ion Railway; and by 21st, for deepening tidal basin of the Forth and Clyde Canal mpany, at Bowling Bay.

HE NUISANCES REMOVAL AND DISEASES EVENTION ACT.—On the 4th ult. an Act Parliament was passed (11 and 12 Vict., . 123), which must be adopted jointly with e Public Health Act, to effect certain nitary regulations. The Act is to renew d amend the 9th and 10th Vict., cap. 96, the more speedy removal of certain isances, and the prevention of contagious d epidemic diseases. On information in iting from two householders of the filthy ndition of any building, or of the existence any nuisance, an examination is to be made, d on a medical certificate, the owner to be mmoned before a magistrate, who shall, on proof, order the nuisance to be removed, d enforce the order if it is not obeyed: the penses are to be recovered from the owner. otice is to be given to the General Board of ealth of the intention to open certain hospitals, d by the 9th section the Privy Council is em-wered to issue orders for putting in force the ct for the prevention of epidemic diseases—That when any part of the United Kingdom all appear to be threatened with, or affected , any formidable epidemic, endemic, or con-gious diseases, measures of precaution should e taken with promptitude." After an order made, the General Board of Health may ve directions which the Poor-law Board ay compel guardians to enforce. There are veral penal enactments in the Act, with one enter premises and put in operation the gulations of the General Board of Health. he imminence of the peril to be anticipated om the already rumoured advent of cholera more than one part of the country, has in-uced the issue of an Order in Council, dated 8th ult., which now enforces this Act through-at the whole of Great Britain. The Poor-w Board, too, have issued a notification re-pecting its enforcement within the jurisdiction f the Poor-law Unions.

TENDERS

For the new Workhouse about to be erected for the ardians of the Erpingham Union, at West Beckham, orfolk. Mr. W. J. Donthorne, architect.

August and Son, of Norwich	£7,775
Cushing and Co., of Elmham	7,540
John J. Darken, of Holt	7,450
Lucus and Co., of Lowestoffe	7,386

Each contractor took out his own quantities.

For House and Offices at Hornsey. Mr. F. Chambers, m., architect. Quantities not supplied.

Eldred	£2,122
Higgs and Son	2,079
Carter	2,079
Newson	1,946
Park and May (accepted)	1,887

For erecting an Asylum, Croydon, Surrey, for the aged nd decayed Freemasons. Mr. S. W. Daukes, architect.

Harris, Croydon	£5,750
Trego, Coleman-street	5,429
Wilson, Borough	5,375
Myers, Lambeth	4,891
Patrick, Lambeth (accepted)	4,868

TO CORRESPONDENTS.

" *Archi.*"—The wall belongs to the *owner* of the house D), and not to the tenants. Treat with him.

Received—" A Contractor," " H. D." " W. S., jun.," J. D.," " R. K.," " F. C., jun.," " P. E. M.," " J. H.," J. B. B.," " An Junior," " An Artist," " W. C. T.," T. H.," " T. B. L.," " J. C.," " G. H. W.," " W. N.," The History of Ireland, from the earliest period of the rish Annals to the Rebellion of 1848, by Thomas Wright, Esq., M.A., F.S.A., illustrated by H. Warren, Esq., Presi-ent of the New Water-Colour Society" (J. and F. Tallis, London, Edinburgh, and Dublin), Part I. " Journal de Architecture et des Arts Relatifs à la Construction" (Ch. anderauwera, Bruxelles), No. 16.

ADVERTISEMENTS.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at Mr. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lined to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.—T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Hermon Hey New Road, near the Bricklayers' Arms, SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pentile, Oak, and Fir Laths; Scaffolding Poles. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c. Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, address, post paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

The Company's Agents are—Mr. WM. LANE, Lowell-buildings, Manchester late of Stockport; Messrs. RANDOLPH, ELLIOT, and Co., Glasgow; Messrs. CLIFFORD and BROWN, Hull.

TIMBER-PRESERVING COMPANY.—PAYNE'S PATENTS for the PRESERVATION of TIMBER AGAINST DRY ROT, FIRE, RAVAGES of WORMS, &c. The above Company are ready to enter into arrangements for the Preparation of Timber at any of their undermentioned stations, viz.:—

Whitehall Wharf, Westminster,	Lynn,
Fleets and on-Wyre,	Stanns,
Wisbech,	Guildford,
Gateshead,	Southampton,
Barnstaple,	Hartlepool,
Leicester,	Darlington;

and they will erect the necessary apparatus wherever there is a considerable quantity of timber to be prepared. Further particulars, with prices, may be obtained at the London Works, Whitehall Wharf, Cannon-row, Westminster.

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TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City. Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Bristol-street, Birmingham. Lists of prices for warded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

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HOT-WATER WARMING APPARATUS, with the latest improvements, adapted for hothouses, green houses, pits, &c., continue to be supplied and erected by SPILLER and TAYLER, Battersea. Also improved warm-air apparatus for churches and other buildings requiring to be warmed only occasionally.—N.B. The parts being always ready, promptitude may be relied on.

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Black Registers, from 6d. per in. and upwards.
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Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

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3l. 3s.	3l. 14s.	4l. 8s.

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Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 8½d., and 4d. do.
Manufacturer of WOLSTENHOLME'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

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Best Patent Cut Chasp.

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Best Sheet Floor Brads 13s. per cwt.
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4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
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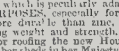
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GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, generally for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, and equally strong and stiff. This fire-proof material has been used for roofing the new Houses of Parliament, shipbuilding and timber sheds in her Majesty's dock-yards of Depford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 3, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

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KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for painting, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

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PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, piece 713 and 351, of "The Builder," for results of experiments on the relative strength of Portland Cements.—These trials show that for the practical purposes of adhering, the cementing power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most substances will be found highly conducive to all its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water with a strength in all cementitious qualities, harder, and more durable than any other description of Cement; it does not decay, vegetate, exfoliate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Co., Patentees, at the Manufactory, Northfleet, Kent, and at their Wharf, Gloucester-road, Whitehall; also by their Agent at the Depôt, Rock-shore, Liverpool.

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A brilliant black paint, invaluable as a coating for SHIPS' SIDES, BOTTOMS, also for all kinds of WOOD or METAL work, or the asphaltic roofing felts, tanks, troughs, spouts, gutters, &c., sheets, railing, and all kinds of out-door work, and being of a vitrified nature, will preserve their surfaces from atmospheric influence, and do away with the necessity for preparation, and will any in a few hours. Price 2s. per gallon.

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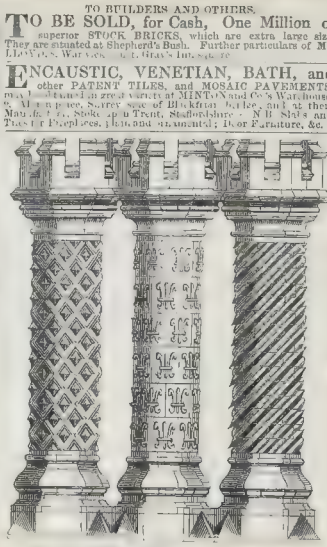
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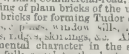
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PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c.—Manufactured only by Messrs. TURNER and ARMANI. Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City.

CARLISLE MARBLE WORKS.—The above Works have been established nearly Twenty Years, and have lately been fitted up in a superior manner, with all the latest improvements for working and polishing Marble by machinery. Architects and Builders requiring large orders executed will find a great saving both in cost and time, by entrusting their orders to the establishment. Paper and written patterns sent to any part of the kingdom, to fix work at a reasonable rate.

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WILLINGTON STONE WHARF, Augustus-street, Regent's-park.—Messrs. WOMERSLEY and FARRAR most respectfully beg leave to inform their friends, and the public in general, that they have opened the above Wharf, lately held by Mr. John Booth, with a very superior stock of Park spring sawn Slab and Landings; also of every description of Yorkshire Landings, Steps, Sinks, Coping, &c., on the most moderate terms.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

PLAIN WINDOWS and the most elaborate Works produced at the shortest notice, on a system that combines economy with the requisite degree of attention.

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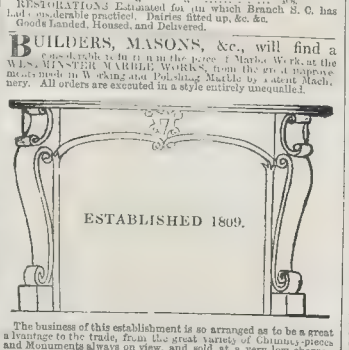
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The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.

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ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for a SUPPLY of the ANSTONE STONE for all building purposes, a which can now be seen at the said Wharf, in applicant to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—Lambeth, 1848.

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W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a bed capable of affording the finest specimens of the purest stone. Apply to Messrs. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom. Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor, and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms. Shipments can be made direct from the quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Office of Mr. R. A. WITHALL, Surveyor, 30, Cheapside, where further information and samples may be obtained.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, Forest-street, Lambeth.

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Orders to be addressed to Mr. BASCHET, at 39, Stoney-street, Borough Market.—Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.—LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries near Falaise, Normandy, beg respectfully to invite attention of Architects, Surveyors, Engineers, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, many of which are from open beds, and great durability, ranks amongst the best for building purposes, for paving, steps, &c., and for internal work and general purposes. It will be found very serviceable for large quantities to various parts of the continent for public works. Bath Stone, &c., under the patronage of the Royal Engineers, Architects, and Builders, and others, direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen, Quai Vaux Wharf, Rotherhithe, and Whitehall. Orders and inquiries, Caen Stone Office, 18, St. Thomas-street, Southwark Bridge, S.E. Stone work, &c.

A. BAKER, STONE MERCHANT, 33, Pratt-street, King's-road, Camden-Town, opposite Stanley Wharf. A. B. begs to inform architects, builders, and others, that he continues to supply the Gloucestershire Stone, out to sizes in the rough, and fit for the Masons' Works in Hyde's, Buckingham Palace, Bridgewater, and perfect inch slab for roofing, for chimney pieces, and for Portland, &c. each; stone skirtings for kitchens, &c.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere road, Lambeth.—A reduced list of prices of the above Works, for Roofing Slabs, Plain Tablets, will be sent on application, and Drawings, and the costing a postage stamp. The prices are under those advertised for inferior slates.

ENAMELLED SLATE.—CAUTION!—As some unskilled workmen, of Mr. Magnus, have originated his invention, and painted imperfect imitations, which are offered at low prices to the public, he begs to caution them against purchasing any such, as MAGNUS'S ENAMELLED SLATE, and Label Jewels wear as those that are genuine. Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles (which articles have won for him the patronage of the highest personages, and the appreciation and support of the first architects), and the medal of the Royal Society of Arts, begs it to be understood that the public are not in any way connected with the above imitations, inasmuch as the public are respectfully requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and in future all articles of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Prince de Joinville, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Anglesea, Lord Panmure, Lord Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Waldegrave, the Bishop of Chester, Viscount Combermere, Lord Robert Grosvenor, the Bishop of London, the Bishop of Rochester, the Hon. Col. Douglass Pennant, Mr. Assheton Smith, Col. Challoner, Sir J. Easthope, Sir Francis Lawley, Sir Ralph Howard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. Thomas Lefevre, and numerous others of rank and eminence, and by the most eminent architects and artists, the enemies and detractors of improvement and novelty, the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some thousands of tons annually, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Parties requiring quantities will be allowed a considerable discount on the usually reduced prices. Address, MAGNUS, Pimlico Slate Works.

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Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, &c. &c., executed expressly for any purposes; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the Artists and Workmen who have had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—351, Oxford-street.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water-Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight.—To be had of G. HOWE, Portable Steam-Engine Maker, 110, Great Guildford-street, Borough; also of Messrs. FROST, NORRIS, and VINCENT, Brassfounders, 126, Brick-lane, Whitechapel; price 2l. 10s. each.

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The Builder.

No. CCXCVIII.

SATURDAY, OCTOBER 21, 1848.

DURING the last ten days we have visited Glasgow, Paisley, Ayr, Kilmarnock, Dundee, St. Andrews, and some other parts of bonnie Scotland, and have derived much gratification and advantage from the journey. A spirit is awakening in this portion of the United Kingdom in respect of architecture and the other fine arts which can scarcely fail to produce good effects, and should be sedulously nurtured by all there in authority. Until within a very few years ago energy in Glasgow, the second city in Scotland, confined itself to making money and providing physical comforts. Education has been long sought there, and very widely given, but it was, and to a great extent is, of that kind which is popularly called the "useful," as placed contemptuously in opposition to what is called the "ornamental." The usefulness of the beautiful, to repeat an expression which best conveys our meaning, was not appreciated, and is only now beginning to be so. The value of the fine arts was not recognised,—architecture amongst them was neither understood nor cared for.

The course pursued at the time of the reformation, to which we alluded in our recent notice of *Edinburgh*, the destruction of the numerous fine ecclesiastical structures with which Scotland was studded, and the evil opinion attached to such buildings by their association with forms of religion that had become hateful to the mass of the people, contributed in no slight degree to induce this state of feeling. The prejudice thus raised existed long, but its power has been gradually weakened; and, as a worthy citizen, Mr. Archibald M'Lellan, observes, in his "Essay on the Cathedral Church of Glasgow," "It must now be to every Scotsman a matter of regret, that the reformation, which swept from our land the mummeries of papal superstition, should have with indiscriminate fury demolished alike the idol and the temple which contained it—and thus recklessly and wantonly deprived us of those great national structures, and the possession of which we could once boast competition with our more powerful and wealthy southern neighbours."

Scott had not feared before this, though Mr. M'Lellan wrote in 1833, to put the same sentiment in the mouth of Andrew Fairservice, in "Rob Roy," when describing the narrow escape which Glasgow Cathedral had, solely through the bravery of the townsmen, who, when the "Commons o' Renfrew and o' the Barony, and the Gorbals," came into Glasgow on a fine morning to try their hand on purging the high kirk, assembled under the then Dean of Guild (he was a good mason himself, it fortunately happened), and offered them battle, rather than let them destroy the building. A compromise was accordingly effected: the statues of saints were taken out of the niches, and destroyed, but the church remained whole; "I, as Andrew is made to remark, "I hae heard wise folk say, that if the same had been done in ilka kirk in Scotland, the Reform would just hae been as pure as it is e'en now, and we wad hae had mair Christian-like kirks."

All honour to the men of Glasgow for the good blow they struck that day! The cathedral, or High Church as it is called, is an exceedingly interesting structure, and though long suffered to lie neglected and gradually to fall into ruin, is now, as our readers are aware, being restored under the direction of Mr. Edward Blore. The crypts, the most interesting and extensive we have ever seen, have been carefully attended to, and are now in a good state: only a short time ago they were unapproachable, full of earth, and miserably defaced. The different levels of the ground produce, in the crypts, a variety and picturesqueness of effect quite unexampled elsewhere. St. Mungo's well, by the way, which is in the crypt, is covered up to look more like a copper with the lid on, than anything else, but this is a trifle of which, amongst much that has been done well, we will not complain. A ramble through the crypts is full of interest, and it is increased by the intelligence and knowledge of the building displayed by the little daughter of the beadle who acts as guide.

In the nave, restoration has been going on for some time, and, so far as relates to the stonework, it seems quite satisfactory. Of the new roof, however, we must express a very different opinion, and can scarcely believe that it is in accordance with the views of the able architect who has the direction of the works. A ceiling of waggon-head shape has been formed in plaster. Narrow ribs spring (in the direction of the width of the nave), from side to side, at the intervals formed by the main pillars and arches which carry the triforium and clearstory, and these ribs are coloured stone-colour. The intermediate spaces are formed into panels (on the arched face of the ceiling) by narrow ribs, and, together with the latter, are painted of a bright wainscot-colour, much more like oil-cloth than oak-boarding, which it is intended to represent. The effect is not by any means satisfactory.

The west tower, in whose favour an effort was made by some of the architects of the town a short time since, as mentioned in our pages, has been pulled down nearly to the ground, and will not be reinstated. We are disposed to regret it.

The Molendinar Burn (or stream) which runs at the east end of the cathedral and skirts the necropolis, adds much to the beauty of the view; but if it *must* be used as a *sewer*, which is now the case, should be treated as such, and covered over. The effluvium from it at times is quite pestiferous. Some other means of taking off the sewage will be devised, it is to be hoped, before long, and should extend to the river Clyde, which now receives the whole sewage of the city, and then has to be cleansed from it, by dredging, at an immense annual expense.

This and other matters, in connection with the sanitary condition of the city, are now engaging the attention of many of the most able and influential men in Glasgow, who wisely seem resolved at once to attempt remedial measures. Their strong feeling led them, in conjunction with some of the principal architects of Glasgow, during our stay in the city, to pay us a compliment of a very flattering character, so much so, indeed, that we may perhaps subject ourselves to grave charges by alluding to it. Inasmuch, however, as it was paid rather to the journal than to ourselves, and we feel (it is to be hoped excusably) proud of their kind opinion, we have ventured to condense from the *Glasgow Herald* a notice of the occurrence which appeared in that journal, omitting some flattering expressions that accompanied it.*

Much requires to be done in Glasgow to render it as salubrious as it might be, and ought to be. The *wynds*, as they are called, or narrow alleys and courts, opening out of many of the leading thoroughfares, which present a fair face to a foul disfigurement, are fearful hot-beds of disease and crime, and require the most sweeping reform.

A praiseworthy attempt is being made by the ex-provost, Mr. Lumsden, to provide improved dwellings for workmen, by the erection of a pile of building in the New City-road, Glasgow, containing thirty-one dwellings, each consisting of one main room with two bed-closets, and to be let for about 6*l.* a-year each, including gas, water, bedsteads, stove, and other conveniences. The building is designed by, and is being erected under the able superintendence of, Mr. James Wylson, architect, who is well known by his writings to our readers. It seems so well adapted to its purpose, that we shall next week give a fuller account of it.

A wonderful improvement in the architectural appearance of the streets of Glasgow has been effected within a comparatively short period of time, for which the city is greatly indebted to the late Mr. David Hamilton, architect, of whose career we gave a notice some time ago. The Exchange, the Union Bank, the British Linen Company's Bank, and the Western Club, are amongst his most important works, and entitle his name to a worthy place in every list of British architects.

The façade of the Union Bank, we may mention, displays six large statues, by Mr. Mossman, of considerable merit. M. Maroschetti's statue of the Duke of Wellington, in front of the Exchange, seems to have little to recommend it. *Apropos* of sculpture, we here saw a copy of Mr. Fillans's bust of Professor Wilson, the redoubtable "Christopher

* "On Saturday evening an interesting *conversazione* took place in the house of Mr. J. Wylson, architect, for the purpose of meeting Mr. Godwin, F.R.S., as editor of The Builder. The suite of apartments was thrown open to the visiters, in which was laid out a fine collection of articles of *vertu*. Among these we observed two magnificent Florentine vases of ivory mounted with gold, carved in mezzo-relievo, and attributed to Benvenuto Cellini. Several curious specimens of early Indian architecture, of elaborate workmanship, attracted considerable attention, as also did a large collection of exquisite casts of antique gems. The walls were profusely adorned with electrotypes, paintings, engravings, arabesques, and fruit decorations, by M'Calman, and with Mr. Wylson's own interesting collection of professional drawings, prints, and casts. After the various objects of art, laid out for inspection, had been leisurely examined, Mr. Lumsden opened the proceedings by stating that Mr. Godwin had come from London, by invitation, to lecture to the members of the Glasgow Athenæum, on the history of architecture, hoping thereby to diffuse a taste for a noble art. A number of Mr. Godwin's professional brethren in town, and of other gentlemen who take a deep interest in the progress of art, having expressed a desire to meet this gentleman, Mr. Wylson had handsomely taken the requisite measures for gratifying this desire, and the result was the present meeting, which he was glad to say, included many of our leading citizens. There were, no doubt, many agreeable subjects which might have called for their attention on that occasion, but in present circumstances they could not better bestow their time than in conversing on the subject of *Sanitary Reform*, regarding which Mr. Godwin would, no doubt, readily inform them what had been done in London, and what he would suggest to be done in Glasgow. Mr. Godwin expressed his willingness to meet this wish, though altogether unprepared. He might be able, however, hereafter to offer some suggestions through the columns of The Builder. The question of Sanitary Reform was at present engaging the attention of men of the highest intellect; and he could not suggest a better plan to the authorities of Glasgow than to offer one or more premiums of such an amount as would induce able men to apply their skill to the particular local circumstances of this city, with a view to its sanitary improvement. He proceeded to detail at considerable length what was being done in London; the effect that proper paving, &c., had been found to exercise on the duration of life; the form of sewer that had been discovered to be the best, which was of an egg shape, with the narrow end downward—this form of sewer being best capable of cleansing itself,—and the plan employed to save the contents of the sewers. His reception here had been highly gratifying to him; but, while much struck with the beauty of Glasgow, he had not overlooked the pestilential wynds, which he strongly urged should be effectually improved. A lengthened practical discussion followed, in which the advantages of improved drainage, for the benefit of health, and the importance of securing the contents of sewers for fertilising purposes, were strongly urged. The meeting was altogether an instructive one. Amongst the gentlemen present we observed the Lord Provost, Archibald Hastie, Esq., M.P.; James Lumsden, Esq.; Bailie Smith; Bailie Gilmour; the Lord Dean of Guild; Mr. A. Liddel; Rev. James Cumming; Dr. M'Gregor; Dr. Easton; &c."—*Glasgow Herald.*

North" of *Blackwood's Magazine*, the inauguration of which we mentioned a short time ago. We have since seen the marble in Paisley, and bear willing testimony to its merit: it is unquestionably a work of genius.*

More anon.

THE EDUCATION OF ARTISTS AND VALUE OF THE OLD MASTERS.

Sir,—The observations of your correspondent "Amateur" on the three papers entitled "The Influences which tend to retard the Progress of the Fine Arts" do not appear to rise to the value of objections. In several instances he endeavours to divide

"A hair 'twixt south and south-west side;"

but as his letter affords an opportunity in reply of advocating the cause in which we have enlisted, advantage is taken of it. No objectors having arisen on the part of those in earnest with the profession we interpret as a tacit approval of the motives of the essay; it is feared, however, that the intention of making each portion of it logically dependent on its antecedent was unfulfilled from inability at present to do more than lisp our thoughts.

You cannot suppose, Sir, for a moment, that we ever intended to deny the power of ancient artists. The great question is this: how are men to arrive at equal or greater excellence? It is of little use telling them of "the lofty genius of Raffaelle," "not to be servile copyists," and "to select the best parts from the best things;" we endeavour to do more than this, enforcing the study of nature—the whole range of science—as the most effective course for discovering and destroying all fallacies—for the perception of truth. Again, that artistic studies should be extended over a wider field than at present, in order to bring all the rays of the light of knowledge to a focus on our pursuits,—this we conceive to be the true way of enabling men to discern what is right: are they likely to remain servile if such a course of study be pursued? Eminence—freedom—the power of discriminating—"the selecting the best parts from the best things" of your correspondent—will these not all be attained by diligently studying nature? By "studying nature" we do not mean merely painting nor drawing from objects animate or inanimate, although this is too often its limited signification with the artist. Does not nature include both the perceiving and perceived? If so, there could never be any doubt in our mind that the knowledge of both is essential to the understanding of either; but we fear the real cause of almost all the evils in art is this—*that falsely magnifying and extolling the powers of the mind*, we seek not its real helps. "Man, the minister and interpreter of nature, can act and understand in as far as he has either in fact or in thought observed the order of nature: more he can neither know nor do."

If "Amateur" reads attentively, he will find that the admission with regard "to the faithfulness of endeavour, &c." exhibited in the works of the early Christian painters, which he assumes to negative, are in fact powerful arguments of Schelling on the futility of copying ancient art, for says he, "before them also stood the works of antiquity—round statues and bas-reliefs, which they might have directly transferred to their pictures; but this appropriation of a beauty not earned by itself, satisfies not an instinct of art, which tends directly *to the original, and from this in freedom and primal energy developes for itself the beautiful*," as it were, "from the very seed and root." That is, ancient art was in its results before them, but they foresaw that the blind worship of it would not lead to excellence—they inferred no doubt, that all ages could not have had a collection of old masters as precedents, therefore resolved to enter the school of nature, first learning to lisp and spell. This humility bore its fruits in aftertime, enabling their descendants to read and understand through the accumulation of experience by tradition. We know not whether they may have made the deductions which we subjoin from the history of art, which in our own time are rendered more conclusive by being confirmed by the history of their epoch:—

1st. That "the divine geniuses," "the great names in art," were never coeval with the first demands on art-production.

2nd. That the highest excellence in both Greek and Italian art, *was only attained progressively*.

3rd. Those honoured as the greatest artists were of this period.

4th. That in both the Grecian and Italian epocha the earliest efforts had their types in a foreign and more ancient art—the one Asiatic and Egyptian, the other Grecian.

5th. That Greek and Italian art was neither vital nor progressive till emancipated from the yoke of precedent.

All these must powerfully militate against the "revival" mania, and may teach us also to honour all earnest labourers with an equal regard, whether they lay the hidden and secure foundations, which are essential to the support of the beautiful superstructure, or the coping stone of the edifice. The custom is to pay all honor to the latter, forgetting that every man is raised and built up by the labours of his predecessors; and when we reflect on the slow advance of the arts and sciences, we must inevitably come to the conclusion that "divine genius" has little to boast of as inherent or self attained: much more is due to the labours of others, but most to the conjunction of favourable circumstances.

As for old pictures, we regard them as the fading leaves in autumn: compelled by the preparations for a future growth, they fall, enriching the soil in decay, obeying that eternal oscillation, 'twixt life and death, which pervades nature. The beautiful lilies pass away,—the rose, all that is fair, must shrivel into uncomeliness and die,—and who could observe these without wonder, imbued with an inner conviction that the greatest work of human art is insignificant in comparison. Why, then, should not the flowers of civilization, so inferior in skill, pass away with the season in which they possessed the freshness, bloom, and fragrance of life?

Need we call attention to the condition of philosophy before the time of Bacon, when the dogmas of the schools were absolute, as a parallel to the present unhealthy exhumation of rottenness, of rust—of all that bears upon it either the ghastliness of absolute death, or on which is cast the dark shades of its approach? He indeed was thoroughly opposed to antiquity, and was the first to expose the fallacy of a supposed debt of reverence, pointing out the true path of science: the results have been astronomy and chemistry, instead of astrology and alchemy. "The opinion which men entertain of antiquity is a very idle thing," said he, "and almost incongruous to the word, for the old age and length of days of the world should, in reality, be accounted antiquity, and ought to be attributed to our own times, not to the youth of the world, which it enjoyed amongst the ancients; for that age, though with respect to us it be ancient and greater, yet with regard to the world it was new and less."

Burke, with similar convictions, writes—"And as for those so-called critics, they have sought the rules of the arts in the wrong place; they sought it among poems, pictures, engravings, statues, and buildings, *but art can never give the rules that make an art*." "This is, I believe, the reason why artists in general, and poets principally, have been confined in so narrow a circle: they have been rather imitators of one another than of nature, and this with so faithful an uniformity, and so remote an antiquity, that it is hard to say who gave the first model. Critics follow them, and therefore can do little as guides. I can judge but poorly of anything whilst I measure it by no other standard than itself: the true standard of the arts is in every man's power, and an easy observation of the commonest, sometimes of the meanest, things in nature will give the truest lights."

Retrogressists must yield before such bulwarks—progressists must ultimately triumph.

There is one other point on which your correspondent made the following remarks:—"I am one of those old-fashioned individuals who think that money alone will not create a taste for the fine arts, and with all respect for political economy in its proper sphere, venture to doubt whether there may not be exceptions, in the fine arts at least, to this fundamental maxim, that the best article will always fetch the best price?" and, again, "what all would desire is, that patronage should flow in the purest stream and right direction."

Money alone will certainly not create a taste, and as certainly will no taste be created unless money be expended: how then would it be best to disburse some of the hundreds of thousands now chiefly devoted to the purchase of old masters? If the possession of these would make artists, and educate the public, then indeed is England highly favoured: we hope, however, that all who have influence will exhort patrons to change their favour to the works of men of their own time, to give them ample scope for the exercise of their talents, by having their mansions decorated. By such encouragement munificent patrons, private and ecclesiastical, developed the artists of past times, instead of allowing walls to be covered, as oftentimes they are in England, with dingy rubbish.

We wonder that architects have allowed so long the features of their interior designs to be so marred.

There would be no fear of patronage "flowing in the purest stream and right direction," if patrons of whatever class knew what the right thing should be; but this is far from being the case. In our essay means were suggested of improving public taste, by a better and more generally diffused art-education in the schools and colleges of the realm. This would be an opening for a wise appropriation of funds; but even in the present state of things there is nothing to controvert the maxim that the best of the article demanded will fetch the best price. That which the educated few call the best is so because they are habituated and trained to appreciate it, but this is "*caviare*" to others whose best is of another standard; but every one assuredly gives the best price for the best of that which he esteems.

It would strike us as both unreasonable and tyrannical, if any body of men should resolve to force others weaker than themselves, who might prefer black, to purchase and swallow white bread (change in tastes are only gradually effected), yet this is very like the course pursued by those who fancy they have the power of transforming the people's by the touch, as it were, of the magic wand—their veto.

The greatest care ought to be observed lest in meddling obstructions be thrown in its way: while society is in a healthy condition it must be progressive. Let every one be ready to supply oil to the wheels of the advancing chariot.

W. C. Thomas.

Health of Towns.—At Hull, Sunderland, Hartlepool, Newport, Droitwich, Cheltenham, Taunton, Witham, and elsewhere, steps are being taken for the extension of the provisions of the Health Bill to the respective localities. We have already noted the like commendable proceeding with regard to Whitehaven, Portsea, Bedford, Gateshead, Cambridge, Ely, Worcester, Birmingham, &c.; so that the Act seems to be desired and appreciated in all quarters. At Bristol a determination has been expressed zealously to second the directions of the Board of Health, but the citizens have yet to express their opinion of the Health Bill as applicable to Bristol. Dr. Southwood Smith has been appointed the Medical Member of the General Board of Health.

A Greek Church at London Wall is in course of erection, there being a sufficient number, it appears, of Greeks, or members of the Greek church, now resident in London, not only to build, but to occupy such an edifice.

* The following sonnet on this bust we take from a charming little volume of "Songs," by Mr. Andrew Park, the poet, of Glasgow, published by Murray of that city, and Bogue of Fleet-street. 1848:—

"How like a lion in quiescent might,
The noble soul'd "old Christopher" appears!
The mental glory of internal light
Smiles beautiful amid his ripening years!
No petty meanness—no flesh-shapen fears
O'ercast the manly firmness of his face,—
His brow, a dome of thought—majestic rears,—
His eye, a thousand fancies seems to trace!
His flowing locks swim o'er a neck of grace,
And all the aspect of his form is pow'r!
A manliness that time cannot displace,
Fresh and unbending as in youth's gay hour.
The heathens had their gods, so Scotland, thou
Mayst trace as proud a form in living Wilson now."

THE STUDY OF PERSPECTIVE.

At a period when a taste for art is diffused mongst the masses by means of the many xhibitions and collections of pictures, both ublic and private, aided, indeed, by individual unificence, it becomes incumbent upon the chools and professors of art to call in the aid f science in assisting the development of that ste by throwing open the portals of know-dge, and rendering art-education accessible all who seek it.

Drawing is esteemed a pleasing and requisite ppendage to a liberal education; but Perpective, which is a key to a knowledge of rawing, or, if I may so term it, a lantern in a ark and difficult road, is too often neglected, nd the student is left to his own resources for thoming the laws whereby forms change heir character according to the position in hich they are viewed. A modern author has id justly—"The art of perspective is a anch of knowledge very rarely cultivated, om the prevailing idea that it is useful only architects and some few artists, and that it in no way recreative or instructive as an ccomplishment." The same author adds rther—"That this notion evidently arises om the art being misunderstood." "Drawg receives but half its share of importance, nd merits a much higher value than is popurly assigned to it, for besides the amusement affords, it is, when taught on principle, a ource of extensive knowledge." The object f the artist or draughtsman is to delineate rms in two ways,—first, simply by their dihensions, or geometrically; secondly, by their ppearances or variation of those dimensions appearance when viewed by a person from me chosen position, and hence called perspecve, and that part of optics which applies representation. Artists whose profession it to delineate these forms, and *connoisseurs* ho would aspire to *judge* of the correctness f their productions, ought to possess a knowdge of the principles of perspective, to make eir judgment of any value.

From the number of works on perspective, any of them differing in principles, their ifficult nomenclature, mixed up with much relevant matter, and not unfrequently pecuar *crotchets* of their authors, the student has uch difficulty in deciding what system to llow, and from the numerous obstacles imeding his way, as also for want of a little idicious instruction, becomes disgusted with e supposed difficulties,—neglects that which ught to have been the primary cause of his ducation,—and rests upon the questionable eracity of his eye for the correctness of his elineations.

The generally superficial character of lecres leaves some amount of thought and bour to be performed by the student ho wishes to make himself master of the cience. The lecturer, therefore, stands the position of a pioneer to a more exnded knowledge, dependent upon the inustry and intelligence of the student himelf; and those who wish to perfect themelves in this art, if they meet with difficulties, ust seek the assistance of an able professor, om the circumstance of its being next to mpossible to convey a complete knowledge of e art in all its intricacies in a limited course f lectures, which shall be at once erudite and opular.

I have now come to that part of my discourse which I feel it incumbent on me to address few words to the young members of the chool,—to those aspiring spirits who, within e walls of this institution, replete as it is with verything that can forward their progress, ay be laying the foundation of a knowledge hat may eventually lead to a well-earned, idely-spread, and undying reputation. Sir oshua Reynolds has said:—"Nothing is enied to well-directed exertion;" to which he ight have added, "that which is worth doing all, is worth doing well," or at least as well you possibly can. The truth of these pgmas will be the more apparent upon exmining the creations of those men of genius ho have long since mingled with their ndred dust, but the memory of whom surves, and will survive as long as their works xist for our admiration and example. Rerring to our own English school, how preminent for industry, observance, and carefulness stand the works of Hogarth. You will, by studying his pictures, see the attention that he paid to his back-grounds and all the minor accessories which make up a picture: his perspective in particular is, with few exceptions, worthy of imitation by artists of the present day. There is no slovenliness masked by a slap-dash execution; nothing of the careless "that will do" system; but all is care, attention, and knowledge, and that, too, at a time when the laws of perspective were not so well understood as at present. Look also at the works of John Martin, the illustrator of Milton: see the power he possessed in composition, dependent entirely on his knowledge of perspective. The great Turner, Calcott, Constable, Stanfield, Roberts, and Danby, all of these are masters of its laws, and mark the results in their hands. I trust with these examples before your eyes you will allow no difficulty to stop your onward course, and that you will not rest satisfied until you have laid the foundation of a thorough and complete knowledge of perspective. The first steps are, I admit, difficult, and demand a considerable amount of patient and untiring energy, without which success itself is deprived of half its pleasure; but the rewards are amply worth a struggle, and I both sincerely hope and confidently trust, that the majority of my hearers will perpetuate their fame in such memorials of their genius as shall win golden opinions from all the patrons of our delightful art.

The specific elements of form or contour are simply two—*i. e. straight* and *curved* lines, and from the combinations of these two arise the infinity of forms which every moment present themselves to our notice. Objects are conveyed to the eye of the untutored in their abstract and not perspective form. A square, for instance, when viewed by such a spectator, is conveyed to the mind as a *perfect* square; but the *tutored* eye sees it foreshortened, or with three parts of its dimensions less than the other, *i. e.* in perspective. This will be more apparent by a reference to circles in perspective, parallel to the horizon, the diagrams of which are truly worked. You will then see the changes which take place in their form: for instance, when situated immediately in front of the spectator, it (the circle) is a somewhat symmetrical form; but placed either to the right or left of the spectator, you will observe that one side of the figure is depressed or elevated, according as it is placed above or below the horizontal line.

This, together with the elongation of the circle, was for many years a matter of dispute; but the application of the prism, by Dr. Wollaston, to drawing, shows the truth of the theory. Mons. Gavard invented a mechanical apparatus called the "pantograph diagraph," by means of which the most complicated designs, either architectural or sculptural, can be correctly reduced to any scale, and that too in beautiful perspective.

On looking at the astragal of a capital, you will see that the sides of the circle are considerably depressed on the side nearest the eye of the spectator. The same remarks apply to domes. These, from being usually considerably above the horizontal line, are seriously affected by the position from which they are viewed. Hence the necessity, that all those whose profession it is to delineate form should be intimately acquainted with the laws of perspective, particularly architects, since a just appreciation of their designs would greatly depend upon the *perspective views* of those designs being correctly executed.

Important as these laws are to the painter, they are equally deserving the attention of the engraver, as the latter labours under the disadvantage of the want of colour. Having merely lines, in addition to light and shade, wherewith to describe contour and surface, it is necessary that he should be intimately acquainted with perspective, without which he will never be sure that he is not placing his lines in such a manner as to form the antithesis of that which he really wishes. In fine, there is no branch of the arts in which perspective is not a valuable auxiliary, and the necessity for its study cannot be too much insisted upon. Most authors have divided perspective into two parts—linear and aerial. The latter I entirely discard, as it is exclusively the property of light and shade. In the place of this I would divide perspective into three parts, viz.:—

1. Parallel perspective, or where the objects to be delineated are parallel to the plane of the picture.

2. Oblique, or where the objects are situated at a less angle than 90° to the plane of the picture. And,

3. The theory of shadows.

MONUMENTAL BRASSES IN THE OLD CHURCH AT HACKNEY.

Few parish churches have contained such a numerous assemblage of monuments of various kinds, as appear to have belonged to this church, originally dedicated to St. Augustine, and whose former site is indicated by the tower, which was allowed to remain when the new church was built in another part of the present extensive churchyard.

Different causes have produced the disappearance of such memorials, the chief of which may be held to have been the reluctance of the authorities to introduce in their new edifices any kind of materials which bore the marks of time or former fashions, however interesting they might be from their associations, or valuable on account of their data or historical reference. Stowe, Weever, and other old authors have preserved an account of such monuments as remained in the old church at their time, as well as of some others which had been removed or been obliterated; and, among these, there were several appertaining to noble names and distinguished personages. In reference to the latter, it appears remarkable that several of them should have been wholly lost within little more than a century after the date of their erection. The monument of Henry, Lord Percy, who died in 1537, and which appears among the *desiderata* chronicled by Weever, is an example. Another, the memorial of one belonging to a more humble class, contained the effigy, in brass, of Alice Ryder, represented with a milk-pail on her head: she appears to have been a 'milk-wife,' and is said to have obtained great wealth by the sale of her commodity, in the city, and became a great benefactress to the church; but neither her merits nor the singularity of her monument had proved sufficient to secure its duration. Her epitaph was contained in the following rugged couplet:—

"For the sowl of Allis Ryder of your charite
Say a paternoster and an ave."

Another epitaph indicates an author strongly addicted to a quibble; it ran as follows:—

"Jone Onely, the onely most faithful wife of John Onely, of Warwickshire, esquire, to whose soul the onely Trinity be merciful. Amen. She dyed 1525."

The inscription, "Here lies Jone Curteys, the daughter of —— Shordych, anno 1399," induced Stowe to conceive that the probable residence of the father of the lady here mentioned was that old house near Well-street, in this parish, called Shore, or Shoreditch-place, and which has been ascribed by tradition as having been the residence of the celebrated Jane Shore, whose portrait was preserved in the house to support the tradition. A monument to Sir John Shoreditch formerly existed in the church.

Among the few ancient monuments which have been preserved in the modern church, is a fine brass, containing the effigy of Christopher Urswick, formerly vicar of this parish, who was likewise almoner to Henry the Seventh, an ecclesiastic of high attainments, and an eminent benefactor to this parish; likewise, a curious little brass to Hugh Johnson, representing that divine in the act of expounding from the pulpit.

I am not aware how I became possessed of the impression that I should find a brass in the old tower remaining, but being accidentally in Hackney, and having such an impression, I procured admittance, and, with the assistance of the sexton, who was aware of its whereabouts, removed a quantity of rubbish, by which the object of our search was covered up, so as to examine it and to procure a rubbing, which was not done without trouble, for the brass and the stone in which it is inlaid were redolent with the damp and filth of the noisome and abominable nook in which it had been buried, among

rotten planks and other unwholesome matters peculiar to the gravedigger's *sanctum sanctorum*. This civil functionary, while giving his ready aid, likewise mentioned another brass, which, as he informed me, lay under a greater accumulation of similar base refuse at another corner of the same tower; but time not serving, I was obliged to leave to another opportunity the task of uncovering it.

Respecting this large brass, I have consulted the authors above quoted, with some others, but have not succeeded in discovering any description of it in the lists preserved in their writings. The date upon the monument itself is 1545, a period of no great antiquity in Stowe's time; but from the omission of any mention of it on his part, it would seem not only to have been one of those which had disappeared by his time, but that the memory of it had likewise gone into oblivion. Neither have I been able to discover, so far as I have gone, the name of John Lymsey in the account of such as have been benefactors to the church, nor otherwise among those who have held lands in the parish, or have taken a part in its affairs, although from the appearance of the effigy and the heraldic insignia it is to be presumed that they could not have appertained to any insignificant person. But as it is not shewn in the legend that John Lymsey himself was buried in the church, it may be conceived that he himself belonged to another parish, and that the monument was placed by the testamentary direction of his widow, who may have removed hither, and the date of whose demise is not recorded.

Again, it is possible that the monument itself might have been removed hither on the decay or demolition of some other church, as in the case of the monument of Hugh Platt, brought from the old chapel at Highgate, and set up in the church of St. Pancras, with this difference, that the one has been carefully preserved and twice restored by the piety of the heads of St. John's College, Cambridge, to whom he was a benefactor in the lands still appertaining to that college in Kentish-town, while in the case of Lymsey, supposing its removal, his memorial has been put by in neglect.

I have been moved to the above inquiries and speculations in order that I might be enabled to substantiate as far as I might the expediency of an endeavour to rescue this brass from the obscurity and decay to which it is liable in its present situation. With this view, I should have considered that such a plea would have been greatly enhanced had I succeeded in discovering some association between the name which it records, and the history or transactions of its locality. But I do not assert that I have by any means made an adequate inquiry in this direction, having only perused such authors as might be considered likely to furnish the required information, but without any research in connection with the armorial bearings as they appear on the three remaining shields, nor any inquiry into collateral sources of discovery.

The brass, being boldly executed, has remained sharp, and capable of being restored; *i.e.*, by replacing the colouring matter, and renewing the rivets in some parts where they have given way; and, moreover, should the deficient part of the legend be discovered in any account of the Hackney monuments which may have escaped my notice, by restoring that, the monument may be rendered as complete as when newly done.

The brass is inlaid in a fine slab of Purbeck stone,—a thing of some value in itself, and which is capable of being fresh faced at a moderate cost.

Upon these considerations, I have thrown together in a hasty way these notes, with the view of obtaining the removal of this ancient monument from its present obscure place, and by such restorations as I have touched upon rendering it worthy of a situation in the present parish church. J. W. Archer.

The Iron Trade.—Notwithstanding confident assurances of a sustainment of the previous reduced prices, and of even an advance, the quarterly meeting has openly declared for a still further reduction of the previous nominal prices.

DISCOVERIES AT ST. CUTHBERT'S CHURCH, WELLS.

On removing the whitewash which has long disfigured the walls of Trinity Chapel, in St. Cuthbert's Church, a mural painting was found. It represents the Saviour in the act of preaching, with an angel above, bearing a shield with the five wounds emblazoned, and the following inscription:—

I.H.S. M.C.Y.

running horizontally in rows, as a diaper behind the figure; and underneath, the words

SALVATOR MUNDI.,

in large Lombardic characters.

A window (in the screen separating the Trinity from the adjoining chapel), containing tracery of very beautiful design, was also found. On proceeding further with the search, an altar was disclosed to view (which for many years must have been coated with plaster and whitewash), of design and workmanship which, according to the *Bristol Mirror*, which is our authority in this case, may challenge comparison with the most elaborate portions of Henry the Seventh's Chapel at Westminster, and can compete with any work extant.

"This discovery may be considered to include two altars, one in the chapel of the north aisle, and the other in the south; the northern one being far superior to the corresponding one on the opposite side.

The former consists of five arched compartments of equal height: in the centre one the span of the arch is of a greater width than the others. Each compartment is slightly recessed, and contains two canopied niches, one above another; which arrangement is continued throughout the five divisions. The recesses are flanked by buttress-work of the most graceful and slender description, which chiefly form the dividing members of each compartment.

The buttress-work carries a complete mass of crocket pinnacles, that, through their intricacy, present to the eye a lace-like effect. The work is of the best period of the Perpendicular style, and the whole of it has been most highly illuminated. The niches, which have a blue ground diapered with gold stars, formerly contained figures, more highly coloured than the other parts of the work, if we may judge from the remaining fragments, which, with the canopies that had been sawn off, and other mutilated portions, such as pinnacles, bosses, finials, &c., were found built in, as rubble, in the niches, so as to form a flush surface on the plastering, &c."

In the chancel, on removing the carved panel-work which surrounded the altar at this part of the church, *sedilia* were disclosed, of a plain though good design, and evidently coeval with the rest of the building. On removing a panel on the opposite side, there was discovered a priest's door, similar to that found two years since in the Ladye Chapel of the Cathedral. Also a piscina, with credence table, which bears marks of illumination, as did also the *sedilia*.

The journal we have quoted properly urges the inhabitants of Wells not to allow the church any longer to remain in its present state, but forthwith to restore it.

"Although a church-rate for this purpose has of late been refused, may we not hope that these discoveries will turn the tide of popular feeling, and that the beautiful as well as the useful may be considered worthy concomitants of the house of God, and consequently, of our consideration? We cannot do better than again refer to a speech of the Bishop of Norwich on a late occasion:—'I see not why taste in all its branches—why sculpture—painting—those blessed gifts of God, should be cast aside when speaking of religion, and should not be used to God Almighty's glory.'"

Archæological.—The West Norfolk Archæological Society met on Wednesday week, when the Rev. C. Boutell, of Downham, read a paper on Norfolk brasses, and a window of stained glass, the work of the Rev. Arthur Moore, of Walpole, was exhibited.——The Scarborough Society lately proceeded to open a tumulus at Peasholm, supposed to contain many valuable relics.

ALLEGED RAILWAY MISMANAGEMENT.

The chairmen of the London and North Western, the London and South-Western, and the Great Western, had private conference lately on the best means of restoring lost confidence in railway property, and improving its market value. From the little that transpired from a meeting at which even directors and secretaries were studiously excluded it appeared that a cordial understanding had been come to, that no further responsibilities of any kind were to be incurred, that every measure which the law allowed was to be adopted to raise the market value of railway stock, by securing better dividends for shareholders, and that fewer trains were to be run on each line.

Herepath declares that it is to mismanagement and overreaching on the part of the railway administration itself that public confidence has been so far withdrawn, a circumstance which reduces the want of confidence and the dread of danger on the part of the share broking public to the very same cause to which we have so often shown that not only the dread of danger and the want of confidence on the part of the railway *travelling* public, but their broken limbs and victimized lives must chiefly be attributed, namely, to the mismanagement and the self-overreaching, self-ruinous 'economy' of the railway directory in regard to everything necessary for the public safety that would involve, even temporarily, anything like money out of pocket, or additional cost or outlay voluntarily paid.

"The following startling facts," says *Herepath*, "demand the serious attention of railway shareholders, and show the fearful state to which the railway property in the United Kingdom has been brought by the overreaching manner in which its administration has been conducted:—

The capital expended on railways now open for traffic, stated in the traffic-table of the journal, amounts to 148,400,000*l.*: deducting 17,200,000*l.*, the amount stated by the Railway Companies in their last half-yearly reports to be unproductive, it leaves a productive capital of 131,200,000*l.* The revenue from traffic on the railways representing this capital, during the past half-year, amounted to 4,722,719*l.* and the working expenses to 2,341,770*l.*, leaving a profit of 2,380,949*l.*, or 1.81 per cent., for the half-year, on that capital.

Of the 131,200,000*l.* mentioned, there is 23,810,000*l.* representing the capital of lines which pay no dividend, some of which have not been many months in operation; the traffic, however, during the last half-year amounted to 376,244*l.*, and the working expenses to 241,033*l.* leaving a profit on capital for half-year of 135,211*l.*, or 0.50 per cent.

Deducting the capital expended on the non-paying dividend lines (23,810,000*l.*), and the traffic receipts and working expenditure belonging thereto, the sum of 107,390,000*l.* will remain as the aggregate capital of the dividend-paying lines, with traffic receipts for the past half-year of 4,346,475*l.*, and a working expenditure of 2,100,737*l.*, showing a profit from all sources, excepting balances of preceding accounts, of 2,245,738*l.*, or of 2.09 per cent. for the past half-year. These facts speak for themselves, and prove that public confidence in railway management has had at least some grounds for being shaken. It is no matter how skilful the great railway men may be, how honourable, or how rich; the tendency of their management for the past three years has not only been to seriously jeopardise the property of those who are compelled to pay up 3,000,000*l.* in calls every month, but by means of amalgamations and leases to bring down dividends of good trunk lines from 8 and 10 per cent. per annum to less than half that amount. Here is no theory, but absolute practice, and the result of overreaching mismanagement. Things, it would seem, must be much worse before they get better; the calls are made month after month, as if nothing was the matter, to the injury, if not destruction, of the greater part of the railway property. Upwards of 25,600,000*l.* have been called upon railways in the united kingdom during the present year, and about 31,000,000*l.* were called up last year; and as the Directors of the Railway Companies are authorised by Parliament to call up at least 170,000,000*l.* more, the same course will, it is to be feared, go on until some awful crisis puts a stop to these calls, or until the whole is involved in one common ruin. There are men who will no doubt gain much by these heavy transactions, have their ambitious objects promoted, and their wealth increased; but the great mass of railway shareholders must feel the effect of these great operations, and lose thereby to a considerable extent. Should railway Directors continue their present overwhelming management, there is no telling where the line of railway depreciation will stop."

The *Times*, too, makes a grave charge of another sort against this same management.

"Where is this to end?" says the city article. This very question tells the whole history of the mischief. Each man asks it of his neighbour, and neither can give the slightest clue to its solution. The 'balance-sheet' of a railway company has now no more effect than a sheet of waste paper, and as it *would be perfectly easy to give accounts which would make everything perfectly clear, and these accounts are not given*, it is naturally inferred that the market would not be benefited by the prospect they would indicate, and hence that, although the end cannot be known, there is a certainty, at all events, that it has not yet been reached. The public fear of meetings of the heads of the leading lines to devise means to stay the ruin. There is only one measure wanted, and that is the publication of accounts that shall be unmistakeable. So long as such statements are kept back, there can only be an increase of distrust. Several months back the companies *resisted the appointment of a public auditor*. Had it taken place, it is probable the end would by this time have been arrived at. As it is, it may easily be seen that until the books of each concern shall have been thoroughly sifted by some wholly unbiassed person or persons independent of the Directors, paid expressly for their work, and with a professional reputation at stake upon its accuracy, it must be vain to hope for any permanent mitigation of the chronic terror that now prevails."

On this profit and loss, accounting and shareholding subject, we do not mean to offer any opinion of our own: we only regret the present state of things as it affects the building trades generally, and the poor working men and their families in particular. Swindon, we perceive, is at present a centre of incipient emigration, in place of, as heretofore, a growing conflux of railway industry and enterprise; and it is but too likely that there will be other Swindons of this sort shortly, if matters do not rapidly amend.

THE ABUSE OF THE ARCH.

Sir,—The origin of the arch appears to be, where it will ever rest, in obscurity. Much learning and research, for very many years, have been brought to bear on the subject, without being able to define its first application. Successive accidental discoveries of the works of remote ages serve but to render the exact epoch (if it had but one) more ambiguous; whereas, it is probable different people may have applied and discarded it. That the Egyptians did not know of its application we have no positive knowledge, and must not be guided in our conjecture by not finding it in those wondrous structures, the Pyramids, which have

"outlived their maker's name,"

but rather attribute their present preservation to the discretion which omitted putting so destructive an engine in what were intended for durable monuments. That the Greeks did not employ it in their temples and palaces is tolerably certain, but their knowledge of dynamical geometry forbids the ban of their ignorance of its use; and the state of their ruins, at the present day, plainly shews it is the vengeful hand of man, with his desolating ravages, that hath aided time in hastening their destruction. On the contrary, we observe, with regard to the Roman structures, a powerful stimulus to decay, by the introduction of that wedge of destruction, the arch. That the Romans were, like the Goths, driven to it by the nature of their materials, I doubt; Gothic architecture being the doctrine of building with small stones, which cannot apply to the Romans, seeing they had, at the period of their erecting, the resources of the Greek quarries in addition to their own; nor need we go thus far in comparison, as the size of materials used would construct in the Grecian style.

If we now leave its origin, and say a few words on its application, we may observe the arch is, of course, very useful in certain places, but when misapplied, is not only useless, but dangerous, as nine out of ten of the corner houses of the streets of London can testify: indeed, the thrusting of the arch, with the expansion and contraction of materials, pushes out what it can never recover; and when the lateral bonding is not sufficient to restrain the arch, sooner or later the building becomes bulged, and its strength impaired; so that the more we revert to the old Greek system of lateral girders and vertical pressure, the greater stability we shall have in our buildings.

I am, Sir, &c., A. T.

CHURCHES AND CHAPELS.

At Jesus College Chapel, Cambridge, the restorations are at length nearly completed. In course of the repairs a number of arches have been found concealed behind clumsy masses of brickwork and plaster. The original fabric is now again developed. The window at the east end is new in material, though not in design. This and the other windows are to be filled with stained glass, and the square panels of the lofty roof decorated with rose and crown. Unfortunately a portion of the nave, adjoining the master's lodge, was converted at some former period into students' rooms—a fact recently ascertained. Towards the east, however, the chapel, has been enlarged; and a new aisle erected on the original foundation of that part of the building.——A painted window, the gift of Mr. Serjeant Talfourd, M.P., and his wife, has been erected in St. Lawrence's Church, Reading.——St. Osmund's Roman Catholic Church, at Salisbury, opened on 6th inst., is in the early decorated style, with nave, chancel, south aisle, chapel at east and tower at west end. The organ gallery is over the sacristy, at south side of chancel. The altars, pulpit, and font are of stone, carved, the two former relieved by painting and gilding. The windows in chancel and Lady Chapel are filled with stained glass, by Hardman, of Birmingham. Chancel and chapel are separated from nave and aisle by oak screens. The chancel roof is panelled, painted, and gilt. The body of the church is filled with low open benches. The exterior is of flint, with stone quoins. Mr. Pugin was the architect. The accommodation is for 300: estimated cost between 2,000*l.* and 3,000*l.*—— The new church of St. John the Evangelist, on the Clee-hill, Cleobury Mortimer, was consecrated on 6th instant by the Bishop of Hereford. It is of white sandstone, in a plain unornamented style, with a single centre aisle and a gallery at the west end, and accommodation for 300. Our authority observed at the consecration a numerous host of ladies and gentlemen whom he very pointedly names, but he does not appear to have been able to 'observe' such insignificant individuals as the architect or builder: indeed, he states that the church was commenced by the late Thomas Botfield, Esq., and finished by his widow, Mrs. Botfield, of Hopton Court, the latter of whom he observed, though not the former.—— The Bishop's Chapel, at Wells, is being restored. The bosses of the roof have been cleaned; and Mr. Bell, of Bristol, artist in stained glass, is engaged on a west window. The design of all is plain diaper work of entwined ivy and vine leaves, and other ornaments taken from old models.——In Lower Easton Church, two small windows, painted by the same artist, have been lately put up at the west entrance.——Abbots' Leigh Church is being restored, the north side having been entirely destroyed by the late fire. An east and other windows are shortly to be put up. —— Trowbridge Church has been opened after a general restoration. A large east perpendicular window has been inserted. It was a gift of Miss Waldron, of Bristol.—— The Darcy aisle of All Saints' Church, Maldon, has lately been enriched by the insertion of a memorial window of painted glass, designed and executed by Clutterbuck, of Stratford.—— The church of Holy Trinity, Wicker parish, Sheffield, was consecrated during the past week. The foundation-stone was laid on 30th June, 1847. The building is of plain early English architecture, from a design by Messrs. Flockton, Lee, and Flockton, of Sheffield, architects. There are neither nave, arches, nor columns. A gallery is supported by cast-iron pillars. The east window is stained, by Messrs. Drury, of Sheffield. There are seats for nearly 1,000. The internal dimensions are as follows:—Area, 65 feet by 47½ feet; height to square, 30 feet; from floor to ridge, 45 feet; chancel, 20 feet by 10½ feet. Entire outlay about 6,000*l.*,—site and old buildings costing about 1,500*l.*, and church 4,500*l.* Messrs. J. and J. Ridall are the contractors. ——Thurmaston Church has been enlarged and otherwise improved. The old church contained 135 sittings. The present edifice provides sittings for 504 persons, four-fifths free. A new organ, built by G. M. Holdich, has been erected. The tower is to be restored, and a new stone wall is to enclose the churchyard, which will be returfed. Two pairs of wrought-iron gates are being executed at Derby under the direction of Mr. Henry J. Stevens, architect, and 1,800*l.* will, in all, be expended, without levying a rate. The principal contributor is the Rev. Jas. Spurrell, who provides the munificent sum of 790*l.*, although only a sojourner, who, in passing by, says the *Leicester Journal*, like the good Samaritan, pitied the destitute condition of the village, and has done what he could to supply the deficiency of church accommodation.——The new church of St. Paul, at Shepley, parish of Kirkburton, near Huddersfield, was lately consecrated; and on Tuesday week the new church at Healey, parish of Masham, was also consecrated—both by the Bishop of Ripon. The Healey church has been built chiefly at the expense of Mr. O. V. Harcourt, owner of the parish of Masham, and from a design by Mr. L. E. B. Lamb, architect, in the decorated Gothic style, with a small lantern in the centre, and a lofty spire. Three of the windows are painted—the east by Sir Robert Frankland Russell, Bart., and the west and north by Mr. Lamb. The open and ornamental roof, the stalls, pulpit, and reading desks, screen, and communion-table, are of English oak. The total cost, it is said, will be nearly 2,000*l.*—— St Mary's Church, Birthwaite, was opened on 4th inst. It stands a few hundred yards from the Windermere Railway station, and will accommodate about 200 persons. The style of architecture is pointed gothic, superintended by the Rev. J. A. Addison, at whose sole expense the church has been built and endowed. ——Saint Mark's (Unitarian) Chapel, Castle-terrace, Edinburgh, which has been closed for about three years, in consequence of the operations of the Edinburgh and Glasgow Railway Company, by tunnelling underneath, and endangering the stability of the building, has been inspected by architects, and at their suggestion strengthened and repaired. It was re-opened on 24th ult.

DECORATION OF THE THEATRE ROYAL, HAYMARKET.

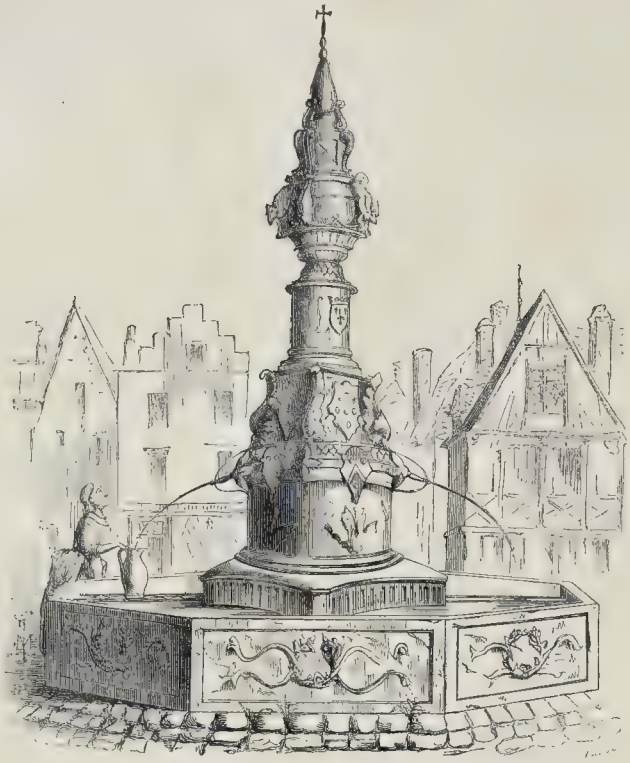
The Haymarket Theatre, which opened for the season on Saturday night, has long required re-decoration; and with Mr. Webster's usual enterprise, he appears to have determined to do it effectually, for which purpose he availed himself of the skill of Mr. Sang, while the general alterations were placed under the superintendence of Mr. C. Manby. Through absence from town, we are unable yet to offer an opinion on the result, but give the following particulars of the works done. The lobbies are all of a cool green colour, with crimson lines round the doors. Backs have been added to all the seats in the circle. The ugly square columns which formerly impeded the view from the corner-boxes are replaced by the former palm-tree stems of white and gold. Increased ventilation has been provided. The general tone of the house is cream-colour and gold. In the ceiling and proscenium alone some artistic decoration is attempted. The pervading tint of the ceiling is an aerial blue, intermingled with gold, and ornamental and figurative painting. In the spandrels of the four corners are depicted the "Seasons," and there is a group of "Tragedy" and "Comedy" in the centre of the proscenium.

The columns which formerly encumbered the proscenium, and circumscribed the space on the stage, have been removed, and are replaced by pilasters, decorated with a running pattern of the Indian cane, with its leaves entwined with bright flowers.

A new drop has been painted by Mr. P. Phillips. The centre represents the church at Stratford, forming the centre of a screen of the period of the Renaissance architecture, surmounted by a bust of Shakspeare, and flanked on either hand by two groups of Tragedy and Comedy.

Competition for Fireproof Safes.—Mr. Leadbeater, of 125, Aldersgate-street, City, has been the successful competitor for the eight large wrought iron fire-proof safes for her Majesty's Ordnance department.

RENAISSANCE FOUNTAIN, IN TOURS.



RENAISSANCE FOUNTAIN IN TOURS.

La Touraine is the part of France in which is found some of the most elegant specimens of the architecture of the *Renaissance*. Charles VII., Louis XI., Louis XII., and Francis I., made this province, which has been called the garden of France, their retreat, and possessed various edifices there. For example,—the Chateau of Blois, with its gallery of the time of Louis XII.; the staircase of Francis I.; and the old tower where Catherine de Medicis sought to read the stars.* On the other side of the Loire there is the Chateau of Chambord, distinguished by a forest of towers and turrets; also the Chateau of Amboise; and, further off, Chenonceaux, an elegant residence, to which Catherine added a long gallery.

At Tours there are several churches well worthy note, and many residences of the *Renaissance* periods, to which reference has already been made in our pages. Quite accidentally we stumbled on the fountain which is represented above. It is situated in the market-place, and is known as the fountain *de Beaune*, and while it is quaint and coquettish, displays a considerable amount of taste. The height of it is about 16 feet, and the diameter 12 feet.

* The restoration of this chateau was intrusted to M. Duban, an able architect, and was nearly completed when the revolution occurred and caused the suspension of the works. A paper on this building, by Mr. Crace, appeared some time since in our pages.

King Edmund's Oak.—The great oak in Hoxne Wood, at which King Edmund the Martyr, according to tradition, was shot with arrows, lately fell to the ground; and at the depth of a foot within the bark, Mr. Smythies, agent to Sir Edward Kerrison, the proprietor, is said to have found an iron point, having the appearance of an arrow-head.

NOTES IN THE PROVINCES.

The new buildings at Queen's College, Birmingham, are very near completion. They consist of a lecture theatre, chemical laboratory, anatomical room, large room for junior department, and additional apartments for students. In the chapel a gallery has been constructed for the use of the council, professors, &c., and a recess made for an organ. The buildings comprise two sides of the intended quadrangle, and are from the designs of Messrs. Drury and Bateman.——The contractors for the gaol at Birmingham have completed more than 90 per cent. of their contract, for the remainder of which an extension of time till 9th December has been given.——The Birmingham town council have formally consented to the erection of a set of public baths and washhouses in Kent-street. The plans, which have been prepared by Mr. D. R. Hill, and approved of, afford room for a large swimming bath, two plunging baths (one for males and one for females), fifty-one private baths (thirty-six for males and fifteen for females), with vapour and shower-baths. In the wash-houses there will be twenty-five stalls; and there are to be rooms for a centrifugal drying machine, drying closet, laundry with mangles, six private drying closets, residences for superintendent and matron, committee and waiting rooms. The boiler-house will be placed under the drying closet, and the shaft from the boiler flue will also serve as an extraction shaft to assist in ventilating the whole of the buildings, but will economise fuel. The arrangement of the plans is such as to admit of future extension, should it be required. The total expense, as appears from an estimate of the Council, will be about 10,000*l.*——The works of the new jail at Bedford are rapidly assuming the appearance of an extensive structure. The whole will be warmed and ventilated upon the plan of the model prison at Pentonville. In the centre of the main building there is an octagonal hall, having on the top a dome, into which the foul air from all the flues will be received: from thence it will escape by a shaft through the roof. On the sides of this hall galleries will be affixed to each of the upper range of cells to afford a communication with other portions of the building. The chapel is on the first-floor of a portion of the old jail. The interior will be on the plan of the chapel in the Pentonville prison. The works are under the superintendence of Mr. Smith, the county surveyor. The contractor is Mr. Parker, and the clerk of the works, Mr. Hollingsworth. The whole may be covered in by end of present month.——Upwards of fifty plans for the new cemetery at Leicester have been lodged.——Street-sweeping machines have been disused at Manchester.——The national schools and master's house at Farnsley, and the parsonage house, according to the *Leeds Intelligencer*, have been opened. The schools are in the Elizabethan style, from a design by Messrs. Perkin and Backhouse.——The Whittle Dean Water Company, says the *Gateshead Observer*, now supply their customers from their new reservoirs. The quality of the water is excellent, and the flow constant. There are five reservoirs—four for collection. The fifth and largest is 16 acres in extent, 40 feet deep; contents, 14,175,875,065 cubic inches, or 173,741,047 gallons. This supply will give about 500,000 gallons a-day throughout the year, and meet a consumption of 4½ gallons per head per day.

Thames Tunnel.—The number of passengers who passed through the Tunnel in the week ending October 7, was 15,947; amount of money, 66*l.* 8s. 11d.

CHURCH DOOR FROM RIO JANEIRO.

The annexed engraving is a representation of the principal door of one of the churches, facing Palace-square, in the capital of the Brazils, and will serve to give some idea of the style of architecture prevailing there. It is chiefly sculptured in granite. The medallion containing the Virgin and Child is of marble, and the door, about 8 ft. wide, is of a dark grained native wood. The general effect is good.

DOORWAY IN RIO JANEIRO.



LAING Sc.

THE STUDY OF NATURAL PHILOSOPHY AND CHEMISTRY.*

In this era of *fast* reading and superficial though general acquirement, doubtless there are would-be students who would fain have a railway route through the scientific district at large, by express train, 'going and returning in a day,' and will therefore open such a cheap little treatise as the first of those just noted, in the hope of finding the long looked for and awaited train announced at last; but the bearings of the district are not yet surveyed—the mutual and precise relationships of the different principles, such as light, heat, electricity, magnetism, and the mechanical, geological, and gravitative forces, are not yet ascertained—so that in place of one connected field of science, *rationately* or *relationally* traversed by a single great trunk line of science, ramifying into all its natural and affinitive branches, we have what are yet much more like a multitude of separate or isolate sciences conglomerated into one heterogeneous mass, through which, with the best of good will, no scientific guide can possibly conduct the *indolent* student with anything in the least like railway ease or speed. We hope to see the day when all the *different sciences* of light, heat, electricity, &c., will be viewed as from a height, and almost at a glance, running on with explicable currency from trunk to branch and branch to *twig*, and then we shall *know why* it is that all so differ and are yet all so identical, or at least related, that the one runs imperceptibly into the other,—and indeed we have a glimpse of the key, the map of the district and its surveys; but as it is, the reader, as Mr. Tomlinson does not hesitate at once to preface, "must be prepared to bestow a higher effort of mind in the perusal of the work than is required for the appreciation of a romance, or even of a treatise on *popular science*, as the term is often understood. He must be prepared to *study* the work, and not merely to glance over its pages. If he find it difficult on a first perusal, let him give it a second, or a third, and we may venture to assure him that his labour will not be misapplied."

Nevertheless, and minus all that levelling process not yet accomplished, this author has, we think, faithfully and well succeeded in his expressed endeavour "to be to the reader who wishes to travel rapidly (by the best of vehicles, *we* would say, *short* of the locomotive) over the rich and broad domain of natural philosophy, that, in some degree, which the guide is to the traveller."

At the close of his brief tour or sketch of these scientific provinces, the author of this little treatise says—

"Should the young student who has followed us through this hasty sketch seek in vain for the moral of our story, and ask, 'What is the use of natural philosophy?' we may reply by quoting Franklin's answer to a similar inquiry, 'What is the use of a new born infant?' The germs of all scientific research contain the elements of future strength and usefulness. All our knowledge bears reference either to speculation or to action, and hence may be divided into the theoretical and the practical. The first constitutes the natural basis of the second, and every branch of industry has derived inestimable benefit from scientific theories. Who could have supposed that the ancient Greek geometers, while speculating on the properties of the conic sections, would be of infinite service, after a long series of ages, in renovating the science of astronomy, and bringing the art of navigation to a perfection which it would probably not have attained in our own day but for the purely theoretical labours of Archimedes and Apollonius; so that, as Condorcet beautifully remarks, 'the sailor who has been preserved from shipwreck by an accurate observation of the longitude, owes his life to a theory conceived two thousand years ago, by men of genius who had in view only simple geometrical speculations.' Hence we must never test the value of scientific discoveries by their practical application. If not applicable now, they may become so hereafter, as the whole history of science proves. It is enough for us that our highest intellectual capacities are trained and gratified by the study of natural laws, because, in proportion as we master them, we gain power over the material universe. Our knowledge, it is true, proceeds by slow and painful steps; it is constantly obscured by error, doubt, and difficulty; but there is this cheering influence connected with studies of this kind, that the more we know, the less we have to remember; for in proportion as knowledge is collected and generalized into laws or principles, the greater is its simplicity: in proportion as we increase in rea knowledge, we increase in power; for the fewer these principles are, the more general does each of them become, and therefore the more extended in their application, and the more power must accrue from their knowledge."

The last-named author, Dr. Thomson, takes the student up where the first sets him down. "The science of electricity," says Mr. Tomlinson, "necessarily leads the student into the domain of chemistry, where it is not our business to enter. It may, however, be desirable to endeavour to form a clear idea of the precise distinction between natural philosophy and chemistry. The distinction is becoming every day less precise, for it is no longer possible to divide the book of nature into volumes and sections, and chapters, and deal them out to separate students for examination and interpretation."

For the sake, however, of affording here also, within our limited space, some little idea of Dr. Thomson's work, we shall quote from the outset of his prefatorial remarks on this same distinction:—"It has been said by Bergmann, that Natural History, or the study of animals, plants, and minerals, teaches us the elementary rudiments or alphabet of the great book

* Introduction to the Study of Natural Philosophy, for the use of beginners, by Charles Tomlinson (Weale, Holborn).—School Chemistry, or Practical Rudiments of the Science, by Robert Dundas Thomson, M.D., Master in Surgery of the University of Glasgow. (Longman and Co., Paternoster-row).

of nature; Natural Philosophy instructs us in spelling; and Chemistry in reading distinctly. To serve as an introduction to such an important science generally, and also to extend a knowledge of its practical elements among those who influence the studies of the rising generation, are the objects of the present publication. The natural philosophy of the last century included not only what is taught at the present day under that title, but likewise chemistry and astronomy. The two latter have now become distinct sciences, but they no longer, as they formerly did, constitute part of the usual studies of the clerical and scholastic professions, although the phenomena of which chemistry treats are of the most familiar occurrence, and many of the laws which it developes of constant domestic application. These, too, afford easily appreciable proofs of design. But if we desire examples of a more sublime nature, we have only to consult the details of inorganic chemistry, constituting the first part of the volume, to find evidence that the ultimate particles of matter, so minute as to weigh less than the billionth part of a grain, have been impressed with unvarying laws, and adjusted with skill so admirable, as to impel us to the literal conclusion of the sacred writer, that the Divine Being has 'comprehended the dust of the earth in a measure, weighed the mountains in scales, and the hills in a balance.' When we turn to vegetable chemistry, we learn that the same materials with which we become intimate in the mineral world, in one perpetual round, serve for the support and nourishment of all the plants which subsist upon the face of the globe. But the vegetable world, consisting merely of matter endowed with the power of nourishing itself, and without any nerves or sensibility, must be viewed as the garden of those beings to whom we afterwards proceed, where sense and intellect, in all their efficiency, discover the image of a Mighty Creator."

Mr. Tomlinson has very properly only attempted to excite an interest in the study of principles, by making facts and details subordinate to this higher aim. Dr. Thomson—the inheritor of a name whose celebrity he will not diminish—has in his province made the condensation of facts and details one of his main objects, and in order to attain to this end all the more completely, he has used in subsidiary matters a smaller type than even the very economical one in which the book principally appears. Within so small a space we do not believe that such a mass of important facts in chemistry was ever before accumulated, or rather condensed,—for the multiplicity is to be attributed much more to a careful and successful condensation than even to the mere economy of type. Both works are in other respects well got up; they are full of illustrative cuts; and are very creditable to their respective publishers.

ON THE LAW OF WAVES.

A THEORY.

The waves, even of the deepest part of the ocean, must be limited by the rules of nature, the almighty power controlling into order all effects.

Most persons who have been at sea, in reply to inquiries on this subject, generally say that the waves are sometimes "mountains high," and that when in the hollow of them, the hull and most of the rigging of vessels in the opposite lower wave are hidden by the intervening elevated part. Many years since, a friend of mine refused a lucrative appointment in India, owing to a dread of sea-sickness, increased by his having seen a picture by Turner of an East-Indiaman, off the Cape of Good Hope, represented upon a wave, at least as high as Shooter's-hill.

Now, from such accounts as can be depended upon, the waves never rise more than about 30 feet above the common level, and sink to the same extent. This description, I consider, proves that the effect of the strongest wind, aided by accelerated motion and by oscillation, *cannot*, even in the open sea, *raise a wave higher than the weight of the atmosphere*, which upon an average may be about *equal to* 32 *feet depth of water*. Under this law, were the ocean to be of liquid mercury, no wave thereof, produced in any way by the force or action of the atmosphere, could be raised more than 31 inches. The medium weight of the atmosphere is 14½ ounces upon the superficial inch, acting, of course, in every direction. The lateral force of the wind in a storm, upon the superficial inch, is little more than 1 ounce, in a great storm 1½ ounce, in a hurricane 3 ounces, in a very great one 4 ounces, and in the most violent hurricane 6 ounces.

It is with some diffidence that I offer this theory, which I think is supported by the notice taken of the difference of the action on water and on quicksilver, as fluids of different density. T. Higgs.

MISHAPS WITH CONTRACT-WORKS.

That terrible antagonist to railway contract works, the rain, appears to be playing havoc amongst viaducts and arches, as if, in place of having the constitution of a brick, their framework were that of a fine lady, whose frail organism would be likely to be injured even by the evening dews, far less be capable of withstanding the undermining inroads of the rain. Now that the tender mercies of summer have departed, we begin to renew our almost weekly record of "*unfortunate* accidents"—*unfortunate*, indeed, for everything seems to be dependent on *chance*, and nothing on *foresight* or *design*. The fatalities, too, have begun upon the wholesale system: one arch follows the example of another, and all come tumbling down by the dozen, just, as we have said, like recruits in the tumble-down rank and file of "Prussian Exercise." A jury had scarcely recorded its opinion of the insufficiency of the foundations of the Rother viaduct, when another, dubious of the soundness of its own understanding, fell ill of "an unforeseen settlement in the foundation of one of its piers," and we have now to record the utter prostration of four of its arches, and "doubt of the stability of the other seventeen,"—in all twenty-one, which constituted the North Rode viaduct over the river Dane, on the North Stafford line. On the back of that *mischance*, too, comes the announcement of the "fall of one of the arches of the viaduct at Sheffield, on the Manchester, Sheffield, and Lincolnshire line," which "unexpectedly came down all except the facings," on Wednesday week. "It is supposed that the cause of the accident was the heavy rains which have recently fallen."——Much inconvenience, delay, and danger were incurred last week from the slipping of an embankment at Badgworth, on one of the Great Western lines. A great many labourers were *afterwards* employed to strengthen the embankment, and it *is to be* drained in the best manner practicable. It is needless to say that had the drainage and the strengthening preceded the slip, in place of following it, not only time but money would have been saved. If competition *will* compel the continuance of 'close cutting' contracts, without a willing allowance even for *chances* of failure, at least the aid of some skilful professor of the calculation of chances ought to be got, so that the 'close cutting' may no longer prove to be quite so suicidal as it but too often must have been.

RAILWAY JOTTINGS.

Mr. Shuard, the architect lately injured in the collision near Newton, and now said to have resided at Somerleyton, in Suffolk, has unexpectedly died of his injuries, at a moment when he appeared to be fast recovering from their effects.——With reference to another of the late accidents, in which an engine-driver had his right arm broken, and a rib fractured, a correspondent of the *Morning Herald*, himself "an old London and North-Western engine-driver," says, "It was impossible for Ross to prevent his engine running into the waggons, and yet, in addition to his injuries and sufferings, the London and North-Western authorities *have reduced him to half-pay*. Is this fair treatment, Sir, to a man who has been nearly killed *from the want of a proper auxiliary signal* from the ballast-hole to the Leighton station? *Such a signal is notoriously needful for the safe working of this dangerous portion of the line.* A careful and skilful driver is almost crippled for life *by the neglect of the Company*: and to assuage his sufferings this great Company cut off half his wages. Can Mr. Glyn know this? Is such treatment honourable to the Board over which the gentleman presides, or is it humane or just to the injured man?" Such a complaint needs no comment; but we should only like to know if this is considered to be one of those cases which justify the exaction of even "one-fifth of his annual salary" from any "railway servant," far less a whole half of it from one who has his right arm broken and a rib shattered from that very neglect or stinginess on the part of railway *masters*, to which we have ever insisted that such *accidents* are in general to be attributed. This is "mitigating the losses of the sufferers" with a vengeance! If true it actually reflects more discredit on the 'railway management' than the poor fellow in Lincoln market-place, who had lost a leg, endeavoured lately to excite against such 'management,' by the exhibition of a rough sketch of the rail, with the interesting process of amputation vividly displayed in the foreground and significantly illustrated by the plaintive assurance that "They wonet give me nothing." The management, in the present instance appear to have ingeniously managed to give less than nothing, by one-half; for, in consequence of injuries occasioned by their own blame, they have deprived their "railway servant" of one-half of what he previously had. ——The old idea of a Railway Casualty Compensation Company for the insurance of legs and arms, spines and skulls, originally suggested by *Punch*, has again been seriously started, and no wonder, since there seems to be nothing else for it but to content oneself with the next best to prevention which appears to be hopeless, —namely, mutual consolatory compensation for the inevitable damage when it does occur, as it may once in the life of every man, woman, and child, in the three kingdoms, these being all three nations of railway travellers. "It is what we must all come to," as the toothless old maiden remarked of the marriage ceremonial.——Our contemporaries are still busy, we see, recasting old ideas for the prevention of accidents or other casualties with trains in transit, and especially for communication between the passengers or guard and engine driver. One of these professes to obviate the objections we have frequently pointed out; and, without clearly perceiving where the hitch actually lies, inadvertently, as in other instances, blunders on it by accident. The apparatus referred to consists of a rather ultra-scientific adaptation of the electro-magnetic force to the purpose in view, with a clear distinction between the signal transmitted, to the driver, from a guard, and that from a mere passenger, so that if from the latter "the pace of the train need only be slackened until the guard *ascertains the carriage from which the signal is made, and the reason.*" How is he to do that, we again and again ask? Since it does seem to be inevitably destined that passengers and guards and drivers are to be brought into mutual communication during transit, and to that end that guards are to be called upon to "ascertain the carriage from which the signal is made, and the reason," we must protest against the establishment of the dangerous, undignified, and unofficial practice of crawling along the tops of the carriages, which a recent inventor of strings and pulleys attempted to dignify by calling it "travelling to the carriage." If it be essentially requisite, as frequent practice has already proved it to be, that the guard occasionally *travel* from one carriage to another, let him, at least, have a proper and protected footway, without or within, along which to travel, and then the modern bell-hanger and the human tongue may render all further exercise of super-refined ingenuity on this *questio vexata* quite unnecessary.——That "the Queen may come in the cadger's way" has seldom been more curiously, though not quite literally, exemplified than in one or two instances of recent occurrence,—if all be true that is reported. In the first instance, it is said that a cadger in the shape of a railway porter or policeman came in the way of his Royal Highness Prince Albert lately, at one of the stations on the route from Scotland, very properly refusing him a light to his cigar,—being 'against the rules,'—a reason which we have no doubt the Prince would hold to be quite sufficient to exonerate the cadger, though

robably half-a-crown would have 'exone-ated' him still more. In the other instance, e have little sympathy with the cadger, who ame in the way of the (till now, we had nought, irresistible) Duchess of Suther-nd, in the shape of a railway 'secre-ry,' at Perth, *on a Sunday*, lately, and while r Grace was hastening, in all the sacred-ss of sorrow, to her dying father at arlisle. The mail train to the south was ady,—two empty carriages stood attached, hich it was no Scotch sin to send south on a unday to suit the company's convenience, it the cadger and his coadjutors had too deep interest in her Grace's salvation to allow r to risk her own by entering the sinful hicles, and not even the sacred sorrow of a oman could find its way by any crooked path to the stony citadel of the cadger's heart,—if had one. It was 'against the rules,' and ough there is no rule without exception, he ould not risk either his snug little secretary-ip or his salvation in any such cause. "We rophesy, however," says a Scottish reforming ntemporary, "that the tears which have fallen wn the cheeks of this angelic woman will t have fallen in vain. They may penetrate e heart of every sensitive man and woman the empire, and conduce to a thorough formation on this and other kindred lines of ilway, too long under the management of arrow-minded bigots."——The following ten-ers for completing Stowmarket station have en received:—Mr. Saunders, of Dedham, 771*l.*; Mr. Baldiston, of Ipswich, 1,785*l.*; r. Ribbans, of Ipswich, 2,350*l.*; Mr. Revett, f Stowmarket, 2,535*l.*; Mr. Smith, of Dickle-urgh, 2,897*l.*

ARTS OF CONSTRUCTION AT KING'S COLLEGE, LONDON.

PROFESSOR HOSKING'S LECTURES.

On Friday, the 6th October, Mr. Hosking ommenced his course on the arts of con-ruction in connection with civil engineering id architecture, at King's College, by an in-oductory lecture, in which he especially ressed upon the students before him the ecessity of avoiding, for the time, all consi-eration of the branch of practice to which ey were eventually to address themselves, rging them to believe, with him, that a orough knowledge of construction is the nly foundation upon which the professional ducation of either architect or civil engineer an be securely based, rendering it as essential the one as to the other.

The advantages offered by these lectures, nd others recently mentioned by us, are arcely so well known as they should be, or largely availed of as we desire to find them.

METROPOLITAN COMMISSION OF SEWERS.

Charges of Reckless Expenditure against the late Commissioners of Sewers for the Kent and Surrey District.—A general court was held on the 12th nstant, at Greek-street, Soho. Lord Ebrington, M.P., in the chair.

On a bill for Parliamentary and other expenses, mounting to 1,593*l.* 17s. 3d., incurred in ob-aining a Bill for enlarged powers to the Kent and urrey Commissioners being presented, a volumi-ous report was brought up on the subject from the eneral Purposes Committee, which stated in the utset that as the bill for the payment of the Par-amentary expenses of obtaining a recent Act, hich it has since been found necessary to repeal, orms one heavy item of expenditure incurred by he former commissioners of this district, which the ommittee have been constrained to recommend for ayment, inasmuch as it is a payment under the uthority of the present commission from rates ivied under their authority, for which the rate-ayers have had and will experience no benefit, the ommittee think it just and proper not to present heir account for payment without calling the atten-ion of the court to the state of the works and past anagement, of which this demand appears to them o form part.

The report further stated that this Act authorised n almost unlimited borrowing of money,—works eing projected to the amount of 300,000*l.*; and, udging from the character of the works already ex-cuted, it was confidently stated that had the late ommission not been superseded, the whole of this mmense sum would have been wasted.

Other instances of the asserted mal-appropriation f the ratepayers' money is pointed out in the fol-owing paragraph of the report, which conveys a grave imputation on several parties, and casts a slur which seems to us quite unnecessary:—

"It is to be observed that each of the district surveyors would have participated in the sum of 15,000*l.* per-centage on the expenditure for the extension above mentioned of the Surrey works. The late clerk of the Surrey district was profes-sionally educated. He received for the performance of his duties a salary of 700*l.* a year. It might have been presumed that such a salary was given him for devoting the whole of his time to the service of the commission, and that in that service would have been included the exercise of his professional ability, so as to render unnecessary further expenditure for professional aid. But we have presented to us charges for the preparation of contracts alone amounting in three months after the passing of the Act to 178*l.* 10s. in addition to the salary. So that the surveyors, with their per-centages on the works executed, and the clerk, by the fees on con-tracts, &c., had a direct interest in a large expen-diture."

A contrast is then drawn between the works per-formed by the present commissioners in this dis-trict, and what would have been the cost under the old system, giving the following as cases in point:—

Place.	Old Plan.	New Plan.	Saving.
	£ s. d.	£ s. d.	£ s. d.
Boundry row	262 10 0	57 6 0	205 4 0
Clarence-street ..	90 0 0	20 0 0	70 0 0

A very grave charge is next made as to how loans were effected, and as to certain parties who had lent money at 4½ per cent., giving notice of the with-drawal of it unless 5 per cent. was secured. This demand, so disadvantageous to the interests of the ratepayers, was agreed to, the amount affected by it being 43,500*l.*, out of which sum 32,500*l.* belonged to two commissioners, who were present, and assisted in the acceptance of their own proposal for increasing their own interest.

It next notices the appointment of a nephew of the clerk as an assistant; and "a bill of charges of Messrs. Drew and Shadwell, parliamentary agents, and in many instances charges for attending and making copies for Mr. G. H. Drew, or in other words for attending and making copies for himself;" and surprise was expressed that such charges should have been allowed by the taxing-master of the House of Commons.

Incidentally, reference was made to the charge of 400*l.* by the clerk of the Poplar district for law charges, heavy sums for copying, &c., in addition to his salary,—a sum sufficient to lay down drains for upwards of 1,500 tenements.

The report next points out what the Committee considers some glaring instances as to how the rate-payers' money has been perverted in the following paragraphs:—

"For instance, all three surveyors of the Surrey and Kent Commission charge 3*l.* 3s. each per diem for attending to give evidence before the Sanitary Commission; there are also charges made of ten guineas each by two of the surveyors for giving evidence on a trial in the Tower Hamlets district.

"The like charges we have indeed found in some cases to have been made by officers whose whole time was paid for.

"In bills already paid by the former commissioners, we find such charges as the following:—In the surveyors' bills, first half-year 1847, there are charges for attending surveying officers, and at House of Commons, &c., amounting in these six months to 120*l.* 5s. 4d. And we find various charges made by the surveyors for attending on one another, and on the clerk. We also observe charges for making plans, surveys, &c., of works, on which 5 per cent. commission is also charged."

Allusion is also made to the allegation that, though Mr. Drew received so large a sum for his services as clerk, he held the multifarious offices of clerk to the Board of Guardians of Bermondsey, superintendent registrar and treasurer to the guardians of Streatham; and that the accounts were in such an embarrassed state that the commissioners were compelled to call in a public accountant to endeavour to unravel them, so loosely had they been kept for several years.

The report thus concludes:—

"It is requisite to advert to these charges, that the ratepayers may understand the application of part of the present levies, and that they are applied at present for purposes which the Commissioners cannot pronounce to be beneficial."

An answer to the charges has been submitted by Mr. Drew, in substance—that the money was authorised to be raised under Act of Parliament—that his salary was fixed by the Commissioners themselves—that out of the 178*l.* 10s. charged by him in preparing contracts, 75*l.* was expended in stamps alone—that the money borrowed could only be had on the terms stated, and the two commissioners alluded to, after making their proposals, retired—that the appoint-ment of his nephew was the act of the commissioners—that the books were regularly audited, and if no indexes were kept, that none had been kept by his predecessor, nor did he find the practice a very common one in other public offices.

A very short conversation ensued on the report, which was received.

Correspondence.

THE CAEN STONE QUARRIES.

Sir,—In perusing your remarks upon the quarries at Caen, I find you have made refer-ence to the facilities established for raising the blocks to the surface ground by means of steam power. The engine is six-horse power, and the whole apparatus, with buildings, &c. &c., has been at the exclusive cost of Messrs. Luard and Beedham, who, it is but just and right to inform you, are the only persons who have expended large sums of money in this particular department. They intend, when necessary, to apply the same or similar means to remove the superfluous water, and at the same time raise stone from the large *new quarry* to which you have also made reference.

Subscriber.

COMPETITION, HALIFAX.

Sir,—In reading your periodical my atten-tion was arrested by an invitation to architects from the Committee for building the new church of St. Thomas, Heptonstall, Halifax, to send them designs for the proposed edifice. Surely, Sir, there must be a typographical error in that invitation, and an unit must have been omitted from all the sums specified,—10*l.*, 7*l.*, 5*l.*, must mean 100*l.*, 70*l.* 50*l.* The committee would never dream of offering such small premiums for professional assistance to enable them to expend to the greatest advan-tage 4,500*l.*—I am, Sir, &c. J. B. R.

Sleaford, Oct. 14, 1848.

*** Architects have brought these indig-nities on themselves.

DISTRICT SURVEYORS' CHARGES.

Sir,—In your last number, there appears a letter, signed "W. Trench, Builder, Hackney, October 4, 1848," from which (though not expressly stated) it will doubtless be inferred that the subject matter of complaint has occurred *in this district*. In justice to myself, I beg to state, that upon referring to my books I find no such name as that of "Trench," either giving notice of or having executed works in this district. I have made several inquiries amongst the builders of this neigh-bourhood, and I can find no one who knows Mr. W. Trench personally or by repute as "a builder."

There have been two works similar to those he describes lately done in this district, but no notice was given of them by the parties execut-ing them, none has been taken by me, and no fee has been claimed.—I am, Sir, &c.,

The District Surveyor of Hackney.

Hackney, 18th October, 1848.

Miscellanea.

Moveable Platform for Railway Stations.—Sir: May I hope that the novelty of the proposal which I wish, through the medium of your valuable journal, to lay before the public, will be a sufficient apology for thus trespassing on you. My proposal is to effect *a saving of time* in railway travelling, in the following manner:—At each station on a line of railway, where the trains have to stop, there should be constructed a moveable platform, mounted on wheels, and having a line of rails laid for it, extending a quarter of a mile either way from the station, in the directions which the trains take up. On this platform the pas-sengers, goods, &c., intended for the coming train should be placed, which train, instead of stopping as is now usual, would have but to lessen its speed to a rate of about ten miles an hour, and in passing the station at this speed carry along with it the platform for such time as may be necessary for the removal of passen-gers, goods, &c., when the platform may be disconnected from the train and the ordinary speed resumed. That a saving of time could be thus effected is quite palpable; the practi-bility of the proposal, therefore, only remains to be tested.—R. R. M.

Projected Works.—Advertisements have been issued for tenders, by 7th November, for the erection of a workhouse at Wokingham, Berks; by 4th, for the erection of six cottages, &c., at the Bricklayers' Arms station, for the London, Brighton, and South Coast Railway; by same date, for the maintenance of the permanent way and works, for a term of seven years, for same Company; by 31st inst., for building sewers in the City; and by 26th, for supplying pig lead for the Navy at Chatham. Master carpenters, bricklayers, plasterers, and stonemasons, are also wanted to contract for the erection of 500 houses for a building association: membership indispensable.

Marble Veneering, or Slaty Paint.—In Ohio, according to a New York paper, a Mr. Blake, of Akron, has discovered a curious mineral, soft at first, and like indigo, but hardening in a few days into a slaty stone. On analysis it is found to consist of about one-half silica, one-fourth alumina, with magnesia, oxide and sulphate of iron, lime, and carbon. By reducing it to fine powder, mixing with linseed oil into thick paint, and applying it with a brush to wood, iron, tin, zinc, or brick, it becomes, after a few months' exposure, perfectly hard and indestructible. As a protection against fire, it is said to be invaluable. In the west it is in large demand for covering roofs of buildings, for bridges and fences, &c., all of which it protects from weather as well as from fire. School slates are manufactured by applying it to thin wood or pasteboard. On wooden mantel fronts and tables its appearance, when polished, is held to be not inferior to the finest Egyptian marble. Mr. Blake has procured a patent for his discovery. Would not Portland cement, in fine powder, and thus applied, with linseed oil, produce a slaty veneer over similar surfaces? We make a present of the suggestion to the Portland cement manufacturers. Parian cement mixes with oil, and might thus, we think, be used as paint, or for stony veneering; and certainly the surface of blocks of Portland cement reminds one a good deal of slate: the hardening, too, from a soft or moist state very much adds to the resemblance which it bears to this new world's wonder. By the way, silica, with lime, has been found, if we mistake not, to form a sort of glaze well adapted to give a stony veneering, like this, to plaster.

Gas at a greater Discount than ever.—The inventors of a new electrical light, exhibited at the Western Literary Institution, Leicester-square, on its recent re-opening under the new auspices, expect, it is said, to apply it generally to shop and street illumination; and they state, that while the "plant" will cost no more than gas, the expense of illumination will be only one-twelfth of the price of the latter light. The current of electricity in passing through the two pieces of charcoal which form the poles of the circuit and are excluded from all access of air, gives, in this case, it is said, an intense and beautiful white light, with the effect of daylight to a much greater extent than the lime light does, and having this advantage, that it is sustained and continuous. If Messrs. Staite and Petrie can thus produce a steady and sustained light, they have accomplished what has heretofore been the sole preventive to the substitution of galvanism for gas. The *Mechanics' Magazine* states that this one light completely eclipsed ten gas lights and an oxy-hydrogen! The gas companies had better look out. The dissatisfaction of the public with their mismanagement may have begotten a rival destined to eclipse many more than merely ten of their gas lights.

Another Suspension-bridge over the Niagara.—According to the *Halifax Sun*, "They talk of building another suspension-bridge over the Niagara, opposite Queenston. At the location chosen the water space is about 600 feet: between the towers, which are to be of stone, the distance is about 800 feet. Mr. Ellet, the engineer, offers to construct the bridge for carriages and foot passengers for 40,000 dollars, and to take 10,000 dollars of the stock himself—the remaining 30,000 dollars to be divided between Canada and the United States." We understand, says the *Toronto Examiner*, that Mr. Ellet has made affidavit at Lockport, that the bridge at the Falls, in its present state, is unsafe, and will not last two years.

The Plate Glass Duties.—In a fresh edition of a tabular statement concerning the manufacture of plate glass in England, and the advantages resulting from the remission of the duties, issued by Mr. H. Howard, of Plaistow, the writer says, that the exports of English glass in 1847 exceeded those of 1846,—in flint glass, by 20 per cent.; in common window glass, by 42; in bottles, by 5; in looking glasses, by 49; and in plate glass, by 110 per cent. Well may Mr. Howard remark, "Looking at the unexampled commercial difficulties of 1847, this increase is almost incredible." Two facts relative to the trade in plate glass, stated by Mr. Howard, have a bearing upon these general results too important to be omitted. Of two agencies established here, exclusively for the sale of foreign plate glass, one has been compelled to relinquish the sale of it, simply from inability to withstand British competition. There was no English plate glass exported to the United States in 1846; while in 1847 it equalled in amount the exports to all the world in 1846. How, then, are we to account for complaints made both in and out of Parliament, that British interests have suffered from the remission of the glass duties? Mr. Howard throws some light on this question:—"In 1845, when the excise duty was remitted, the English makers reduced the price of small plates (which foreigners could not afford to send here at all), to a fair and equitable scale, but the large plates (which, paradoxical as it may appear, cost less per foot than the small ones), were kept up at the unreasonable rates quoted above. Our neighbours, the French and Belgians, attracted and encouraged by the simplicity which thus invited them here, under cover of our excessive prices, accordingly brought over and sold their larger fabrics at enormous profits, whilst our manufacturers, realising still greater advantages, and supported by an immense demand, refused to modify this extraordinary tariff, although its manifest injustice to the public, and direct tendency to injure the very interest it was intended to promote, have been almost universally condemned as the climax of absurdity." Labour forms directly and indirectly nearly 80 per cent. of the cost of plate glass. The raw material is nearly all English produce. In short, it is a natural manufacture. As such it was depressed by heavy excise duties, and not relieved by protection from foreign competition. Since it has been emancipated both from the oppressive and the protective influences of fiscal regulations, it has daily grown in strength and prosperity, in defiance of competition.

Anecdote of Thorwaldsen.—An illustrious friend of mine, calling on Thorwaldsen some years ago, found him, as he said to me, in a glow, almost in a trance, of creative power. On his inquiring what had happened, "My friend, my dear friend," said the sculptor, "I have an idea; I have a work in my head which will be worthy to live. I was walking out yesterday, when I saw a boy sitting on a stone in an attitude which struck my very much. 'What a beautiful statue that would make!' I said to myself. 'But what would it do for? It would do—it would do—it would do exactly for Mercury, drawing his sword just after he had played Argus asleep.' I came home immediately. I began modelling. I worked all the evening, till, at my usual hour, I went to bed. But my idea would not let me rest: I was forced to get up again. I struck a light, and worked at my model for three or four hours, after which I again went to bed. But again I could not rest; again I was forced to get up, and have been working ever since. Oh, my friend, if I can but execute my idea, it will be a glorious statue." And a noble statue it is, although Thorwaldsen himself did not think that the execution came up to the idea. I have heard of a remarkable speech of his, made some years after to another friend, who found him one day somewhat out of spirits. Being asked whether anything had occurred to distress him, he answered, "My genius is decaying." "What do you mean?" said the visiter. "Why, here is my statue of Christ; it is the first of my works that I have ever felt satisfied with. Till now my idea has always been so far beyond what I could execute, but it is no longer so; I shall never have a great idea again."—*Hare.*

The College Chapel at Marlborough, the consecration of which we have already noticed, is rectangular in form, length 120 feet, width 41 feet, with buttresses between the side windows, of which there are seven on each side, and at each angle large pinnacles, which rise nearly to the top of the roof. According to a correspondent, the structure is in the late decorated style of architecture, and is built with ragstone, the windows and dressings of Bath-stone. The roof is covered with slate, pitched to an equilateral triangle. The north and south doors have stone porches with groined ceilings. All three are of oak, with ornamental wrought-iron hinges. The east gable is surmounted with a cross, and the west with a bell-turret. The chapel is surrounded with a broad-paved walk. The interior is divided into the chapel and ante-chapel by a screen. The seats, which are open, consist of stalls at the west end, under the gallery, which projects over and forms a canopy: the stalls extend up a part of the north and south walls. There are other stalls at intervals, and in front of two of these are placed the reading desks. The centre walk is 8 feet wide, and is paved with black and red tile paving, with a stone border. A space is left open in front of the altar-steps, which is paved with encaustic tiles of the same pattern as the altar. At the west end is the gallery, over the ante-chapel. At the back of the gallery, recesses are formed by arches, in which the organ is placed. The roof covers the whole area in one space, and is formed with an arch supported on carved stone corbels, collar-beam, and trefoil spandril above: the whole of the timbers of the roof are shewn and boarded. The interior fittings, with exceptions, are of deal, painted in imitation of oak. The chapel is lighted with gas. There are sittings for 500 pupils, and 200 seats for masters, officers, domestics, &c.

Protection of Piles in Sea Water.—Sir: Your correspondent G. J. R. deals rightly with the philosophy of this question, where he speaks of "covering the surface of timber with broad-headed iron nails, which, shortly after their immersion in water, form an armour of rust insects cannot penetrate." What is thus achieved with a great deal of trouble and difficulty by a slow process of nature, Mr. Charles Payne's invention with rapidity and economy ensures, by a scientific application of the same natural principle. By that process (now in the hands of the Timber Preserving Company, whose experiments to show the uninflammability of Paynized timber were lately noticed in your journal) an incorruptible sulphate of iron is formed within the interstices of the piles, by the successive injection and subsequent decomposition of an alkaline and mineral salt. Wood thus prepared is proof against the white ant of India, and the *torredo navalis*, and auger worm. Actual proofs of its efficacy have been afforded by experience (at Herne Bay and elsewhere), but I need not say to you that the experimental test, where a sound theory is demonstrable, would be unnecessary to convince practical men of science. W. B.

Cholera and the Common Sewers.—It has been remarked, not only that the convict-ship *Justitia*, in which *alone* at Woolwich cholera prevails, is stationed opposite the outlet of a sewer,—but that "the whole of the cases originated in the lower deck, on the starboard side and stern of the *Justitia*; that part being exactly opposite the mouth of the sewer." What will the old lady who derived so much benefit from a residence opposite a gully-hole say to that?—if indeed said old lady be still on this side the Styx—*i.e.* the gully-hole—which is by no means likely.

Ancient Remains.—At Aldborough, the Roman Isu Brigantium, a tessellated pavement 12 feet square, and in perfect condition, has been found in a garden, near another uncovered in 1832.——The remains of Stukely's celebrated "Temple-Umbra," at the Borough-field, Chesterford, have turned out, it is said, to be "decidedly those of a dwelling-house rather than a temple:" they are still, however, held to be Roman in origin.——At Gonalston Church, near Nottingham, three ancient brasses of historical interest have been found thrust carelessly into a hole covered with rubbish.

BRICK AND STONE BUILDING AT LEEUWARDEN.—A correspondent of the *Athenæum* iting from Leeuwarden, the principal vn in the province of Friesland, says, an old building, there, of the six-nth century, now used as a military use of correction, is one of the richest spe-ens of brick and stone work mixed to be ind in Holland—the *Boucherie* at Haerlem t forgotten. The arches which encase the ndows spring from pendents in the form of otesquely-fashioned crowns—the double ps to the front door are garnished by lions asping escutcheons—the gable, which stands place of the tower of the Belgian *Hotel de lle*, has some rich and intricate quaintnesses arrangement and subdivision,—and the ps by which it lessens to a point are rnished with seven antique statues, repre-iting, I apprehend, the Cardinal Virtues, d Faith, Hope, and Charity.—In short, this a façade meriting close examination and a filled draughtsman. Just within the Harlin-n gate stands a relic, of its kind as fine; a ge church tower,—the building belonging which was swept away (as was the nave of recht) by a tremendous storm,—and which ins alarmingly even in this land where ere is no prevailing upon any built thing to spect the principle of perpendicularity. The chitecture is Gothic, of a bold design and od period. The church towers of Holland—pecially those of Groningen and Utrecht—e generally excellent and picturesque. I ve seen nothing grander than the latter by onlight. But that of Leeuwarden—mal-eated as it has been by time and foul weather is perhaps the finest of all as to colour. ilt of bricks of two tints, cool red and buff with the tracery, pinnacles, and finials in ey stone—an effect has been produced, pos-ly by accident, for which professors of poly-romy have tried in vain; and whose harmony a hundredth reminder of the strange and esome pertinacity with which our artists ide by beaten ways, and cleave to approved odels without due reference to time and place d material in their application. For the use d pleasure of England there is much to be arnt in Holland.

LANDLORD AND TENANT: TWELVE-ONTHS NOT FIFTY-TWO WEEKS.—An tion was tried on 5th instant, before Mr. oylan, at the Westminster County Court, in nich it was found that the legal meaning of e words "for three months," is—for twelve eks. "The law," said the judge, "is yond all dispute. It may startle many per-ns who have never, perhaps, gone so far as e plaintiff in the study of Blackstone; but at great authority says that, even in taking a use for the year by parole, if the words used ' for twelve months,' it is only a lease for rty-eight weeks. If the words used be for a twelvemonth,' in the singular number, that ill be held to mean one year, or fifty-two eks. The judgment must therefore be for e defendant."

THE CONSERVATORY AT CHATSWORTH.—This immense structure is composed of glass anes manufactured especially for it, placed in on framework, of the lightest apparent kind, it as subsequent trials have proved, of the ost firm and substantial description. The ngth of the erection is nearly 300 feet, its eight above 70, and its width 150. It covers early an acre of ground, through the centre of hich is the carriage road, and the tubes for ie hot water which regulate the required mperature measure six miles. A light, but eautiful, gallery, erected at the base of the ome, and which traverses the entire building, nables the spectator to review the whole of ie interior from various points. The access the gallery is by steps, placed with ad-irable taste in the midst of rock work, in the ssures of which are plants, apparently natural roductions. A tunnel surrounds the whole idifice, by which access is obtained to the oves and pipes, and rails are laid down to onvey the coals per train, and supply the ecessary heat. The interior contains a vast umber of trees and plants, many of them of igantic proportions, and the rarest of tropical rowth. Birds of varied and exquisite beauty, hose delicate structure could not endure the gours of our climate, are seen flying about; nd pools of water, in which plants suited to ie required purpose have been encouraged to grow, contain gold, silver, and other fish. In this structure may be seen the largest crystal yet found in the world; and also one, but of much smaller dimensions, which has been pronounced the most beautiful.—*Derbyshire Courier.*

THE CONWAY TUBULAR-BRIDGE.—On Thursday week the second tube was floated on pontoons to the piers. Its entire length is 424 feet, the actual span over the Conway being 400 feet: its greatest inside width is 14 feet throughout; its height 22½ feet at each end, but rising to 25 feet in the middle, the additional 3 feet being given to lessen the deflection of the bases. The total weight of each tube is 1,300 tons, so that the superimposed weight now that the two tubes are at rest over the Conway, is 2,600 tons burthen from bank to bank. The fabric may be said to form a series of iron plates rivetted together, like armour-work. It has taken twelve months to complete. Each tube has cost about 60,000*l.*

RAILWAY-STATION ARCHITECTURE.—A correspondent of the *Athenæum*, writing from Hildesheim, in Germany, says,—"I do not know who is to be credited with the good taste of the railway station at which we alight from Hanover. Here has been carried out an emulation of the old brick-and-wood architecture of Hildesheim. The building is rich, extensive, and fanciful—perhaps a little overdone (but this is hardly to be quarrelled with)—attractive in its play of lines and variety of forms; so different from either the grand station at Hanover (a sumptuous edifice, in the Munich style), or, again, from Herr Eisenlohr's beautiful creation at Heidelberg, as to illustrate anew a favourite crotchet of mine, and of yours, that the very element which has been used reproachfully to symbolize all that is most anti-poetical and practical bids fair, in revenge, to revive with a new life one of the most picturesque of the Fine Arts. Assuredly, the examples that I have accidentally named, in novelty, spirit, and fancy, beat any of the new churches which I have seen—whether it be Canova's mistake at Possagno, or the Basilica and the Ludwig's Kirche at Munich, or Herr Zwirner's attempt on the Appollinarisberg close to Remagen.

TENDERS

For the Congregational Church, Haverstock-hill, Hampstead; Messrs. Barry and Brown, architects, of Liverpool. Quantities supplied by Mr. Eppy.

Hopkins and Roberts	£3,339
H. W. Cooper (Regent's-square)	3,329
W. Trego	3,250
Pollock and McLemsen	3,131
J. A. Hughes	3,130
W. Higgs	3,076
T. and W. Piper	2,987
T. Burton	2,981
J. Taylor (Regent's-park)	2,860
J. Glenn	2,681

TO CORRESPONDENTS.

"*P. E. M.*"—There is every reason to believe that plans for the improvement of the National Gallery, when determined on, will be obtained by public competition—see report by Parliamentary Committee on the subject in late number of THE BUILDER.

"*W. S., jun.*" (Sawbridgeworth).—The experiments will occupy much time, and not be of such a nature as to enable us to comply with "W. S.'s" request.

"*J. H.*"—Arnott's valve is advertised constantly in THE BUILDER, and will be found very useful. We have not time to give advice for special cases.

"*Careful Reader.*"—Such an arrangement as our correspondent mentions is often made, and need not involve any settlement.

"*A Junior.*"—One of the difficulties is *friction*, and until that can be overcome it is unnecessary to discuss any others.

"*To strip-off Paint from old Oak.*"—It will be found on reference to page 245, Vol. V., that a mixture of "American potash 3 parts, unslaked lime 1 part," has been recommended for taking paint and tar off wood, as well as for taking out glass from old window sashes.

"*Gas for One.*"—References and particulars will be found in quite recent numbers of THE BUILDER: but we cannot testify as to merits.

"*Received.*"—"J. C.," "M. P.," "G. H. W." (shall hear from us), "T. B. L.," "I. N. Q. Y." (the sewers *are* mostly in the middle of the streets, and the gulley-holes communicate somewhat as sketched), "R. N. W.," "H. J." (would he favour us with a sight of the sketch), "W. B.," "W. S.," "Well-wisher," "H. D." (City), "H. H.," "A Kentish Farmer," "The History of Ireland, by Thomas Wright, Esq., M.A., &c., illustrated by H. Warren, Esq." (J. and F. Tallis, London, Edinburgh, and Dublin), Part II.; "How to Avoid the Cholera: Plain Directions for Poor People, by John Challice, Surgeon, &c." (Savill and Edwards, Covent Garden); "Chart of the Public Health Act, 1848, by Charles E. Bernard, C.E." (Chapman and Hall, Strand).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, Mooring Rope Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the Interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c. BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c.—Manufactured only by Messrs ORSI and ARMANI.—Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City; and at the office of "The Builder."

CARLISLE MARBLE WORKS.—The above Works have been established nearly Twenty Years, and have lately been fitted up in a superior manner, with all the latest improvements for working and polishing Marble by machinery. Architects and Builders requiring large orders executed will find a great saving, both in cost and time, by intrusting their orders to this establishment. Experienced workmen sent to any part of the kingdom, to fix work at a reasonable rate.
THOMAS and JAMES NELSON, Proprietors.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone offered by them is from the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 30, Cheapside, where further information and samples may be obtained.

CAEN STONE, from the first Quarries of Allemagne Depôt at the Whitby and Scotch Wharf, 14, Pore-street, Lambeth.

P. FOUCARD, quai des Abattoirs Caen propriétaire des Carrières à Allemagne, begs leave to inform Builders, Architects, and others, that he has on the above mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr. BASNET, at 31, Stoney-street, Borough Market. Cargoes shipped to order, from Caen, to any port.

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STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application post paid being made, and inclosing a postage stamp. The prices are under those advertised for inferior slates.

ENAMELLED SLATE.—CAUTION!—Some discarded workmen of Mr. Magnus's, having pirated his invention of marbling slate and palmed upon the public trashy imitations, which unfortunately are frequently confounded with MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them in their true light, Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles (which articles have won for him the patronage of the highest personages in the realm, the application and support of the first architects, and the medal of the Royal Society of Arts), deems it incumbent upon him for his own protection, and that of the public, and for the just fame of his invention, to caution the inexperienced against these imitations. The public are, therefore, requested to observe that the Address of MAGNUS'S PLAIN SLATE WORKS, and its future all articles of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Radnor, the Earl of Waldgrave, the Countess Wilton, Viscount Combermere, Lord Robert Grosvenor, the Bishop of London, the Bishop of Bath and Wells, the Hon. Col. Douglas Pennant, Mr. Assheton Smith, Col. Challoner, Sir J. Easthope, Sir Francis Lawley, Sir Ralph Howard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous others of the nobility and country of this and other countries; by the most eminent architects and surveyors, the engineers and directors of the principal lines of railway, the Board of Public Works, and by the public generally.

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Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devices, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

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NOTT'S PATENT STOVES, for warming Churches, Chapels, Shops, Warehouses, &c.—Architects, Builders, and Ironmongers are informed that the manufactory is REMOVED from Great Queen-street to Messrs. BENHAM AND SONS, Wrigh t-street, Clerkenwell-close, where there is also a large assortment of other Warm Air Stoves, and a very extensive variety of fashionable Stove Grates, Fenders, and Fire-irons

N.B. Churches, Conservatories, and other Buildings warmed by Hot water.

WARMING by means of the circulation of WARM AIR.—BURRIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner BURRIDGE and HEALY, 19, Fleet-street.

HOT-WATER WARMING APPARATUS, with the latest improvements, adapted for hot houses, green houses, pits, &c., continue to be supplied and erected by SPILLER and TAILER, Battersea. Also improved warm-air apparatus for churches and other buildings requiring to be warmed lowly, especially N.B The parts being always ready, promptitude may be relied on.

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Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

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Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

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Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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Black Registers, from 9d. per in. and upwards.

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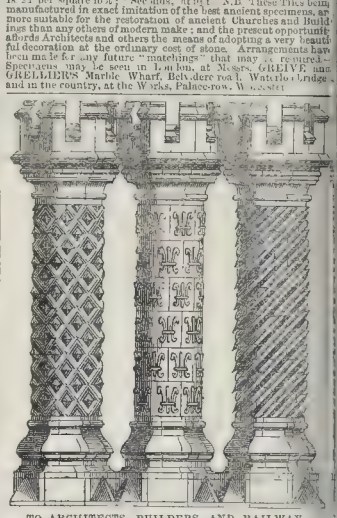
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TO BUILDERS AND OTHERS.

RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sink and stable traps and gratings, air bricks, close and open coal flakes, scrapers, dog bricks, balcony panels, horse ribs, &c. &c.

GAS and WATER PIPES, bends, branches, T and S pieces, ells, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, with all the usual connections. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

CUNDY'S PATENT OPEN FIRE-PLACE, HOT AIR, VENTILATING STOVE.



This Stove embraces the following important principles:—

HEAT BY RADIATION,
HEAT BY CONDUCTION,
HEAT BY REFLECTION,
VENTILATION.

The following are cubical areas the Stoves are calculated to warm and ventilate:—

No. 1 Stove from 5,000 to 10,000 cubic feet.

No. 2 ditto from 10,000 to 50,000 cubic feet.

No. 3 ditto from 50,000 to 100,000 cubic feet.

This admirable Stove is now extensively adopted for the Warming of Churches, Public Buildings, &c. &c., as perfect ventilation accompanies its use, and as it is a most powerful producer of heat.

TESTIMONIALS AFTER LENGTHENED TRIAL.

Gothic Villa, St. John's Wood, Oct. 23, 1846.

Sir,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my Temporary Church, and I can tell them from experience well that I have not discontinued them. All Saints' Church, St. John's Wood. The following reasons induce me to approve of them:—Exemption of effluvia, the emission of a great body of pure warm air, the perfect system of ventilation, the sight of the fire, the consumption of vitiated air, the little attention requisite, the cleanliness connected with them, and though last not least, *the great economy of fuel.* All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent stoves, and recommend all my friends to do the same.—Yours truly,

ED. THOMPSON, D.D., Incumbent of All Saints', St. John's Wood.

29, Charterhouse-square, Monday, February 17, 1846.

Dear Sir,—The stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties.

The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated.

I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves, and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.

I remain, Dear Sir, yours faithfully,

WM. ROGERS, St. Thomas's, Charterhouse

PATENT TORRENT WATER-CLOSET.

AUSTIN'S PATENT.

This much approved and admired Closet is strongly recommended to those Architects and Builders who have not yet tried it: it is SELF-ACTING, THOROUGHLY CLEANSES the basin, is always TRAPPED, and requires no CISTERN if it can be connected with the water-main.

THE STOVES AND WATER-CLOSETS ARE MANUFACTURED ONLY BY MESSRS. DOWSON (LATE OF 69, WELBECK-STREET), STINGO IRON-WORKS, STINGO-LANE, LONDON.

The Builder.

No. CCXCIX.

SATURDAY, OCTOBER 28, 1848.

THE employment of stone for all structures in Glasgow, gives an air of elegance and substantiality to them which is wanting in London and other places where compo" is chiefly used and abused. Moreer, it leads to greater care on the rt of architects in drawing mouldings d ornaments, which are to be put up what ought to be a durable material, d the result is that the cornices, architraves, indow-heads, and other dressings are better rofiled, as a general rule, though, of course, ith many exceptions, than they are in London. ill, in the new parts of Glasgow, with increased egance, we miss that picturesque and pleasing ffect given by variety, which the old parts of is and other towns present; and, as in dinburgh, the repetition *ad nauseam*, of the me front, with a marked centre and evenly-lanced sides, produces monotony and dull-ess. This is further increased by the pre-lent practice of painting the external stone-ork, which reduces it to the appearance of compo" forthwith. They are led to this of ourse by a desire to prevent the decay of the one, but if instead of this depreciating step, ey would use a better material (which could e had without much additional expense), ow much more satisfactory would be the sult! Good stone does not need paint, and is doubtful whether bad stone will be saved y it, at all events unless constantly repeated.

The spread of Glasgow towards the west has een very great within the last few years, nor oes this surprise when we are told that the opulation is increasing at the rate of 14,000 -year. The city statisticians say that 3,000 ew houses are annually wanted there!

Amongst the public buildings recently rected are the Lunatic Asylum, by Mr. harles Wilson; the new Jerusalem Chapel, y Mr. John Burnet; the Free St. John's hurch (Gothic), by Mr. Rockhead; and the enfield-street United Presbyterian Church, y Mr. James Brown. A new bank (the National") is being erected under the direc-on of Mr. Gibson, of London. It is in two tories, Ionic and Composite, carefully studied n some of its details, but as a whole *petite*, neagre, and ineffective. The front of the ounty Buildings, by Messrs. Clarke and Bell, ith an Ionic portico of six columns on a ofty basement, displays nice feeling.

The modern Gothic works in Glasgow ill not satisfy English critical lovers of ne style. The Scotch architects are much ehind hand in this respect; nor is it much to e wondered at, considering the feeling gainst the style which was engendered at the eformation, and has not yet wholly subsided, nd the different arrangement of the build-ng, as compared with our ancient parish hurches, which is required by the Scotch con-regations.

Certainly the best specimen we saw is the enfield-street Church, already named, an im-osing structure recently completed (with a rofusion of turrets, pinnacles, and sculptured rnaments externally), at a cost of about 2,000*l.*, which includes, however, meeting-rooms and other accommodation, besides three shops adjoining one side of the church. Although this church presents much that would move the ire of a Cambridge Camdenian, or of even less rigid sticklers for precedent, it shows so considerable an advance in the right direction, that we are led to give a few particulars. The style is that of the last period of the pointed (perpendicular), and the entrance front, the *east*, is flanked by two large square towers, with a turret and pinnacle at each of their four corners. Between these is a gable, very fully pannelled, &c., with central pinnacle, a large five-light window and a door beneath. Within, the church is 66 feet square, and 54 feet high to the highest part of the (plaster) groined ceiling, and there are seats for 1,250 persons. It is divided into three compartments, after the manner of a nave and aisles, by two heights of iron columns; the lower of them carrying a very large gallery which runs round the two sides and the east end of the church, and the upper, very slight and very lofty, with *early English* capitals, supporting a clerestory, with a series of *lancet-headed triplets* in each side.* The church is covered by a roof of one span, sunk openings being formed in it to admit light by the (apparent), clerestory windows.

At the west end a recess is formed for the pulpit, with the communion table, seats for elders, &c., in front, and here there is a large window filled with stained glass, by Messrs. Ballantine and Allan, of Edinburgh, resembling in style the sisters' window of York.† The pulpit is surmounted by a lofty and elaborate canopy of wood, the details of which are superior to those of other parts of the church. The pews throughout, which are of deal varnished, are low. Pains have been taken to heat and ventilate the church, and apparently with good success. Fresh air is brought from without over hot-water pipes; and for the summer, provision is made by means of gas burners under two large abduction tubes in the roof, to get rid of the vitiated air with considerable velocity.‡

Polychrome decorations do not appear to be very general in Glasgow. The best work of the sort that we saw is the City Hall, a fine apartment of great size, decorated by Mr. Hay, of Edinburgh, in his own manner, on the occasion of the *soirée* given last year in furtherance of the Glasgow *Athenæum*, when Mr. Dickens, the genial "Boz," charmed the ears and hearts of the citizens by earnest eloquence.§

We hope before long to see a love of art more general in Glasgow than it is now, as well as increased means afforded for studying it: a gallery of casts is greatly needed. ‖ The corporation should take up the matter, and vote a sum of money annually for the promotion of the arts,—regarding it as an investment which would not fail to produce large returns. We anticipated much from the *School of Design* there, and were pained on visiting it to find the same want of understanding between the committee, the master, and the central body, as prevailed in Somerset House some time ago, and was continuously commented on by us. The committee, so far as we could learn, had not visited the rooms for months; the inspector, Mr. Wilson, had been there, and, without communication with the master, Mr. Mac Manus, had framed a report, acting on which it would seem the central board had, on the day of our visit, dismissed Mr. Mac Manus, without first obtaining any explanation or giving any grounds for the step. The board may have good reasons for thus summarily dismissing this gentleman, but in the face of warm commendations by the committee for his exertions, annually reported in the local papers, and often quoted by us and metropolitan contemporaries, it certainly does seem a very extraordinary proceeding, and requires explanation. The scholars have presented a memorial, expressing their thanks to their master (as we understand), and praying that he may be reinstated. We shall probably hear something more of it before long, and we express a hope that Mr. Mac Manus will be reinstated.

The general management of the provincial schools is far from satisfactory: to call them schools of *design* is a mere farce; they are simply drawing academies, and are not a line nearer to any thing else than they were five years ago. We must take an opportunity to look once more at the general question.* Our readers will scarcely believe, that in the school for a place like Glasgow, to say nothing of there being no class for design, there is actually no class for mechanical drawing or architectural ornament.

We were forcibly reminded of the value of such a class on visiting the Vulcan and Lance-

* The popular objection to the introduction of columns internally, is so great (on the ground of obstruction), that even these thin iron supports, we are told, were regarded with jealousy.

† When we were in Edinburgh, we saw some excellent works by Mr. Ballantine, and were glad to learn from him that a taste for this important art is spreading in Scotland. To Mr. Ballantine, as our readers will remember, the execution of the windows for the new House of Lords is entrusted.

‡ There is a powerful hot-water apparatus, consisting of two boilers, *four*-fifths of whose surface is exposed to the direct action of the radiant heat, and calculated to maintain the temperature of the interior at sixty degrees when the external air may be as low as twenty degrees. The heated air produced by contact and radiation is drawn through sieves, to avoid the effects of cold draughts, and thrown into the area and around the galleries by a series of forty-four eduction tubes. The effect of this is to be increased or diminished at pleasure, by shifting two valves placed on the mouth of the fresh air induction tubes. This heating and ventilating apparatus was constructed, under the direction of the architect, by Messrs. Combe and Hamilton, of Glasgow.

§ The progress of the Glasgow *Athenæum* has been most satisfactory, and has amply justified those who, in the face of much opposition, asserted the want of such an institution, and succeeded in establishing it.

‖ Funds (the bequest of an individual) are likely to become available there before long, we understand, for the promotion of art. We hope they will be efficiently applied.

* At the Staffordshire School of Design (the "Potteries") a class for modelling has been commenced, under the superintendence of *Monsieur Emile Jeannest*, sculptor, of Paris! At the meeting for the distribution of prizes, held last month, Lord Granville, who is a member of the Board of Trade, to which board the schools of design are confided, took the chair, and made some pertinent remarks. His lordship said it was a significant fact, that in some countries almost all their exports consisted of manufactures which owed their chief value to the taste displayed in ornamenting them. This was attributable, in no small degree, to the encouragement which schools of design received in the chief towns of those countries. In Paris, for instance, 1,800 pupils attended the schools of design; and in Antwerp there were 600: thus shewing that efficient instruction had only to be provided and the artisans would avail themselves of it; and showing, also, that we must not flag in the use of similar means of improvement. It had been asserted, but he did not admit it, that there was something in our northern clime which incapacitated us for works of the highest order of art. A southern atmosphere might give advantage in the study of colour, and the constant enjoyment of the open air might almost insensibly train the mind to an appreciation of beauty of form and colour. It must be allowed we had not these advantages; but then we possessed a northern energy available for all purposes, and an innate confidence that whatever had been done elsewhere, our artizans were capable of equalling. This feeling had caused the establishment of Schools of Design amongst us, that artists might be trained whose designs should equal those of our continental rivals, and workmen whose hands and eyes should be sufficiently practised to carry their designs into execution. Since the first establishment of the schools, alterations had taken place in the mode of management, into which he need not enter. Suffice it to say, the schools had done great good. They had not only produced increased skill, but removed prejudices. One prejudice was that it was inconsistent with the dignity of high art to employ talents in that sphere; but the example of Raffaelle, Giulio Romano, Rubens, and Flaxman, not to mention modern artists of celebrity, must, he thought, put argument on the subject quite out of the question, and the prejudice was fast disappearing. Another difficulty the schools had to encounter was the indifference of manufacturers themselves. Much might be said on this subject, but it could not be necessary in a district like the Potteries, where it was so apparent that the continued pre-eminence of their manufactures depended on producing superior designs in form and decoration. The schools, he repeated, had done much, but he thought *they might be made productive of greater practical results.* He thought they might become the means of a more extensive application of the principles of art to the purposes of manufactures. And he did not apprehend that the standard of instruction would be lowered by making it thus practical,—not allowing the mechanical to destroy the poetical, but presenting a combination of both—a union which these schools should try to achieve. In this we quite agree with his lordship, and shall be glad to see evidence of a desire at Somerset House to effect what is found to be necessary.

was contiguous to the room, and communicated with a drain beneath the floor of my patient's apartment."

Coming nearer the metropolis, a committee has been organised at Brompton: the parish has been divided into sections, and a careful examination as to the state of drainage, &c., is going on. The condition of some of the courts in this otherwise healthy and beautiful district is deplorable.——Mr. Charles Bernard has published a "Chart of the Public Health Act,"* which will be useful in Board-rooms, &c. ——Dr. Robert Dickson has printed three pages of useful "Admonitions on Asiatic Cholera"——and Mr. Challice, surgeon, has published one page (through Renshaw, Strand), shewing "How to avoid the Cholera," from which we take two sentences, which relate to our speciality:—"1. Cleanse out, and thoroughly scour, your water-butts or cisterns: boil the water before you drink it or give it to your children. Impure water is the cause of many diseases. 2. If there be offensive smells in your house, from sewers or cesspools, complain to your landlord; if he take no steps for removing the nuisance, complain to the parish authorities; if they don't assist you, apply to the magistrates. The *law* now protects from *poison*, as well as starvation."——On the subject of impurities in water we find the following note in the "Report and Supplement on the Supply of Surplus Water to Manchester," &c., by S. C. Homersham, C.E.†:—"Any scheme for supplying a town population with water from surface drainage, especially when the constant supply is to be introduced, ought to provide for filtering the water. All river water, especially in warm summer weather, contains more or less organic matter in combination, which may in great part be separated from it by filtration. There is much more difficulty in filtering river water that is quite clear in hot summer weather (owing to the vegetable matter contained in it), than in filtering turbid water in cold weather. In the appendix to the illustrations of the Croton Aqueduct, published by Wiley and Putnam, New York, 1843, and written by Charles A. Lee, M.D., it is stated, p. 136, 'River water always contains a more or less quantity of organic matter in suspension, or solution. As a general rule, the quantity is too small to produce any decidedly injurious effect; but physicians and medical writers agree in the opinion that water impregnated with it to any great extent must be deleterious. Where the decomposing matter is too small to produce any immediately obvious effects, it is difficult to procure any decisive evidence of its influence on the system. When the amount is considerable, it causes *dysentery* and *fevers*, often of a highly fatal character." The health of a whole community may be affected by the impurities in the water drunk by them. When choosing a site for a house, parties should learn the nature of the strata through which the water passes, and how it is likely to affect their constitution. By the way, some of our water-companies want talking to.

* Chapman and Hall, Strand.

† Weale, London; Thomson, Manchester.

ON THE NATURE AND PROPERTIES OF THE METALS USED IN THE BUILDING TRADES.

INTRODUCTORY.

Before proceeding to give something like a useful compendium of what is known of the nature and properties of the different metals of more or less importance in the building trades, it may be worth while, even for form's sake, to take a brief view of their electrical relationships, which materially affect their utility and properties under various circumstances.

Let us, as a free and easy simile, suppose a common bar magnet to be divided into, or to be composed of, different compartments, the more intermediate or central of which are of clear metal, while the more polar are *both corroded*, and their metalline lustre quite obscured by agencies of different, and let us suppose of contrary, descriptions; and although most of even the metals-proper exist in nature usually in a state of corrosion, we have a rough similitude of what the whole range or scale of metalline nature, metalloidal as well as purely metallic, by comparison, appears to us to present to view. The metals-proper occupy the middle regions or compartments of the scale, while each *pole* or extreme is more permanently corroded, the metalloidal or *positive* extreme, comprising the bases of the earths and alkalies, by oxygen; and, as we incline to think, the other or *negative* extreme, comprising the arsenical, sulphurous, and other "non-metallic" bases forming acids, by hydrogen. That the positive metalline pole is covered with the great electro-negative oxygen Davy demonstrated, though it can be proved that the ancient chemists were well aware of its metalline nature. What the negative pole is covered with remains to be seen; and certainly it is not to be expected that *it* will yield up its secrets to the *same* persuasive agency which so effectually revealed the secret of its *positive* associate. We already know, however, that sulphur does contain hydrogen, and that hydrogen is capable of producing appearances somewhat like that of boron and silicon. But our purpose was a merely popular one in touching on this rather curious and interesting subject, and we have effected the object designed in merely suggesting the similitude, and pointing out the position relatively held by the metals-proper between the two extremes of the metalline scale comprising antimony, arsenic, tellurium, and even iodine, towards the negative pole; and zinc, manganese, calcium, potassium, &c., towards the positive.

The more important metalline and other elements have been thus electrically classified in order from the positive towards the negative pole or extreme,—potassium, calcium, aluminum, manganese, zinc, iron, tin, lead, copper, mercury, silver, gold, platinum, antimony, arsenic, tellurium, iodine, sulphur. This classification may be afterwards found useful. A somewhat different, yet in the main similar, order has been observed by Dr. Faraday in the magnetical relationships of the metals, the rank or position of the magnetical being analagous to that of the electro-positives, while the diamagnetical are analogous to the electro-negatives. It must be noted, however, that there is here analogy more than identity. But into this novel and erudite subject we need not enter.

The science of the metals-proper, such as iron, lead, and copper, at this present time, is in rather a peculiar crisis of its progress. Hitherto they have been regarded more as uncompounded, as well as indecomposible, elements than as compounds admitting of at least a description of their elements, if not of an analysis. One of our best living chemists, however, Dr. Graham, has ventured, apparently on good grounds, to elaborate a theory of their actual *composition*. Holding them to be of a compound, saline (or rather haloidal) nature, he accounts for their individual differences by regarding them as containing more or less powerful 'basyles,' of a zincous or positive nature and 'salt-radicals' of a negative nature, such as chlorine, the negative agency in common salt. And the metalline natures thus constituted by more or less complication, may be further compounded one with another and still constitute apparently simple metals. Copper, he conceives, contains a more powerful salt-radical, or electro-negative nature, and a less powerful basyle, or electro-positive, than either tin or lead; gold, a still more potent salt-radical and a still weaker basyle than copper, and so on according to the rank of each metal in the electrical scale. Now, it is a singular fact, of which we have been ourselves assured by occasional researches, with curious and startling results, into the ancient history and practice of chemistry, that the ancient chemists, the ridiculed and obnoxious old alchemists, taught nearly the very same doctrine. Nay, they gave instructions for the *formation* and elaboration of the peculiar *salt-radical*, or metal-burning sea-water, as they called it, wherewith they 'amended' metals, or, in fact, strengthened their electro-negative properties, at the expense of their basyles or electro-positive elements. And it was thus they instructed the first preparation or formation of a substance to all appearance identical with one of those which modern chemists still regard as *elements*.

By putrefaction of 'sulphur in prison,' said they, or, in short, of a more or less fixed sulphuret, 'liberate sulphur in companionship with the moist medium, water vive' (living water! hydrogen!), leaving 'the stony crass[i]tude' in the caput mortuum (as clearly oxygen-[o]of water as 'the simple medium' of putrefac[tion], fixed in the metallic base of the sulphuret[s] or in the 'prison,' or 'chest,' as they quaintl[y] called it, of the sulphur). Thus shall you hav[e] 'a stinking menstruum' (as clearly sulphuretted [hy]drogen, or hydrogenized sulphur) of an oily[,] thick, adhesive nature, which they called 'th[e] glue of the eagle,' and which was plainly, i[n] fact, bisulphuretted hydrogen,—an oily, thick[,] adhesive, stinking fluid. This 'stinking men[s]truum' was directed to be carefully cocted til[l] 'the sulphur and the water vive' entered int[o] '*inseparable companionship*' (a possibility o[f] which modern chemists are to this day en[-]tirely ignorant), and then the '*red, blood[y] metal-burning fire-water of clouds* was sweeth[y] prepared, as 'the philosophical *sea-water*,' o[r] 'incombustible fire-water,'—the 'sages burn[-]ing (metals) with *water*, as the vulgar with[-] fire.'

Now, to any one who knows the nature of th[e] metal-burning salt-radicals, and especially bromine, and considers the further incombustibility of hydrogen already fixed, as in water this forcible and significant, though quaint phraseology will be understood at once to sig[-]nify something as near as possible in every respect to bromine, one of the latest and most recondite of modern 'elements,' in the prepa[-]ration of which, moreover, these ancient fathers of chemistry also betray their intimate know[-]ledge of the existence, the nature, and the most subtle affinities of hydrogen and oxygen, as well as of the composition of water itself. In truth, the extent of the knowledge of the ancient me[-]tallurgists and chemists is vastly underrated in modern chemistry, which appears to be only progressing into regions with which our oldest forefathers not only professed to be, but *evi[-]dently were*, familiar. To the hosts of impostors, however, by whom the field of ancient che[-]mistry was infested, must be naturally attri[-]buted much of that misunderstanding to which the enigmatical form of the ancient writings also not a little contributed.

But the romantic regions of alchemy are certainly not those which we designed to tread under present circumstances, and our encroach[-]ment on their borders must be regarded as but a natural and incidental digression in the course of our remarks on the *nature* of the metals in general and in particular.

Moreover, the allusion to the zincous basyle is by no means irrelevant, inasmuch as we mean to begin our remarks on the nature of the individual metals of more or less importance to "the builder," with some account of

ZINC

itself—thus elevated, shall we term it, or de[-]based, by Dr. Graham, into the type of a positive root or basyle to the other and *all more negative* metals-proper.

LEICESTER CEMETERY COMPETITION.

From the Town Council report annexed, it will be seen that the Committee have recommended four plans for the consideration of the Council; another meeting will be held on Wednesday. "*Nec temere nec timide*" seems the favourite.

REPORT.

"The Cemetery Committee have to report that they have received fifty designs for the Leicester Cemetery, in answer to the competition advertisement issued by direction of the Council: and in order to give the Council and the inhabitants interested in the undertaking an opportunity of viewing them (many of which appeared to possess very considerable merit), they engaged the New Hall for this purpose.

The committee have held two meetings on the subject during the last few days, at the first of which they selected fourteen out of the fifty as being those which appeared most suitable for the intended cemetery. They are as follows:—

No.	
1.	Nec temere nec timide.
2.	Maltese cross.
4.	Confide recta agens.
5.	Queen's head (1d. stamp).
7.	Gold cross on blue shield.
10.	Nisi Dominus frustra.
11.	A double circle.
12.	Spero succedere.
13.	To mark the spot where earth to earth returns.
15.	Not in vain.
16.	Labore et honore.
42.	Equal to either fortune.
43.	Mors Janua vitæ.
46.	L'Esperance embellit tous—Dum spiro spero.

At the second meeting held last night, the ommittee proceeded to reduce the 14 to and the six remaining after the votes were ken on this point were:—

	Votes.		Votes.
. Nec temere nec timide	18	46. Dum spiro spero	12
. Maltese cross	16	7. Gold cross on blue shield	9
. Spero succedere	13	16. Labore et honore	8

The committee then proceeded to reduce the to 4, by ascertaining the number of votes ven for each. The four having the largest mbers were as follows:—

	Votes.		Votes.
. Nec temere nec timide	17	12. Spero succedere	12
. Maltese cross	15	46. Dum spiro spero	12

The committee then adopted the following esolution:—

That the committee report to the council at they have selected four out of the fifty lans received in answer to the competition dvertisement, as appearing to them, after areful examination, to be the best adapted for ie purpose of the Leicester Cemetery, but efore coming to any conclusion by the ouncil, the committee recommend that a earching examination should be made into ie estimates and the probability of the schemes eing carried out for about the total sum men-oned by the architects; and that if it should e found on examination that they cannot be o carried out, the committee in such case are ot to be considered as recommending any of ie four designs now selected for the con-ideration of the council."

ANOTHER BLUNDERING PIECE OF LEGISLATION.

THE METROPOLITAN SEWERS' ACT, 11 & 12 VICT., c. 112.

Sir,—This Act (sect. 47) repeals the provi-ions of the Metropolitan Buildings' Act with egard to drains and cesspools, so far as the ame are inconsistent with its own provisions, nd subjects the surveyors under the latter ct to the directions, in respect of such matters, f the Metropolitan Commissioners of Sewers.

I pass over, for the present, the absence, as seems to me, of anything in the Sewers' Act vith which the provisions relating to drains, &c., of the Buildings' Act are to be measured, vith a view to determine the inconsistency or otherwise of the one with the other; and I hall make no remark upon the repetition in he new Sewers' Act of the defective provisions of the other, by which district surveyors are equired to make returns of notices only of uilding and rebuilding houses and other uildings, without including operations of the ind contemplated, of which the parties con-erned neglect or refuse to give notice to the urveyor, further than to say that in some districts these form no inconsiderable part of he whole number of buildings and rebuild-ngs, whilst these almost always involve the ases to which it is most important the drain-ge should be enforced.

My present purpose is to shew that, so far as he provisions of the Metropolitan Buildings' Act are repealed, the district surveyors are left wholly without power to give effect to the directions of the Commissioners of Sewers. They are required to give information to those commissioners of any drain or work not conformable to the direction of the Sewers' Act, and in case the commissioners shall so direct, *to act in relation to such drain or work in the same manner as in the case of any work or other thing done contrary to the rules or directions of the Buildings' Act.* This manner is by information of the Official Referees, who, upon receipt of such information, are required to proceed to hear the matter, and thereupon to award and direct (sect. 14 M. B. A.), effect being given to the law by any two justices of the peace, upon the certificate of the official referees that a breach of it has been committed (sect. 18, *ibid.*). *But the authority of the official referees to adjudicate, and of the justices to enforce, is strictly limited by the Metropolitan Buildings' Act* (sect. 14, 18, 82, *cum multis aliis*) *to matters within the limits of that Act,* and the new Sewers' Act does not, so far as I can discover, give any authority to the official referees to entertain questions arising out of its provisions, whilst the power of interference of the Commissioners of Sewers themselves, seems to be precluded in matters supposed to be substituted for the repealed provision of the Buildings' Act, by the directions of the district surveyors to act in relation to irregular drains, &c., "in the same manner as in the case of any work or other thing done contrary to the rules or directions of the said Act of the 7th and 8th year of her present Majesty," that is to say, of the Metropolitan Buildings Act.

Under these circumstances I ask, "How is the Queen's Government to be carried on?" How is the spick and span New Metropolitan Sewers Act to be administered and enforced in relation to the application of drains to build-ings—the be-all and end-all of the Act? and while I pause for a reply, remain, Sir, &c.,

A Surveyor under the Metropolitan Buildings Act.

October 24th, 1848.

LABOUR! A BALLAD FOR OUR MINES AND MANUFACTORIES.

Fair work for fair wages! it's all that we ask,
An Englishman loves what is fair,—
We'll never complain of the toil or the task,
If Livelihood comes with the care.
Fair work for fair wages! we hope nothing else
Of the mill, or the forge, or the soil,
For the rich man who buys, and the poor man who sells,
Must pay and be paid for his toil!

Fair work for fair wages,—we know that the claim
Is just between master and man:
If the tables were turn'd we would serve him the same,
And promise we will when we can!
We give to him industry, muscles, and thews,
And heartily work for his wealth,
So he will as honestly yield us our dues,
Good wages for labour in health!

Enough for the day, and a bit to put by
Against illness, and slackness, and age;
For change and misfortune are ever too nigh
Alike to the fool and the sage.
But the fool in his harvest will wanton and waste,
Forgetting the winter once more,
While true British wisdom will timely make haste
And save for the "basket and store."

Aye; wantonness freezes to want, be assured,
And drinking makes nothing to eat,
And penury's wasting by waste is secured,
And luxury starves in the street!
And many a father with little ones pale,
So rack'd by his cares and his pains,
Might now be all right if, when hearty and hale,
He never had squander'd his gains!

We know that prosperity's glittering sun
Can shine but a little, and then
The harvest is over, the summer is done,
Alike for the master and men:
If the factory ship with its captain on board
Must beat in adversity's waves,
One lot is for all! for the great cotton lord
And the poorest of commerce's slaves.

One lot! if extravagance reign'd in the home,
Then poverty's wormwood and gall;
If rational foresight of evils to come,
A cheerful complacence in all:
For sweet is the morsel that diligence earn'd,
And sweeter, that prudence put by;
And lessons of peace in affliction are learn'd,
And wisdom that comes from on high!

For God in his providence ruling above,
And piloting all things below,
Is ever unchangeable justice and love
In ordering welfare or woe:
He blesses the prudent for heaven and earth,
And gladdens the good at all times,—
But frowns on the sinner, and darkens his mirth,
And lashes his follies and crimes!

Alas! for the babes, and the poor pallid wife
Hurl'd down with the sot to despair,—
Yet,—God shall reward in a happier life
Their punishment, patience, and pray'r!
But woe! to the caitiff, who, starved by his drinks,
Was starving his children as well,—
O Man! break away from the treacherous links
Of a chain that will drag you to hell!

Come along, come along, man! it's never too late,
Though drowning, we throw you a rope!
Be quick and be quit of so fearful a fate,
For while there is life there is hope!
So wisely come with us, and work like the rest,
And save of your pay while you can,
And Heaven will bless you for doing your best,
And helping yourself like a man!

For Labour is riches, and Labour is health,
And Labour is duty on earth,
And never was honour, or wisdom, or wealth,
But Labour has been at its birth!
The rich,—in his father, his friend, or himself,
By head or by hand must have toil'd,
And the brow that is canopied over with pelf
By Labour's own sweat has been soil'd!

Martin F. Tupper.

MOVEABLE PLATFORM FOR RAILWAY STATIONS.

Sir,—The ingenious and novel idea suggested by your correspondent "R. R. M." in The Builder of the 21st inst. for a *saving of time* in railway travelling by means of a moveable platform is one which, under the present system of management, at the smaller stations, (for I presume it is to the subordinate stations your correspondent's idea would more particularly attach) would be found to be impracticable, for the following reasons, amongst many others that might be adduced:—If the speed of the train is diminished, as your correspondent desires, to the rate of ten miles per hour, and we take three minutes as the average time occupied in distributing the passengers and depositing the goods, the moveable platform would, in such case, be carried forward by the train a distance of half a mile before it could be disconnected, and it would require the further time of one minute before the platform could be stopped by means of breaks, with any degree of safety to the persons remaining on the platform. The platform would then be removed from the station nearly two-thirds of a mile, and if we add four minutes more—the probable time that would elapse before the return of the platform to its original position was complete—the porter and station-master, whose duties require them to be on the platform with the train, would have been absent from the station eight minutes. Now, suppose, as is constantly the case, that the up and down trains arrive at the station at the same moment, it is evident one of the trains will carry forward the platform without the station-master and porter, and the travellers will be left to shift for themselves, as best they may: the guards also of the train will be wholly unable to communicate with the station-master. Such occurrences would amount to an inconvenience of a very serious nature in the working of the traffic, and could only be remedied by providing a double set of hands to work each station. Whether such a remedy would be advisable or not, I leave for the more mature consideration of the Directors of the several railway companies; for my own part, I think the advantages to be gained by carrying out an idea similar to that of your correspondent "R. R. M." are not at all commensurate with the increased expenditure, now, alas! too heavy on all lines, that would ultimately fall upon the public. W. L. B. G.

SCULPTURE PRIZE IN WALES.

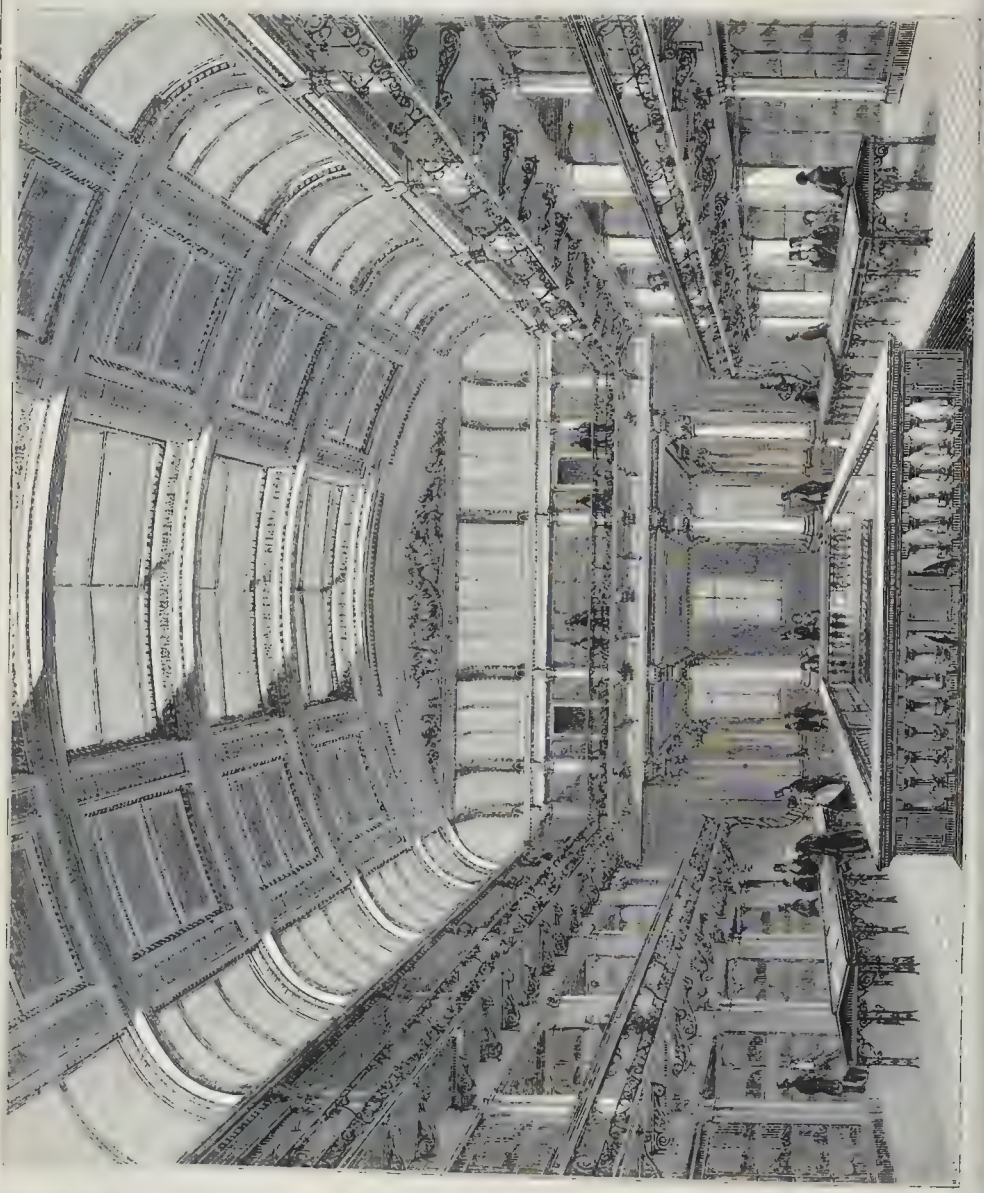
At the 15th Eisteddfod of the Abergavenny Cymreigyddion, held on the 11th and 12th inst., the prize of 70 guineas, offered for the best model in plaster, illustrative of the Cambro-British History, was awarded to Mr. John Evan Thomas, of London. The incident chosen (one of four named in the terms of competition) is the death of Tewdric, King of Gwent, in the moment of victory over the Saxons at Mathern on the Wye.

The figures, which (in compliance with the conditions) are executed in the round, are 4 feet in height. The group consists of the dying hero, in a reclining posture, supported by a female figure—we presume that of his daughter Archell—who is whispering in his ear, with an aged bard bearing his harp in the back ground. The king grasps a cross in his right hand, towards which his eyes are directed. The local press speak highly of the work, and express a hope that it will be put into marble.

Railway Embankment.—Sir: All these slippings and slidings among railway embank-ments and cuttings, emboldens me to submit to you a suggestion which has over and over again occurred to me, whenever I have seen a cutting or viaduct. What I wish is, to get rid of the straight lines of art, and adopt the curved lines of nature in such works. I think it possible that if such kind of lines were adopted and modified according to circumstances, and a good green sward encouraged to protect them, we should hear little of failure or decay. I fancy that nature has a very great dislike to angles, and is always intent upon rubbing them down with her thumb; but that if she find them already softened off, she takes no further trouble, and there they stick for ever.—R. K.

INTERIOR VIEW OF THE MUSEUM OF ECONOMIC GEOLOGY.

Mr. PENNETHORNE, Architect.



THE MUSEUM OF PRACTICAL GEOLOGY.

In the third volume of this journal,* we made known to our readers the general scope of the important establishment in Craig's-court, Charing-cross, called the Museum of Economic or Practical Geology; and, afterwards, we described the general features of the new building extending from Jermyn-street to Piccadilly, and occupying an area about 70 ft. 6 in. by 153 ft., which has been built for its purposes. The north front is faced with Anston stone, the south front with Colchester bricks (gauged), and Anston stone dressings. The entrance is in the south front in Jermyn-street, and by nine steps in the lobby the hall upon the Piccadilly level is gained, the difference between the surface of the public footways in the two above-named streets being about 6 feet.

On other occasions we have discussed the merits of the external elevations of this structure, and we now have the pleasure of laying before our readers an internal view of the large gallery looking towards the Jermyn-street end. This fine apartment is 95 feet long, by 55 feet wide, and 32 feet high to the springing of the roof, and has two galleries along its sides to give access to the cases with which the walls are lined. The roof is constructed of iron ribs spanning from side to side, and will be illustrated by us in detail, together with some other parts of the structure, in an early number.

The building comprises, on the ground-story, a hall, 45 feet by 66 feet, formed into three divisions by Doric columns, for the exhibition of building stones, marbles, the heavier geological specimens, and works of art. This is lighted by an opening in the floor of the great room, the balustrade around which is seen in our view. Adjoining is a theatre, 55 feet in diameter, for lectures upon scientific subjects, capable of accommodating 580 persons, exclusive of any proposed gallery sittings. This derives its light from the sky-lights of the great room, and has a glass-ceiling, so to speak, on a level with the floor of that apartment, so as to obtain, above, the effect of the whole area.

There is a library, 23 feet by 33 feet, and 21 feet 6 inches high, with a gallery along two

* Page 87.

LUMSDEN'S MODEL DWELLINGS FOR WORKING CLASSES.

MR. JAS. WYLSON, ARCHITECT.

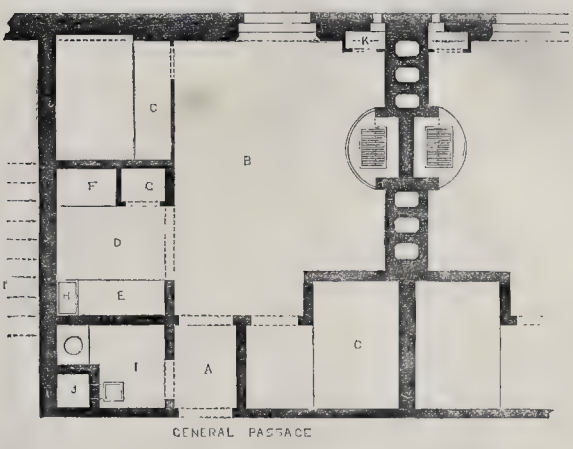


Fig. 1.

References to Fig. 1.

A Entrance lobby.
B Main apartment.
C C Bed closets.
D Scullery.
E Dresser.
F Coal-box.
G Cupboard.
H Sink.
I W. C.
J Dust-shaft.
K Larder.

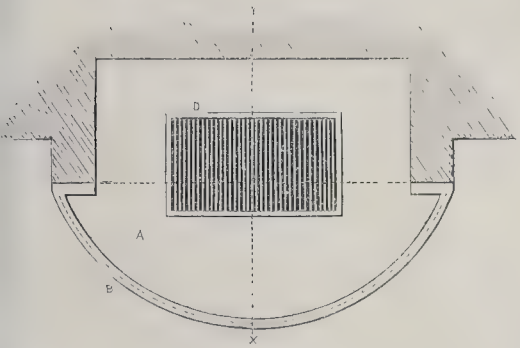


Fig. 2.

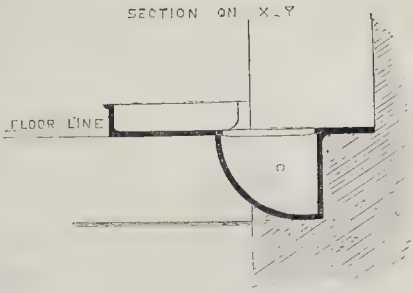


Fig. 3.

References to Figs. 2 *and* 3.

A Hearth.
B Fender cast with it.
C Ash-pit.
D Moveable grating, to save cinders.

les, communicating with the rooms on the ezzanine story, and the librarian's apartments; d reception room, and apartments for the rector &c.

Ascending from the hall by a staircase on ch side the entrance lobby, which joins in a ntral flight between Ionic columns, seen in r illustration, you arrive at the principal or, containing the great room, or museum, eady mentioned.

At the north and south ends are model oms, 65 feet by 25 feet, connected with the incipal museum, and each containing a llery. The upper story of the building con- ins at the south end an office, for the dis- sal and exhibition of mining records (68 feet. 24 feet), and other papers connected with ological science, with the necessary accom- odation for the draughtsmen required in this partment.

At the north end on this story are situated e laboratories, balance-room, apartments for e professor, and the requisite accommodation r the pupils of the chemical classes. These boratories have direct communication (by eans of a hydraulic lift), with a fire-proof om in the basement story, containing an say furnace.

The building has been erected from the sign of Mr. Jas. Pennethorne, architect, at a st of 30,000*l.*, and is highly creditable to his nowledge and taste. Mr. John Kelk was the ilder. The arrangements for warming and ntilating have been made under the direc- on of Mr. Sylvester.

LUMSDEN'S MODEL WORKMEN'S DWELLINGS.

ENOUGH details have been published respecting the generally-comfortless condition of the homes of the working classes, to render the subject a familiar one to those to whom it is most personally interesting, namely, landlords and tenants. Where there is not perfect privacy in a dwelling, proper self-respect, if it have existed, must give way; and if it have not existed, can never spring up: where the decencies of life cannot be observed, morality cannot but break down; where the structural arrangements are not calculated to promote and preserve cleanliness and order, any attempts at these will prove futile, the love and pride of home will ere long be discouraged, and recklessness and degradation in due course ensue. It becomes thus obvious, that to the well-disposed portion of the labouring community, a better order of dwellings, in which they could enjoy the maximum of comfort of which their sphere is capable, and where they could rear their families without fear of contamination, moral or physical, must be an inestimable boon, and be hailed with feelings of pleasure and hope; and that to landlords, well disposed towards improving the social condition of the humbler classes, the exercise of the best philanthropy is peculiarly theirs; and that if it be granted that these classes are susceptible of moral amelioration, there is every reasonable prospect of their efforts meeting with an encouraging return. It has been stated that mechanics' institutions are not used by those for whom they were specially intended: if it be considered how incompatible a disorderly house is with the beneficial prosecution of studies, it will be plain enough where the drawback lies, and where the primary step should have been taken. Give the workingman a sanctum in his own dwelling, and, so far from the tavern possessing superior charms in his eyes, it will sink in his estimation: he will become too proud to be seen there, and find, instinctively, something in his home which yields him a meed of honour more heart-satisfying than his pot-participators can afford.

It seems hard, however, to induce the first step in any radical change: a certain amount of courage is wanted to enable one to take any step which is at wide variance with established usage. There may be perfect confidence in the rectitude of the course, but there are doubts whether society is ripe for the innovation,—doubts whether the class proposed to be benefited are ready to hail and appreciate it, or to blight it in the bud with listless insensibility or dogged stubbornness; and there is, besides, the opposition of those who find their interest in the state of things existing. The first pioneer must fix his eye steadily on the beautiful landscape in the distant horizon, undiscouraged by, if not insensible to, the dreary waste which intervenes. To carry out, on the extended scale which is necessary, a thorough reform in the system of dwellings for the labouring population, it is obvious that the principle of joint-stock must come into

operation; but it is to be feared that capitalists will not be induced to embark in such undertakings, before they are assured, from the experience acquired by individual enterprise, that a remunerating return will be realised.

Glasgow, it is known, holds an unenviable pre-eminence in respect to mortality; and its own denizens of the west,—indeed, of much of the east, know little of the cause, and the casual visiter discovers not the squalor, impurity, and wretchedness which crowd behind the veneer of business-premises that extends along the south side of its old-admired Trongate. But, thanks to sanitary commissions, and to individual investigations, the true condition of that and other localities is becoming better understood; and the knowledge of it must—if not for very shame's sake, at least for safety's sake—lead, ere long, to some decided course of action being adopted for its erasure. In the meantime, however, the cry which occasionally rises is, "Root out, root out; open up new and healthful thoroughfares;" and we fail to hear the premonition, "Provide ye first for those who are to be rooted out." Here is a mistake which should be avoided. New and wholesome dwellings should first be prepared for the labouring population, then no bad consequences need be feared from driving away the occupants of these present unclean bot-beds, in any improvement which might be determined on in the localities referred to.

These few remarks were simply intended to refresh the public mind on a very important subject; and appeared necessary to preface the description of a building mentioned last week, as now being erected in Glasgow for Mr. James Lumsden, from the drawings and under the direction of Mr. James Wylson, architect, by way of attempt at some improvement in the construction of dwellings for the industrious classes. It is only from experience, and by experiment, that the best mode of treating the subject can be ascertained: the wants and the habits of any one class will be found to be widely various in different localities: perhaps, for instance, the best arrangement of houses piled on one another which could be contrived for the Scottish artizan, would fail to reconcile his English brother to the loss of his cottage; and thus local peculiarities will ever have to be well marked and considered.

The building above referred to as being now under course of erection, is situated to the north of the Normal School, New City-road: it consists of four storeys, and contains in all thirty-one dwellings. The houses on each floor are ranged along a wide central passage, which communicates with the common staircase, and is lighted by a window at each end. The houses are arranged with the view to giving to their one main apartment the utmost value, by obviating as much as possible the necessity for performing any cleansing operations within it, and forming the bed-closets opening out of the same, so that there is no occasion for the occupants creating disorder by strewing their clothes about the room: for this purpose these closets, of which there are two in each house, as wide apart as possible, are made large enough to afford space for undressing and dressing in: each is closed with a door; but at the same time, in order that they may be ventilated, the side which is next the main apartment stands only about 7 feet high, so that the air of the house circulates freely through them. The bed bottoms are fixtures, and of rod-iron filled in with hooping, to prevent the propagation of insects, as well as the loss which is so great a grievance to the proprietors of small houses, from the use of the sparred bed-bottoms for firewood. Each dwelling has also a scullery opening out of the main apartment, and containing a dresser, sink, coal-box, and press; and likewise a small well-aired larder in the outside wall; a kitchen grate, with oven and boiler; an ash-box with cinder-sieve in the hearth, which is of cast-iron, and includes a fender,—the latter being cast with it; and, opening from the small entrance lobby, is a water-closet, with apparatus of simple and economical construction, with, in one corner of it, a trap covering a shoot into a dust-shaft, through which all dry rubbish is conveyed to a cellar in the basement. Water is to be laid on in the scullery; and a jet of gas, for certain hours, in the main apartment, as well as in the central or common passages and staircases. The ventilation of the houses is provided for by a louvred opening in the top of each window, and of the central passages by a few feet of the floor at either end being omitted,—thus permitting a free upward circulation to the roof, where there will be large louvred outlets. There is a wash-house outside, on the ground story, with all necessary appurtenances, including Robinson's rotary drying machine, which will be common to all the tenants in due succession.

It will be perceived from the description and annexed plan, that all the usual outhouses that so easily get out of repair, and are so offensive, are superseded; that the houses are so complete in themselves, in respect of their various conveniences, that nothing which could offend the senses need present itself in the common stairs or passages; and that, with the exception of the wash-house, the arrangements generally are calculated to afford the utmost privacy to the various families, one with another, and in themselves, that is compatible with the station to which they belong. One of the houses on the ground-floor has a room extra, and is meant to be occupied by a person having in his charge the general conservation of the property, including the collecting of the rents, cleaning the stairs, passages, and approaches, removal of rubbish, turning off the gas at a fixed hour, &c.

It is expected that these houses will be occupied by a superior grade of working people, as regards conduct, in whom employers may have such confidence as to become surety for their rents, and thus obviate the trouble of weekly payments, and the increase of rent unavoidably accompanying that mode of collection. The rent, which is looked for as sufficient to meet the views of the well-intentioned and energetic founder of this establishment, is 6*l*. per annum—a small sum as compared with the advantages which it offers to the labouring man.

Mr. Wylson has given much thought to the subject, and we cannot do better than recommend those capitalists and others in his neighbourhood, who may feel disposed to follow Mr. Lumsden's example, to apply to him for his professional assistance.

IMPROVEMENT OF DWELLINGS FOR MIDDLE AND LOWER CLASSES.

Sir,—In the midst of multitudes of the oblong, square, and *solid*, key-stones of suggestive structure cut out of The Builder's abundant quarry by the newspaper press, and particularly the metropolitan, I have always looked in vain for any quotation from the various excellent articles on the adaptation of the dwellings to the means and wants of the middle and lower classes who reside within the bounds of the metropolis; and I have hence been forced to conclude that such suggestions either were not rightly understood, or were not palatable either to the readers of the newspaper press or to its conductors. Thus impressed, it is at least some consolation to perceive, from a quotation in last week's Builder, from the *Morning Herald*, on "The Building Mania," that The Builder's pioneering advances are, at least, working out a silent, if not an acknowledged appreciation of the defects of the present system, and a conviction of the necessity of a better.

It seems clear, indeed, that the value of ground, and the rate of rent throughout the metropolis, are becoming so great in relation to the means of tenants and the multiplicity of competition for all but the most distant and suburban localities, that houses in general have altogether ceased to be adapted to their destined and inevitable tenants, who, in order to enable them to pay rents so far above their means for the only houses suitable, in point of locality, to their purposes and pursuits, are compelled to adopt a system of sub-letting, or lodging-house keeping, for which the houses in question were not designed, and are most unsuitable.

The enormity of the spread of the metropolis is an evil and an inconvenience that *must* ere long be compensated by another and a more suitable mode of building, for the economization of space, or rather to suit the *requirements* of that crowding and inconvenience economization of space which has now bee so long at random work in subdividing tene ments of increasing value, not designed fc subdivision even though recently built rebuilt on the old and out-of-date design. is now, or shortly will be, the imperious dut of architects and builders to provide for thes growing evils. The growth of the mighti Babylon in length and breadth must hence forth be so far superseded by, or swallowed u in a re-arrangement of its height. In place spreading streets over a wider and still wide compass, one series of *separate abodes* mus be raised upon the top of another, or rathe the present series altered to suit the altere circumstances of the tenants and lodgers, the altered value of the more and more pre cious space *within* the scattered outskirts of th less restricted and more healthful, but lea sought-for and more moderately valuable sub urbs. The status of mere *lodgers* will thus b raised into that of tenants—*householders*—fo each separate abode will thus, to all intents an purposes, be a separate house, and it is re garded as such in Edinburgh, where this ver system has long been prevalent. Moreover there the tenant of every "flat," or separat suite of apartments, is recognised by law a a separate householder; and why should i not be so with the citizens of London and th denizens of the metropolis at large? It is th most anomalous and ridiculous fact, not only that the metropolis, generally speaking, is mere concourse of lodging-house keepers an lodgers, but that the poor devil who rents a house to make a livelihood by his richer an more respectable lodgers, and lives in the kitchens, cellars, or back premises, is the re putable "householder," while his *superior* o the first, second, aye, or even third floor, is "but a lodger!" This is not only a "great fact," but a great mistake, and the metropolis is a great deceiver in the eyes of all strangers—living in great houses totally unsuited to its small means, and imposing upon the world under false pretences.

And yet how little alteration of the old design, comparatively speaking, is requisite to bring up the style of dwelling to the modern style of occupation. Houses by thousands, by tens of thousands, *are* inhabited by several separate families. Why not adapt them to their purpose, then, by the accommodation at least of separate *outer* doors and small inner lobbies, with inner doors to each separately inhabited suite or floor. This is almost all that is *absolutely* requisite for privacy and independence, *and for the elevation of the mere lodger* of unfurnished apartments *into a householder* in effect at least, if not by law,—and *if* not by law, the sooner the Government and the Legislature assist in the elevation of the status of so numerous and respectable a host of her Majesty's liege subjects by making it law, the better.

The comfort and convenience—the avoidance of positive and continual mutual annoyance to multitudes—thus obtainable can only be appreciated by those who have experienced it. And amongst these I have no hesitation in classing myself: not only so, but I have also experienced the comforts of a *separated* suite of apartments, and therefore feel the barbarous change to be all the more grievous. On the other hand, I can also state from experience that every comfort and convenience obtainable in a self-contained house of several floors is obtainable in a separated floor, with water and gas-pipes, and other conveniences. Whereas, being unable here to expend 50*l*. or more in annual rent, my family and self are obliged to submit to what to us is the most disagreeable and annoying of all things, the deprival of every comfort peculiar to a separate home.

I appeal to you, Sir, simply as one of those who are compelled to endure an offensive contact with strangers in the midst of his own family, which, in the metropolis of England, we indeed feel to be little less than barbarous, and which we certainly have ever been not only annoyed, but astonished, to find so prevalent—here above everywhere else. It is not for me, however, to enter into minutiæ of recommendation as to the manner in which such a system should be overturned, as overturned it ought to be, and must be. Besides, that has been already repeatedly done in The Builder

at the subject cannot be too often or too vidly and strongly thrust upon the notice builders, architects, and the public, till the ange take place,—a change which, convert- g lodgers into tenants, and bringing builders other owners face to face with these—the eat majority of real occupiers or tenants—and eeping away the middlemen who at present ofit by the one at the expense of the other, nnot but prove a *capital* speculation, and ll worth all the little additional trouble of llecting separate rents, in place of risking e whole in the hands of one who has no real ght, and often as little inclination, to stand tween the landlord and his virtual tenants.

I am Sir, &c., J. E. D.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

On Wednesday evening, in the week before st, the recently instituted Architectural and rchæological Society held its first meet- g for the present session at the Royal Insti- tion, Liverpool. In the absence of the rshipful the mayor, who is president of the sociation, Mr. J. A. Picton, one of the vice- esidents, occupied the chair. There was a ge muster of members, the small meeting- om being filled in every part.

The Chairman, after some congratulatory marks on the auspicious opening of the ses- on, glanced briefly at the many advantages hich such an association would be likely to nfer. He then called attention to three intings by Mr. Howard, part of a series to orn the gable end of the Grammar School at eston, the subject being illustrative of itish history from the introduction of ristianity to the close of Elizabeth's reign.

Carnarvon Castle.—Curious Details.—The airman said he had gone over to Wales a v days ago to rusticate, and was glad to find at it was at a period when the Cambrian rchæological Society held its meeting at Car- rvon. He attended the meeting. All the ading antiquaries of Wales were present, th Sir Stephen Glyn in the chair. Dr. trie attended as a deputation from the Royal sh Academy: several gentlemen from Eng- nd were also present, amongst them the v. C. H. Hartshorn. Many interesting pers of course were read, and several excur- ons were made. One of the latter was to the cient Roman town and camp of Seguntium, here some excavations and discoveries were ade. Mr. Hartshorn subsequently read a per on Carnarvon Castle. He had gone rough the various records which are kept in e Tower, and the chapter-house at West- inster, and from old Latin documents, with aint and difficult abbreviations, had ex- acted full and complete details as to the ilding of Carnarvon Castle. The results of s researches were opposed to all previous stories upon the subject. It had always been ated in guide books and histories that the stle had been built in one year, the year after ing Edward I. had conquered the Welsh, and at he had sent his queen here to be delivered a prince, and even the room the prince as born in was pointed out. Those present ere surprised to hear that the entire story was fable. So far from the castle being built in elve months, as asserted, its erection had tended over thirty-eight years; and so far om Edward the Second being born in the agle Tower, as alleged, the foundation was ot laid till he had become a man, and it was tually built by himself! Nay, more: Mr. artshorn was able to tell the date of the ilding of each tower, the cost of the stone, e labourers' wages, and even what was paid r the cramp-irons which fastened a figure of dward the First to the wall. The wages of at period, it appeared from the documents, ere a penny a-day for masons: a man who atched from the top tower (no doubt from his eing so much exposed) got 2d.; and the aster mason, or clerk of the works, was re- arded with 1s. 6d. a-day, that being equal to out ten shillings of our modern money.

Bedington Church.—Mr. Charles Reed, the cretary, read a paper on the history, as leaned from its architecture, of Bebington hurch, in Cheshire. It was determined, it ppeared, that before the close of last season he members of the Liverpool Archæological Society should make an excursion together to some place of architectural and antiquarian interest, and Bebington Church was chosen. Although the day selected for the examination was wet and unfavourable, from twenty to thirty of the members met at the church, and busied themselves with tracing, sketching, and drawing the various architectural peculiarities of the interior; and the result was a number of etchings now laid on the table, and the paper read by Mr. Reed. A discussion on the age and character of the mouldings, construction of the roof and tower, character of the tracery, comparison of the peculiarities in this and other edifices, &c., followed, and the meeting then adjourned.

NOTES IN THE PROVINCES.

St. Paul's Church, Brighton, built by subscription, was opened on Wednesday week. It contains 1,200 sittings, 700 free, and cost about 7,000*l.*, exclusive of the spire.——The contract for pulling down and rebuilding Holy Rhood Church, Southampton, has been entered into with Mr. Burton, of London. Messrs. Mee and Webb are the architects. The pulling down is to be forthwith begun. ——The coffer-dam and excavations for the Plymouth Great Western Docks, are in a very forward state.——The Cheltenham petition in favour of the Health of Towns Bill has been numerously signed by rate-payers, and the Suppression of Nuisances Act is to be forthwith put in force.——The authorities of Stourbridge are taking active measures to improve the sewerage of the town, by repairing the culverts, and laying down others in localities where the drainage has hitherto been neglected.—— The Darcy aisle of All Saints Church, Maldon, has lately been enriched by the insertion of a memorial window of painted glass, designed and executed by Clutterbuck, of Stratford, Essex.——St. Chad's Church, Lichfield, having undergone an extensive repair and enlargement by rebuilding the north aisle, with a hundred and twenty free sittings, at a cost of nearly 800*l.*, was re-opened on Sunday week. ——The new docks at Sunderland are proceeding in a rapid manner. The sea has been banked out of the tidal basin and nearly the whole length of the large dock, and the whole, it is thought, will be completed within the time fixed, and within the estimated cost.——Two wretched old houses lately fell in Cathedral-lane, Dublin, burying seventeen persons, five of whom were killed on the spot.

MASONS' STRIKES.

"THE MASONS OF LONDON PROTECTION SOCIETY."

Sir,—Circumstances having lately arisen which have tended materially to injure the building trades, we allude to the four-o'clock movement, to obtain which many strikes have taken place, and much work brought to a stand, and the baneful effects of these strikes having been severely felt, more particularly among "masons," a society has been established, denominated "The Masons of London Protection Society," the objects of which are to endeavour to remove these abuses from the trade (for strikes are decidedly "abuses"), and also to provide a fund for the purpose of assisting those of its members who may be out of employment during the inclemency of the winter season, instead of expending its funds in supporting useless, injurious, and unjust strikes.

The masons' trade has ever been considered, and still is, the foundation of all other trades. It is not, therefore, stone-masons' interest only to protect its welfare, but the interest also of the various branches of the building community. We may likewise see that the effects of its prosperity or adversity will ever be felt by the community at large, for when stone-masons' work flourishes, so also must carpenters', bricklayers', plumbers', painters', glaziers', slaters', plasterers', and from these again many other trades and occupations,—the brick, stone, and land merchants, and a hundred other important features, too numerous to enumerate: and as it is from its operatives that the principal portion of the wealth of this nation flows, it is important that this trade should prosper, that with it may prosper all trades.

We feel assured that those political economists who complain so much of money spent upon public works, were they philosophically acquainted with the nature and effects of trade, might discover that they themselves are in some indirect manner benefited by the expenses of which they complain. What can therefore be more reasonable and laudable in the English nation, than to expend its money in promoting industry, for industry will ever be found to be productive of public health, and to act as a stimulus to morality, things now so necessary; and while it is the duty of those in power to protect and support trade, it equally behoves the employed to adopt such measures as shall protect their own interests, and to remove every obstacle that may have a tendency to obstruct the welfare of trade.

Nothing can be more repugnant to the feelings of employers, than to have certain conditions dictated to them, by which they are bound to abide; and yet not to the feelings of employers alone, but to all, for few of us like to be dictated to, even by superiors, and it has been proved not once but often, that employers will rather make a great sacrifice of property to their own disadvantage than yield to an unreasonable demand.

This society considers it will be far better policy on its own part to make use of its funds for a philanthropic and laudable purpose, by giving pecuniary assistance to those of its members who may be, in the winter season, unfortunately thrown out of employment, than to give countenance to, and expend them in supporting, what never has been and never will be productive of good results, viz., "*strikes.*"

This society, therefore, is determined to discountenance everything in the shape of strikes, feeling assured that such proceedings have ever been and will still prove, if persisted in, to be not only detrimental to the prosperity of trade, but disgraceful to those engaged in them. I am, Sir,

On behalf of the "Masons of London Protection Society,"
Your obedient Servant,
Wm. Jenkins, Secretary.*

New Books.

The Assistant Engineer's Railway Guide, containing Instructions for setting out the Lines and Levels of Railway Works, in Cuttings, Embankments, and Permanent Way; Bridges and Viaducts, on the Square, on the Skew, and on Curves; with numerous Notes, Tables, and practical Office Rules for designing or calculating the Strength of Railway Works in Stone, Brick, Wood, or Iron; Tables of Earthwork Sectional Areas and Gradients. Illustrated by upwards of 120 woodcuts. By W. Davis Haskoll, C.E. To which have been added Ten Sets of Experiments on the Strength of Materials; by George Rennie, Esq., F.R.S., M.I.C.E.; and 3 plates and specification, illustrative of the Construction and Details of the laminated Arch forming the Bridge over the Ouse, on the East Anglian Railway: J. S. Valentine, Esq. Part. II. Williams and Co., Strand.

A Familiar Explanation of the higher Parts of Arithmetic; comprising Fractions, Decimals, Practice, Proportion, and its applications, &c., &c.; with an Appendix, designed as an Introduction to Algebra. By the Rev. Frederick Calder, B.A., Head Master of the Grammar School, Chesterfield. London: Whittaker and Co. Cambridge: Deighton. Chesterfield: Gallimore.

The title-page of the first of these works being sufficiently explanative of the design of the author to obviate the necessity of even offering a preface to the work, may well excuse us from further allusion to this point. As to the carrying out of that design, or the merits of the book itself, little consideration is requisite to shew that it is a laborious production, full of sensible advice, and varied precautionary detail, sustaining the merits of the foregoing Part, which has already established for itself a character for practical utility.

We may have other opportunities of

* All communications respecting this society to be addressed to the secretary, No. 4, Stangate, Lambeth.

referring to the instructive details of the present volume, but in the meantime we shall merely quote the author's outsetting observations on the purposes of the volume preceding, and his general advice to the assistant engineer on the setting out of cuttings and embankments, viaducts, and bridges, &c.

"In the first part of the 'Assistant Engineer's Railway Guide' the principally intended purpose was to give instructions to the *uninitiated* with regard to the methods most usually employed by practical men to ascertain by 'boring,' the nature of sub-soils, stratification, foundations, &c.; to set out the tangents and curves of the permanent centre line of an intended railway; to take the levels of the working section, the art of levelling being supposed known to the reader; and to set out the widths required for the slopes of excavations and embankments. On these subjects we will simply repeat at present, that in taking the levels, particularly over a rough country, the permanent posts, which are to be referred to as so many bench marks, should not be more than 10 or 12 chains apart; that there should be one at each end of every cutting, near every road to be crossed, at both ends of all viaducts and tunnels; that they should be well secured from mischief, and at sufficient distance from the foundations, so that they need not be interfered with by excavating; and if these works are to be of any magnitude, there should be sufficient intermediate posts. As the levels of these important constructions will be obtained from these posts, too much care cannot be bestowed in obtaining their real height as referred to datum. Let me persuade the young practitioner, that the gratification he will feel at finding the string courses of his bridges and viaducts at their true height and gradient, the formation of a tunnel at the intended levels, will alone amply reward him for his trouble, independently of a reputation for accuracy, which he will not fail to obtain in the opinion of a judicious chief, as also in the estimation of directors. Let him beware of the vaunts of 'rough-and-ready men' (*rough* work and *readiness* to blunder), who disguise their incapacity and ignorance by pleading the impossibility in practice to obtain truly correct levels; for if there be any truth, rationally speaking, in this excuse, the greater should be the engineer's care to avoid errors, and not to do his work in a slovenly manner, whereby he may double and treble his '*mistake*;' and he will find that contractors, masons, bricklayers, &c., will be careful and attentive exactly in proportion to the care and attention which he himself bestows on the works. This observation applies exactly in the same sense, and to the same extent in setting out works. He will, moreover, have the satisfaction of knowing, that his mind on this subject will be at ease as the works proceed, and that no reproach can be made to him: on the contrary, an error of this kind carried out can be considered little better than wilful neglect of duty.

The levelling book of the working section, with a correct sketch of the ground, or a pocket section, is constantly required on the works."

* * * * * * *

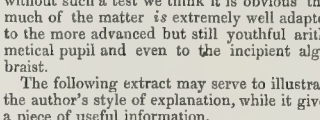
The pocket section being prepared, we should, as soon as the works of construction are determined on, insert notes from the working-drawings or otherwise, of the angles of skew at which the line crosses roads, canals, &c., the spans of arches on the square and skew, the rise of the arch, the depth of arch stones, of puddle, if any; also, if the works be on an inclined plane, the rise or fall from centre to centre of piers: memoranda also, of nearly similar nature, should be made of girder bridges, culverts, drains, and other works occurring along the line. These remarks are more than necessary, because, when on the works, the drawings, when required, are often mislaid, or partially defaced or destroyed. It must be added, however reluctantly, that the tracings with which contractors and sub-contractors are supplied, are often wrongly figured, and the site of construction, amidst the moving to and fro of masons, labourers, and 'navvies,' is not the place where such errors may be most readily detected and corrected. The acting engineer always affixes his signature to the working drawing, but not always to the tracings, the correctness of which is often entrusted to a confidential office assistant, but who, from want of field practice, is not always aware of the value of correct figures. The 'Assistant engineer' will find it advantageous, and only consistent with his duty, to compare the copy of contract works with the office original. Whilst on this subject it may be as well to mention, that the advice and hints thrown out in these pages are for the guidance or consideration of the 'assistant engineer' who may also, *to a certain extent*, have to perform the duties of contractor's agent, which will always be the case when the works of a line are subdivided into numerous small contracts, a circumstance now of no rare occurrence; and in this case the engineer will find his duties and responsibilities doubly onerous. Reference to the extracts made from a pocket section will explain, fully it is hoped, the nature of the remarks required with regard to the contract works: their practical application will be more fully explained in the course of the following pages."

The little treatise on arithmetic, by the Rev. Mr. Calder, as its title-page also fully enough denotes, is a sort of novelty in figures, a rationale of arithmetic, and a handmaiden to young algebra. It is designed to supply a desideratum which teachers have wished for and pupils have required, namely, a schoolbook which would explain the more difficult parts of arithmetic in a manner sufficiently familiar for the comprehension of youth, and yet sufficiently accurate and attentive to principles to be worthy of being considered an explanation.

To any thing like a test of success in an undertaking of this sort, the pupil himself will be an indispensable requisite; but even without such a test we think it is obvious that much of the matter *is* extremely well adapted to the more advanced but still youthful arithmetical pupil and even to the incipient algebraist.

The following extract may serve to illustrate the author's style of explanation, while it gives a piece of useful information.

"The shadow of a steeple is 105 yards long, and that of a stick 4½ feet long is 15 yards: find the height of the steeple.



Let AB, BC, represent the steeple and its shadow, and let DE, EF, represent the stick and its shadow: I have to find the length of AB.

Now most pupils, seeing this question under the head of 'Rule of Three,' would immediately take it for granted that the three terms given would form a statement; *i. e.*, that the ratio between the lengths of the two shadows is equal to that of the steeple and stick by which those shadows are cast. This is quite true; and my object in explaining this sum is merely to shew what authority we have for believing that these two ratios are equal. Join AC, DF, —these lines AC, DF, will represent the direction of rays of light from the sun, and being from the same distant body are considered parallel: hence, since AB, DE are parallel, as are also FE, CB; the triangles, ABC, DEF, are said to be similar: and from a geometrical property of such triangles, we have the following:—

$$EF : BC :: DE : AB;$$

or, substituting the value of EF, BC, DE, which are given by the question, we have

$$15 \text{ yards} : 105 \text{ yards} :: 4\tfrac{1}{2} \text{ feet} : AB;$$

and therefore,

$$AB = \frac{105 \text{ yards} \times 4\frac{1}{2} \text{ feet}}{15 \text{ yards}} = 31\tfrac{1}{2} \text{ feet.}$$

Ordnance Safes.—Having mentioned in The Builder the successful competitor for eight iron safes required by the Board of Ordnance, we have been asked by Messrs. Chubb and Son, in justice to them, to state that they were applied to by the office to furnish a pattern safe and a specification for the guidance of the competitors, and did so to the entire satisfaction of the Board, who adopted both.

Miscellanea.

Railway Compensation Case at Burslem.—Mr. Joseph Brindley, plaintiff; North Staffordshire Railway Company, defendants. The subject of dispute, 2,268 yards of land to be severed near Burslem station. Plaintiff's demand for land, severance, and forced sale, 1,400*l.*; company's offer, 500*l.* The case was tried at Burslem, before Mr. W. Harding, a coroner, and a jury. For the plaintiff, it was argued by Mr. Huddleston that the land was worth about 5s. per yard for building, or 600*l.* to 650*l.* in all, including consideration of 50 per cent. for forced sale; besides 800*l.* to 850*l.* for severance and level crossing, with consequential damages; and the evidence thereupon was that of Mr. Higginbottom, of Longton, surveyor; Mr. S. Saint, of Burslem, architect and surveyor; Mr. John Chesshire, of Birmingham, surveyor; Mr. Shaw, of Longton, general valuer; Mr. Lynam, of Stoke, architect and surveyor; and Mr. Ebenezer Robins, of Birmingham, surveyor. For the defendants, it was argued by Mr. Keary, that even in the heart of the town of Burslem building-land had stood in the market unsold for many years, some since 1815 and not yet all disposed of; and that the evidence on behalf of the plaintiff had been given on false assumptions and opinions, carrying with them great contradictions. The evidence of Mr. George Harding, of Ternhill, land-surveyor, Mr. Ward, of Hanley, architect and surveyor, Mr. W. E. Twigg, of Burslem, solicitor, Mr. Ford, of Burslem, builder and valuer, Mr. John Leech, of Leek, land-valuer, Mr. B. Bond, of Draycott, agent and land-valuer, Mr. Edward Wilmot, of Congleton, land-agent, &c., Mr. Charles Trubshaw, of Newcastle, architect and surveyor, and others, was then taken for the defendants, and estimated the value at from about 240*l.* up to 310*l.*, and the damages at from about 30*l.* up to 170*l.* The jury found a verdict of 500*l.* for the land, and 300*l.* for damages, in all 800*l.*

The Publication of Electro-Telegraphic News.—The Electric Telegraph Company have a reading-room at Liverpool, the subscribers to which have the privilege of benefiting exclusively by the news received by telegraphic dispatch. The Exchange merchants may or may not be members of this institution; but their superintendent, at all events, has been a member, and as such—by order of the Exchange Committee he alleges—has been in the habit of taking wholesale advantage of the early intelligence, by publishing it forthwith in the Exchange. The Electric Telegraph Company, or the reading-room subscribers, or both, regarding the intelligence by telegraph as private property not to be published in this off-hand way, have voted the expulsion of the Exchange superintendant. Do not squabbles such as this give rise to a question of still more serious import than that involving the right of private subscribers to make what use they please of intelligence they pay for,—namely, to the question whether such subscribers, or the private company who may thus compel them to become subscribers, ought to have the power of exclusive intelligence which may enable them to plunder their less fortunate non-subscribing or non-proprietary fellow-countrymen or townspeople leisurely and by wholesale, as well as otherwise yield omnipotent advantages with which the public at large can in no way cope?

Competition: College for Swansea, South Wales.—We are informed that the building committee have selected three designs out of thirty-nine sets sent in, which they reported to the general committee to be *so equal*, that they could not come to any definite decision. Subsequently, the general committee (consisting of seventy-two gentlemen), have decided that Messrs. Fuller and Gingell's (Bristol) design is the first, Mr. R. H. Potter's (London) is the second, and Mr. Henry J. Hammon's (London) is the third.

The Columns of the Regent-street Colonnade are to be offered for sale by Messrs. Eversfield and Horne on the 7th of November, and will afford a good opportunity to some who wish to make a show, architecturally, at small cost. We grieve over the alteration.

THE LATE MR. SHUARD, ARCHITECT.—
our first notice of the accident to Mr.
huard (since dead), not being certain of the
me, we put after it a note of interrogation.
his has led one of his friends, who signs him-
lf "Thomas Jenkins," and who had but re-
ntly seen the notice, to ask if it referred to
s claim to be considered an *architect*, and if
to defend it for him. It had no such mean-
g. The writer says,—"Mr. Shuard was one
those meritorious men who from a compa-
tively humble origin, raise themselves to
spectability and influence by their own
ertions and good conduct. Mr. S. was
merly clerk of the works under Mr.
ore, at Crewe Hall, in Cheshire, and after-
rds at Mr. Strutt's mansion, near Derby:
om thence he was engaged by Mr. Peto,
superintend the erection of a mansion
Somerleyton, in Suffolk, with permission to
actise as architect to several gentlemen who
d employed him previously in that capacity,
d it was on his return from Keele-hall, in
affordshire, where he was engaged in various
rks on the estate of Mr. Sneyd, a gentleman
ll known for his extensive property and
ste in architecture, when he met with the
fortunate accident which (I will not say
used, but) preceded his death."

DEATH OF MR. THOMAS GRAY, THE RAILWAY PIONEER."—An Exeter correspondent advises us of the death of Mr. ray, at Anstwick-terrace, Exeter, on the th inst., and in the 60th year of his event- age, of "spasm of the heart." It is a ting, and a double disgrace to the 'rail- y world' at large, that a pitiful livelihood, the shape of 'a commission on glass,' was owed to constitute the sole support of one o did so much to let in the light of futurity, rough a comprehensive telescopic eye, upon at 'world' itself, in its primitive chaos, ere had a definite form; and that in the midst of verty and neglect, although appeals were ade to the—generosity shall we say, or her to the—justice and the shame of that ailway world,' even so he was allowed to live d die.

MR. SADDLER'S LECTURES ON PERSPECTIVE.—Mr. Saddler has been continuing his tures on perspective at the Society of itish Artists, with manifest advantage to se who have attended him. The fourth ture was given on Tuesday evening last, and ated of "oblique or inclined perspective." e mode of drawing a square and triangle lique to the picture was explained; as well how to draw a cube and a pyramid inclined the picture. We should like to see a larger mber of students attending the course. In r last impression we gave a part of Mr. ddler's introductory discourse *verbatim*, and advertently omitted his name: an omission desire to rectify.

VENTILATION OF ROOMS.—Sir: I believe, persons would bear the simple fact in mind, at a fireplace requires a vent or flue to carry the smoke, and would apply this simple th to the ventilation of rooms, by opening lowering the upper part of the sash, or inting a ventilator in it, or in the ceiling, mmunicating with the external air or chim-, the dwelling-rooms of all classes would rendered much more wholesome and althy. In crowded rooms I have seen the nps and lights would not burn, occasioned the fetid or bad air that could not escape.—SUBSCRIBER.

NEW CHURCHES.—Arrangements have been mpleted for the erection within the boroughs Lambeth and Southwark, of several new urches, to some of which ecclesiastical dis-cts have been conventionally assigned under Robert Peel's Act.

TILE MAKING.—A match for 5*l.* a-side, tween John Kennedy, of Aspatria, and seph Hodgson, of Cockermouth, came off 13th instant, at Mr. Lucock's tilery, Sun-land, near Cockermouth, where Kennedy is ployed; and on Saturday at Aikbank tilery, ere Hodgson is employed: working five rs each day. The following is the result:—

	Hodgson.		Kennedy.
Friday	1,154	..	1,245
Saturday	1,237	..	1,035
	2,391		2,280

dgson winning by 111 tiles. Some disputes to the *quality* of the tiles made, says the *rlisle Journal*, have arisen.

PROJECTED WORKS.—Advertisements have been issued for tenders, by 6th November, for the erection of gas-works, laying down mains, and for supplying the town of Herne Bay with gas; by 7th, for the erection of a lock-up house at Erdington, parish of Aston; by 31st inst., for building sewers in the city; and by 9th prox., for building and completing the station-houses, &c. at Wellington, Walcott, Upton Magna, and Underhill-lane, on the Shrewsbury and Wellington joint line of railway.

WHISHAW'S INSULATING PIPES.—A patent has been taken out by Mr. Francis Whishaw, C.E., for—1. A cluster of pipes, channels, or ducts, of earthenware, or pottery, combined together in the same mass, or within the same external surface. 2. The manufacture of pipes of earthenware, or pottery, by means of a conical die, or dod. 3. The manufacture, combination, and arrangement, of pipes of earthenware, pottery, or glass, with suitable collars and plugs. 4. The combining pipes of earthenware, pottery, and glass, by means of air-tight joints, cemented with asphalte or gutta percha.

BATHS, SUNDERLAND.—We are informed that the Town Council of Sunderland has approved of plans of baths and wash-houses submitted by Mr. T. Oliver, Jun., Architect of that town. The buildings will form a square, the front and centre of which are appropriated to baths and offices. The surrounding portion, comprising three sides of a quadrangle, are devoted to the washing department. The wash-house is divided into thirty stalls, with provision for a centrifugal wringing machine, and accommodation is made for drying, both by a "closet," and by atmospheric air, as well as ironing and mangling. The style is Elizabethan, to be of red brick with ashlar dressings.

BLIND FOLLY.—The workmen employed in making the canal outside the gates of Berlin assembled on the 13th instant to destroy the hydraulic machine, under the idea that, if that were destroyed, there would be more employment for manual labour. They succeeded in destroying the machine, and at the same time in depriving themselves of employment, for the waters rushed in, and cannot be drawn out again until the machine shall have been reconstructed and set to work.

THE HOURS.—Mr. J. A. Novello has printed a circular, in which he advocates the adoption, in England, of the Italian method of counting the twenty-four hours, viz., from 1 to 24, instead of our division into two twelves as at present. If the post-office and railways would take this course, he thinks it would immediately become universal. There is certainly much to be said in favour of this plan.

RAILWAY COMPENSATION.—The sheriff's jury decided a case in Glasgow last week, when a Mr. Dixon claimed of the Pollock and Govan Company 10,466*l.* 10s., for a crossing, and the jury decided he was entitled to *nothing!*

ROUGH WORK IS NO REASON FOR RUDE MANNERS, or a vulgar mind. Never did there traverse the globe a presence so pure, and a fascination so divine, as moved about in the person of 'the carpenter's son.' So gentle in his dignity—so awful in his meekness—so winsome in his lovingness—so dexterous in diffusing happiness—so delicate in healing inward hurts—so gracious in forestalling wishes! No rules of etiquette, no polish of society, can ever yield anew the same majestic suavity. Amid the daily drudgery, his soul was often swelling with its wondrous purpose; and whilst shaping for the boors of Galilee their implements of husbandry, his spirit was communing with the sky. They are not little occupations, but little thoughts, and little notions, which make the little man; and the grandeur of men, and the engaging manners which emerged from that Nazarene workshop, are a lesson to those who handle the hammer, the spade, or the shuttle.—*The Happy Home.*

TENDERS

For the erection of shops and dwellings over, in the east and west galleries over present fish market, Hungerford Market. Each party took out his own quantities: Mr. Kilpin, architect.

Rogers	£4,260
Burstall and Son	3,898
R. and E. Cobbett	3,778
Haward and Nixon	3,695
Clemence	3,395

For erecting a residence, stables, &c., at Higham Hill, near Walthamstow; Mr. R. M. Phipson, architect. Quantities supplied.

		If Caen Stone is used in lieu of Portland.
Joshua Wilson	£2,097	£1,997
Walker and Sopper	1,967	—
T. Howard	1,959	1,909
Curtis	1,894	1,834
Sandon	1,890	1,820
Johnson and Pask	1,890	1,845
Patrick	1,868	1,818
T. Burton	1,821	1,701
Glenn	1,820	1,765
Perry	1,794	1,750
Walbutton	1,720	—
Cooper and Davies	1,717	1,617
Stevens	1,698	1,629
Smith	1,681	1,556
Norris	1,657 (accepted)	1,570
Lloyd	1,599	1,512
Tombs	1,591	1,547
Holmes	1,302	1,309

Opened in the presence of the parties.

TO CORRESPONDENTS.

Received.—"C. W. O.," "F. and G.," "Alpha." "Architect's Friend" (apply to the Secretary of each Society), "G. J. R.," "Improvement of Chronometers" (shall appear), "Sir W. J.," "L." (in uniform or out of uniform, we are glad to see them, if the visit tends to promote good feeling between the nations), "Sir T. D.," "T. H." (on looking to the MS. we find was our correspondent's own, and in our absence it passed uncorrected), "J. B. R.," "G. S.," "Constant Subscriber" (to destroy ants, as we have often mentioned, arsenic or cajeput oil has been recommended), "S. B." (we will look at any matter which may be submitted), "R. D. C." (thanks), "J. K.," "W. P.," "Kentish Farmer" (we have not time to supply prices), "W. S." (we know nothing of the composition in question, and therefore do not mention it), "F. Rowe" (Bristol), "E. J. E.," "H. W.," "W. A." (the practice of taking per centages at both ends has been often condemned in our pages), "Subscriber of three years" (will find a paper on Raising the Luxor Obelisk in Paris, in Loudon's Architectural Magazine, vol. iv., p. 464), "T. H.," "A Subscriber from first" (we are not at present aware, but may perhaps learn), "Country Subscriber" (we do not recommend), "B. F. T.," "O. Y." (name was stated short time since), "S. W. B." (drawing shall be left for him), "F. M. B." (if our correspondent had favoured us with *arguments*, we would have inserted them), "Subscriber" (the 18th century *ended* when the year 1800 began. "History of Ecclesiastical Architecture in England," by George Aylifle Poole, M. A., Vicar of Welford (London, John Masters, 1848); "Composition and Punctuation familiarly explained, &c.," by Justin Brenan, sixth edition (London, Effingham Wilson, 1849); "Proofs of the Authenticity of Portrait of Prince Charles, by Velasquez" (Soare, Reading, 1848); "*Collectanea Antiqua*," Part XII., by Chas. R. Smith, F.S.A.; "Wonders of the Human Body," by Delta (Renshaw).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ERRATA.—In our article on Caen, p. 493, 2nd column, 4th line, for *looks* read *look*; and for *diameter*, in note at foot, read *circumference*. For *Jacob* Bell, p. 496, read *James* Bell. In article on Waves, p. 512, for "weight of the atmosphere is 14¼ *oz.* upon the superficial inch," read *pounds*.

ADVERTISEMENTS.

PLASTER of PARIS.—Plasterers and Others can be supplied with PLASTER of PARIS, of excellent quality, delivered at Three Cranes Wharf, London, at 12s. per ton, casks included; or if in sending Rope can be used, at 11s. and delivered at 4s. Orders addressed to W. B. WILKINSON, Manufacturer, Newcastle-on-Tyne, accompanied by a remittance or a reference, will meet prompt attention.

TO THE BUILDING PUBLIC

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Pediments, Tigers, Lions, and other Chimney Shafts, Soffits, Bed-mouldings, Paterns, &c., &c., 36 inch Centre, Flowers fixed complete, 21s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street Drury-lane.

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TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, drawing from two to twenty bolts, constantly on sale at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 67, St. Paul's Churchyard, London.

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THE Architects', Engineers', Builders', Operatives' and Artists' Winter DRAWING CLASSES, for the study of Architecture, Civil Engineering, &c., with the practical application of geometry to perspective, ornamental and mechanical Drawing of every description. Conducted by CHRISTOPHER DAVY, Architect, C.E., and author of the "Engineer and Architect's Manual," "Architectural Precedents," contributor to the new edition of "Tredgold on the Steam Engine," "Weale's Carpentry," and other works.—3, Furnival's Inn, Holborn, where terms may be had.

IMPORTANT TO ARCHITECTS AND BUILDERS.

MESSRS. T. and C. CLARK and Co., Ironfounders, of Wolverhampton, beg respectfully to call the attention of Architects and Builders to their PATENT BRASS JOINT BUTT HINGE now on sale. Loose joint, or screw. The above which are now brought fully under answer every purpose of a brass hinge at one fourth the cost of that article.

Messrs. T. and C. C. and Co. warrant every hinge to stand any test.

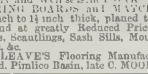
May be had wholesale of all merchants and factors, or at the works; and retail at all the principal ironmongers in the kingdom

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well seasoned DEAL AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from 5 inch to 14 inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

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TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at her present House of Lords, at Dalhu Castle, at Draycott Manor, the new Chesterfield Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Islington Street North Strand

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GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and workmanlikeness.

FONTS from 5l. upwards.

MONUMENTS and TOMBS in great variety of design.

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Statuary Chimney-pieces, from	12s.
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Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, vases, busts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Footpaths, Yards, Cow Stores, Floors of Warehouses, and every description of Paving, laid complete at the above price, and warranted for twenty years, by JOHN PILLINGTON, BOLTON LANE, and MIN PAVEMENT OFFICE, 13, WHITECROSS-STREET, CITY ROAD. Sole Agents and Patentees for the Improved Bitumen for Roofing and Flats.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE from the above Wharf, part of which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can now be supplied from the Quarries above. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Works, for the New Palace, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. WRIGHT and Co. deem it important to state the Anston Stone ordered by them is for, in the same bed as that from which the New Houses of Parliament are being constructed, a hedge alone being the division of the properties of the Duke of Leeds and W. Wright and Co.

Facilities are at hand for forwarding it to all parts of the Kingdom.—Applications may be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf, he is prepared to execute orders, and to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained

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P. FORCHU, Jun. des Abattoirs Caen propriétaire des Carrières à Allemagnes, begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

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STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, plain, bevelled, and rubbed, may be had on application at the Belvedere-road Wharf, and a post-card will bring up the price current under the above head for interior slate.

ENAMELLED SLATE.—CAUTION!— Some discarded workmen of Mr. Magnus's, having pirated his invention of marbling slate, and palmed upon the public trashy imitations, which, not remarkable for its quality, could not with MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them in their true light. Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles, which have been honoured with the patronage of many of the highest personages in the realm, the approbation and support of the first architects, and the medal of the Royal Society of Arts), deems it incumbent upon him for his own protection, and that of the public, and for the protection of his inventive talents, to caution the inexperienced against these imitations. The public are, therefore, requested to observe that genuine articles are MAGNUS'S ENAMELLED SLATE WORKS, and to further call their attention to the mark which will be found on

Patronized by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Burlington, the Earl of Darlington, the Earl of Randon, the Earl of Waldegrave, the Countess Wilton, Viscount Combermere, Lord Robert Grosvenor, the Bishop of London, the Bishop of Bath and Wells, the Hon. Capt. Douglass Pennant, M.P., Absolon Smith, Col. Challoner, Sir J. Easthope, Sir Francis Lawley, Sir Ralph Howard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous others of the nobility and gentry of this and other countries; by the most eminent architects and surveyors, the engineers and directors of the principal lines of railway, the Board of Ordnance Works, and the Board

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of cutting slate slabs to the hands of its proprietor, is enabled to supply them at much lower rate than any other house not possessing the same facilities. Parties ordering large quantities will be allowed a considerable discount. Quarterly reduced price list.—Address, MAGNUS, Pimlico Slate Works.

SLAB SLATE.—Architects and builders are respectfully informed that the proprietors of the Llangollen Quarries, that they supply SLAB SLATE of any size, and in any quantity, at their depôt, Tavistock-road, without their agents upon a large scale, and erected one of the largest mills in Wales for the preparation of slate for any purpose for which it may be required. Their machinery for sawing, planing, and polishing slate of the most powerful description, will enable them to supply slab slate in all forms, at moderate rates. The arrangement of the platform at the new Chester Railway station, is from their quarries, and they have just constructed new staircases to the boxes and pit at the Adelphi Theatre. The stock can be inspected at their yard in London

CITY SAW-MILLS, Wenlock Basin, Regent's-canal, City-road.

NEW AND DURABLE PAVING FOR FOOTWAYS.

THE proprietors of the Llangollen Blue Flag Stone Quarry, invite the attention of Paving Commissioners, Architects, and Surveyors, to a NEW KIND OF SLATE, for the purpose of PAVING FOOTWAYS, which, in Llangollen and its neighbourhood, they have opened a depôt at the subjoined prices. The quarry when these slates are right bedded, has opened extensively within the last two years, by the present proprietors, who have secured the exclusive right of working and vending it, from the various landowners, through whose properties the vein extends. This slate has been worked for nearly a century for the uses of the locality, and in this manner abundant proofs of its great durability have been accumulated. The stratification of it permits it to be wrought without blasting, and with a natural surface, or self face, that renders unnecessary all further operations, except squaring. The proprietors are thus enabled to sell it in a form which hitherto has been impossible from the ordinary roofing slate quarries. There are no metallic spots, or nodules, in this stone, so that it wears equally all over the surface. From the many experiments that have been made, it is well known that a 2-inch slate is about equal to 6-inch York stone, and the proprietors do prepare to supply the 2-inch thick slabs, dressed and squared, at the same price as 3-inch York stone. If, therefore, the durability of Anglesea York is twice that of Llangollen, be it only twenty years, it is presumable that this Llangollen Stone will last at least twice as long, or forty years, without being removed. Specimens have been laid down in front of Messrs. Soiers' and Co.'s Glass Warehouse, No. 44, Oxford-street; and also in Great St. Andrew-street, St. Giles's.

CITY SAW MILLS, Wenlock-basin, Regent's-canal, City-road.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are as follows:—ONE SHILLING PER FOOT SUPERFICIAL for every SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painting work on the most moderate terms.—CHARLES LONG, No. 1, King street, Baker-street, Portman-square.—Cash only.

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E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now rendered available for all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. Lists of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street

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N.B. A liberal discount to the trade.

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Fourths	"	"	2 7 10
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Fourths,	ditto	ditto	21d. "
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Fourths,	ditto	ditto	3½ "
Horticultural, 21 oz. ditto,	ditto	ditto	4d. "
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Ornamental Glass of very superior patterns, from 1s. 2d. per superficial foot, and to order; also in stock sizes. A separate tariff for Patent Plate, at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate Glass, all inch thick.

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NEW PATENT Sheet in various large dimensions delivered free in London

Common in two feet cases		20s. 0d.
Do. 2½	do.	33s. 0d.
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½ inch	1s. 0d.	½ inch	0s. 11d.
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GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

C C C Crown per crate 18 tables		£1 16 0
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Large crown Squares in 100 feet boxes		21d. per foot.
8 by 6	10 by 8	2d. do.

Very superior Plate for Pictures and Windows, averaging 36oz., from 14 oz. per foot upwards.



CHAS. WM. WATERLOW, MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 21, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, and prices on the very lowest scale of work on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Doors, finished in the very best manner; French polished, and carefully packed for the country. A full set of prices forwarded by return of post, to any part of the country.



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Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany Doors, finished in the best manner; French polished, and carefully packed for the country. A full set of prices forwarded by return of post, to any part of the country.



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70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

UNDER BRITISH and FOREIGN LETTERS PATENT.—Capitalists are invited to inspect the genuine and profitable investment in HUTCHISON and Co.'s INDURATED and IMPERVIOUS STONE, CHALK, SAND, PLASTER, WOOD, and COMPOSITION ROOF SHEETING WORKS. Paving in diamond courses, supplied at Calverly Quarry, Tunbridge Wells, at 6d. per foot super, perfectly compact and impervious. Other orders executed. Also à la Maladrerie, near Caen, France. Chief offices, East Temple-chambers, 2, Whitefriars-street, London, where specimens and particulars may be seen. Licenses granted also for Hutchison's patent saw frames.

The Builder.

No. CCC.

SATURDAY, NOVEMBER 4, 1848.

IN fulfilment of a promise made in the course of our recent papers on the building stone of Caen and its neighbourhood,* we proceed to notice the Aubigny quarries, which furnish a stone that is now being introduced to the English market, chiefly by the efforts of Messrs. Luard and Beedham, who have under their control the principal quarries: it bids fair to be much used. These quarries are at a place called *St. Pierre, Canivet*, close to the town of

FALAISE,

which is about twenty-two miles to the south-east of Caen, and is world-famous as the birth-place of the energetic William, surnamed "the Conqueror." At Aubigny, which gives its name to the stone, and is at a short distance from Falaise, nearer to Caen, no quarries are now worked.

Falaise has several buildings of great interest, and a situation of extraordinary beauty. It owes its name to the steep rocks on which the Castle (the asserted cradle of the Conqueror) is placed (*falaise*, a steep hill or rocky shore), and was founded by the Normans in the tenth century. The Castle is of considerable extent, and is exceedingly interesting, equally on account of its antiquity, its associations, and its striking appearance. It consists mainly of a keep, or donjon, ascribed to the tenth century, but presenting no features earlier than those of the eleventh, and a large circular tower (more than 100 feet high), built entirely of ashlar, during the occupation of the Castle by the English, between the years 1415 and 1450. It is attributed to Talbot, who then commanded the city, and bears his name.

Sixteen or seventeen years ago, the upper part of this tower was rebuilt with a soft stone, and a flat roof of bitumen was formed over it for the resort of the town's people and tourists. When we first visited Falaise, a few years ago, this portion looked new and perfect: it is now miserably decayed over the whole surface, while the lower part (400 years old), is sound and good. This affords a striking example of the folly which leads persons, for the sake of a very trifling immediate saving, by the adoption of an unsubstantial and untrustworthy material, to entail upon themselves or their successors a source of after-expense and regret. We are speaking now of failures which result from the use, with their eyes open, of a material *known* to be perishable. In some cases the failure is owing to the ignorance or venality of parties in whom confidence is necessarily placed, and in others to circumstances beyond the control of those interested in the duration of the structure. We are disposed to think there are few cases wherein the *architect* specially is much to blame.

The church of Notre Dame de Guibray, at Falaise, and that of St. Gervais, were both founded by William, and have considerable portions which may date from his time. The former, that of Guibray, has at the east end of the aisle on each side of the church, a small semi-circular absis, and a larger one at the east end of the chancel,—an arrangement often found in early structures. The centre absis is divided, externally, into three compartments by flat buttresses, which rise from the ground to about three-fourths of the height of the building, and terminate in small columns, banded in the centre, and running up to the eaves, where the capital of each of the columns occupies the place of a corbel. The interior of the edifice has been barbarously treated.

The church of the Trinity has some very interesting and elegant additions at the chancel end, of that semi-Gothic, semi-Italian character to which we have before alluded. They have the date of their execution upon them, 1540, and were erected at the expense of a M. Herpin and his wife. The stone in which they are executed appears to be similar to that of Aubigny, and is in a good condition.

The complexity, variety, and extent of the external parts of many of the churches in the towns to which we have been referring, especially at Caen,—flying buttresses, chapels, turrets, pinnacles, and canopied niches added indiscriminately, and of all periods, ending with the rich Italian-Gothic last mentioned,—with small shops plastered against them in every available corner, produce a curious whole, not wanting in interest or picturesque effect, however unsatisfactory to a refined and correct taste.

There is a house in the town which enjoys the reputation, probably on slight grounds, of having been possessed and occupied by William. When we were first in Falaise (we had not time to seek it out on the last occasion), it was a wine shop, and presented on the front of it this amusing inscription:—

MAISON
DE
GUILLAUME
LE GRAND CONQUERANT
RICHARD.
DONNE A BOIRE ET A MANGER.*

The chief, if not the only business of the town, besides this "giving to eat and to drink," is the manufacture of cotton night-caps: nearly every house is inscribed "*Fabrique de Bonneterie.*" We must no longer, however, loiter within its picturesque precincts, but descend into the quarries, and look at the

AUBIGNY STONE.

Tradition says that the quarries have been worked for a long period of time; and the appearances of the neighbourhood, the large masses of *débris* to be seen in various quarters, seem to justify the belief. The quarries are each approached by an inclined cutting of considerable size, the expense of forming which is great, as it descends to a depth of about 35 feet. The height, from the surface of the ground to the ceiling of the quarry we first entered, is 26 feet; and from the ceiling to the floor of the quarry, 9 feet. In this height of 9 feet there are only two beds of workable hard stone; the upper one averaging 2 feet in thickness, and the lower one 15 inches. Between these is a stratum of soft stone. The beds under are thin, about 9 inches in height, and contain shells, so that they could not be profitably worked.

The beds are nearly level, and the joints run north and south. To get out the stone the men need make no horizontal cuts, but simply have to clear away the soft beds. This produces a large amount of waste; but much of the soft stone is used in the neighbourhood, *because* it is soft, not merely for mangers, steps, &c., in which shape it is prepared by the quarrymen in their more leisure time, but for the dressings of buildings. The length of the blocks is regulated to some extent by the fissures which prevail: the width of them is about 3 feet. When we were in the quarry they were removing some stones, 10 feet in length: the largest ever taken out and sent away was 17 feet long.

Strong pillars of the stone, 9 feet square, are left in the quarry 21 feet apart, to carry the ceiling, under the direction of a public inspector, as at Caen.

The Aubigny stone is probably of the same nature as Caen stone, namely, oolitic, but much more chrystalline, and now shews no appearance of *ovæ*. It is very fine grained, as hard or harder than Anston stone, and the crystals are semi-transparent. It is nearly as heavy as granite, and is sawed *wet*, with sand. According to the statement on the spot, a man can saw about 7 feet superficial in the day, but in taking this as a datum to estimate the probable cost of labour upon it, it must be remembered, that neither the sand nor the saw used is of the best description.

The price in London is something under 2*s.* a foot cube. We understand it is now being used in a new church at Leeds, and in the construction of a lighthouse (in conjunction with Caen stone), at Honfleur. At the Château d'Eu, the residence of the late king of the French, it is said to have been extensively employed.

The specimens which we brought away with us will be subjected to the same series of experiments that we are now trying on the stones of different beds of the Caen quarries, and the results will be laid before our readers.

GEORGE GODWIN.

THE VERNON COLLECTION IN THE NATIONAL GALLERY.

A VISIT to the kitchen and scullery of the National Gallery, where the Vernon collection of pictures has been stowed away ("taken in and done for" literally), has given us more pain than we can easily express.* None of the pictures can be seen well; the greater number of them cannot be seen at all. In many cases every crack in the varnish, every roughness on the surface, and every defect in manipulation are discoverable, without the possibility of seeing the real merits of the picture, or its general scope. Many are on the floor, others are close to the ceiling; some are in corners where no ray of the sun ever penetrates, and those which have escaped this fate are hung between two warring lights which utterly confound and destroy them. If the most effectual mode of placing the modern school of British painters (as well as their pictures) in a false light for the advantage of the rest of Europe has been sought, the result must be deemed satisfactory.

It surprises us to find our contemporary of the *Art-Journal*, who has so much interest in having this collection thought well of by the public, speaking with complacency of the present aspect of the pictures, and asserting that "generally they are better seen than they were in Mr. Vernon's house." It must be that our excellent contemporary is so thoroughly possessed of their merits by long contemplation of them in connection with the series of engravings from them he is about to issue, that (like an old married couple) he sees them in his mind's eye as they were, and not as they are. The collection was not properly seen in Mr. Vernon's house, but here it is wholly disfigured and sacrificed, and is made to lower the world's opinion of our modern school of art, instead of greatly raising it, as

* See p. 481 and p. 493 *ante*.

* "Great Cæsar dead, and turned to clay,
May stop a hole to keep the wind away."

* The *Man-in-the-Moon* suggests that, placed as the collection now is in a cellar, instead of Vernon *Gallery*, the Vernon *Pit* would be the more appropriate designation.

with the merest fair play it would have done. We look upon the present arrangement as a national misfortune and a national disgrace. It should be the object of all who are interested in British art to obtain an immediate alteration of it.

THE GEOMETRICAL MOSAIC OF THE MIDDLE AGES.

Our readers will remember that, last season, Mr. M. D. Wyatt shewed, by papers read at the Institute of Architects and elsewhere, and the exhibition of his drawings, that he had paid particular attention during his travels to mosaic decorations. Classic ground having been for the most part well trodden and noted by the general observer, the time has come when those who would advance inquiry must take up some *speciality* and work it out thoroughly. The division of labour in the investigation of the arts of a country is as important and as productive of good result as in manufactures. "Divide and conquer" is a useful maxim, and has been kept in view by some of our later writers and investigators.

Mr. Wyatt, then, took for his speciality geometrical mosaic decorations, drew all he could find, and has produced a book of great beauty, and which will be found very useful, not merely in aiding to revive this art and improve our pavements, but to ornamentalists generally, and to all to whom nice combinations either of lines or colours are valuable.* It consists of 21 plates, of large folio size, each containing a number of examples, coloured and gilt as the originals, preceded by a brief historical notice of the art. The latter shews a very considerable extent of attainments on the part of the author, and is clearly and nicely written. As, however, our readers already have before them a general outline of it from the pen of Mr. Wyatt himself,† we need do little more than refer to it.

The writer justly remarks that,—"In examining the nature of the subjects selected for representation in pictorial or imitative mosaic, the student cannot but be struck by the wide range embraced, and the evidence of intellect or of popular education—sometimes both—manifested in the selection or appropriation of the various themes. Gods, centaurs, men, animals, landscapes, flowers, ornaments, foliage, are depicted with almost equal ability; and we must remember that it is to the durability of the materials of which these almost imperishable relics are composed, we are indebted for the preservation of many of the lovely fancies of the great artists of antiquity, whose creations might otherwise have altogether passed away. Bearing in mind, too, the constant practice of reproduction and repetition prevalent among artists and artisans of old, we must not refuse to ascribe the invention, composition, and artistic treatment of any popular legend to a master mind, merely because we meet with its representation in fragments of coarse and perhaps ill-drawn mosaic, or in a mural painting indifferently executed."

Great skill was shewn as well in the choice of subjects to suit the character of the apartment wherein the mosaic was placed, as in the adaptation of the lines to produce the best effect under varying circumstances:—"Turning our attention to the structure and condition of ancient conventional or purely architectural design, as applied to mosaic work, and examining the relations subsisting between its lines and colours and those of the adjacent architectural members, we cannot but observe the skill with which they have been both arranged and contrasted. Thus the minute and frequently recurring patterns met with at Pompeii, in the cubicula, and in the smaller chambers, were adapted to give scale to the rooms; and, from their strictly regular and geometrical character, to cause the eye to dwell with increased pleasure on the flowing and playful forms of the paintings executed upon the walls; in much the same way the rectilinear lines of the pavement of the Pantheon enhance the beauty of the graceful curves and its *lacunariæ*."

Mr. Wyatt remarks that the most ancient mosaic that has been discovered displaying Christian workmanship, is probably the one found in this country at Horkstow, in Lincolnshire, where, in conjunction with the usual Roman frets and ornaments, are to be seen one of the monograms in use among the early Christians, and a repetition of the Ichthus, or fish, one of their earliest and most sacred symbols. This mosaic is supposed to be earlier than the time of Constantine the Great, and possesses the greatest interest.

"The two earliest glass mosaics of the Christian era, which either exist or of whose existence we have certain evidence," says our author, "possess an extraordinary interest in connection with the study of iconography. The most ancient—which was traditionally related to have been given to Prudentius, a Roman patrician, by St. Peter, and which is referred to by Church writers of the fourth century, was stated by M. Frelet, at the *séance* held in 1841 at Lyons, by the French Society "for the preservation of monuments," to be worthy of regard, as probably the primary type for the appearance of our Saviour; and he further observed, that the pious duty of imitating this mosaic, in after examples, was one of the great causes of the general resemblance of physiognomy in many of the portraits executed from that period until the ninth century."

Turning over the illustrations, plate 2 exhibits a fragment of the pavement which adorned the church of *San Marco* at Rome, composed solely of porphyry, serpentine, and white marble, the two former being imbedded in grooves cut in slabs of the latter.

Plate 6 gives a compartment of the well known pavement in *Santa Maria Maggiore;* and plate 7 that of the nave of *San Lorenzo fuori le Mura*. The latter is probably of the eighth century. Plates 8 and 9 give nice examples of glass tesselation from *San Lorenzo, San Giovanni Laterano,* &c. In plate 13 a specimen from the Saracenic palace, "La Ziza," at Palermo, shews how a white line was employed by the orientals to develope the geometrical base of the pattern, and at the same time weave the other colours round and about, as a beautiful accompaniment, harmonizing with, but not overpowering the predominant idea. Plate 15 shews two of the columns from the cloisters of *San Giovanni Laterano*, to give an idea of the effect produced by glass tesselation in conjunction with architectural forms. Plate 16 shews one of the marble pulpits remaining in the church of *Santa Maria in Aracœli*, Rome.

Plates 17, 18, and 19 give exquisite specimens of glass *mosaic*, from the cathedral at Monreale, Palermo, and St. Mark's, Venice. And plate 20 gives selections from the beautiful illuminations of the Byzantine copy of the Acts of the Apostles, preserved in the library of the Vatican. These "serve to develop, by contrast with the preceding specimens of glass mosaic, the general coherence of design existing between the ornaments on vellum and those incrusted on the walls of the stateliest churches, and demonstrate to the fullest extent, the Greek affection for gold grounds and dazzling yet harmonious colouring."

For the manner in which this work has been produced (with colours and gilding), Messrs. Day and Son are entitled to unqualified praise.

* "Specimens of the Geometrical Mosaic of the Middle Ages." By Matthew Digby Wyatt, architect. London. Published by the author, at 17, Gate-street, Lincoln's-Inn-fields. Day and Son, lithographers to the Queen.

† Vol. V. p. 537.

THE REGENT-STREET COLONNADE.

The destruction is complete. One of the most striking features of modern London has been cut off its face, and a great public injury committed, to gratify a score of persons who fancy they will be individually benefitted by the removal of the colonnade. Now that the mischief is done, some of our contemporaries are raising their voices against it. The *Daily News* says, "the poor Quadrant! Has no one a kind word to say for it before it goes?

So long as it has been with us,
Such joys as it has seen with us.

Shall we part from it without a friendly word—a sad, or at least a respectful farewell?

There are many among us old enough to remember what the space, now covered by the Quadrant, was before the Prince Regent and the Prince of Architects invaded it. The narrow streets, the wretched hovels, the dens of infamy (we may almost say) that stood upon its site—who did not rejoice in their destruction? There sprang up in that place the finest street in Europe, and the largest colonnade. A diversity of opinion may exist as to the merits of the work in detail, but there can be none as to its effect as a whole. The Quadrant has been one of the features of London: not a foreigner but asked for it: not a print shop abroad but would display in its window an engraving of it, good, bad, or indifferent, under the attractive though over-comprehensive title of '*La ville de Londres.*'

One of our national characteristics is to affect a depreciation of things in which we really feel a pride. An Englishman lioning an officer of the 'Garde Nationale' would probably shrug up his shoulders as he passed the County Fire Office, whilst inwardly elated at the evident pleasure the scene before him excited in his companion. On the whole, however, the feeling of Londoners has been by no means generally unfavourable to the Quadrant: certainly the opinion of country cousins has strongly and almost invariably supported it."

The paper we have quoted calls the matter a "*job*," and attributes it to the "office of Woods and Forests" in general, and their architect in particular. There is no evidence before us that this is the fact; all that we can reproach them with is weakness for listening to illogical representations.

IMPROVEMENT OF HYDE-PARK.

THE REGENT-STREET COLONNADE.

Sir,—By the destruction of the colonnade in Regent-street, a great number of columns become disposable, and I suggest that a very handsome ornament may be added to Hyde-park by the employment of some of them; and at the same time it would be an object of great convenience and utility.

Frequented as this park is in summer time by hundreds of the inhabitants of the metropolis, for air and healthful recreation, it often happens in our variable climate, a storm or heavy rain sets in suddenly in the midst of sunshine. There is no place of shelter to be found near, excepting the roadway under the large arch, or the gateway to Tattersall's stables. Hundreds of well-dressed ladies are often wetted by the pitiless shower to the risk or injury of their health, and the destruction of their habiliments.

I propose that a space be covered in as arcades, colonnades, or any other arrangement that architectural art may design to adorn the metropolis. A suitable situation exists on the lawn between the ride and the drive, near the Piccadilly gate, and the cast-off columns of the Quadrant would furnish an aid to the erection of something handsome for the above purpose at a trifling cost.

The Idler in London.

MODERN *v.* ANCIENT ART.

Sir,—As a second letter, signed "Amateur," has appeared in your journal, directed against the papers of Mr. Cave Thomas on the fine arts, I feel it a duty to attempt a refutation of it (in the shape of argument, if possible); but I confess, at starting, that to do so appears a task of no small difficulty, as, to refute the letter *in toto*, would be to denounce both parties, while to disentangle each ramification of error would be a wearisome task.

In his second letter, "Amateur" starts with triumphantly drawing a comparison between the National Gallery and the exhibition of the Royal Academy adjoining. He does not, however, on this occasion, make any display of æsthetic reasoning, but is content to refer the decision to "any unprejudiced critic." I have been myself, this year, more than once to the National Gallery, to admire the "Bacchus and Ariadne" of Titian, and the "Julius II." of Raffaelle, or that which is a copy of it, and so at present will not contest the point with him, but will simply remind him that, whereas the old gallery is formed of a selection from the best masters of every school ranging over a period of three centuries, the modern exhibition consists of works by artists of nearly every grade of *one* country, and the produce

of *one* year! "Amateur" next satisfies himself that, because Mr. Thomas does not deny the merit of certain great masters, therefore his only objection is to the money that they cost. It may appear hard to reconcile this assumption with the fact that more than a third of that gentleman's papers is taken up in advocating the theorem, that "art cannot be founded on art,"—a principle which he insists on for reasons unconnected with the economy of the question; but this "Amateur" seems to forget, although his letter is in refutation of it.

He next proceeds to consider the patronage bestowed on modern pictures in this country, and becomes slightly more consistent. From the fact of the "Distraining for Rent" of Sir David Wilkie having recently fetched 1,200*l.*, and a painting the work of an artist under the age of two-and twenty having been purchased for 400*l.*, he infers that patronage in this country is perfectly adequate to the production of any style of art that may most do honour to it. I should be sorry to deny that considerable sums are expended every year on pictures,—unless there were, I very much doubt that there would be artists to paint them,—but I would caution "Amateur" against hastily drawing inferences from facts the result of individual experience, and would advise him, if he wishes to arrive at the truth, to make inquiries respecting the amount of Government patronage bestowed yearly upon art in countries where, like France and Germany, historical painting flourishes, and then to compare it with the amount which, at a fair calculation, may appear to be expended on pictures in this country,—which, I maintain, would not, *altogether*, stand comparison with the Government patronage of the King of Bavaria. In France, the annual sum expended on the fine arts by the central Government has been for many years 40,000*l.*,—which, if added to municipal patronage, would more than double the sum. Would "Amateur" venture to continue the comparison? Does "Amateur" believe that if the money of the King of Bavaria had been expended on old paintings, that little country could now boast more than any other of a race of historical painters? Does he believe that if the 4,000*l.* or 5,000*l.* given in premiums at Westminster Hall had been laid out on a Correggio, it would have been attended with a like result? Does he think that if 30,000*l.*, which, within the last two months has been spent on old paintings at two sales, had been employed on the decoration of the many architectural works springing up around us, it would have been attended with no beneficial effect? Does he hold up to us the knowledge derived from experience, and would he deny it in this particular instance? Let him turn to the life of Lorenzo the Magnificent, and read the answer of that great man to those who told him that there were no artists capable of carrying out the works he proposed—"We have money enough to make them." Lorenzo was a merchant, but "Amateur" tells us that "commerce has but little affinity with the higher aspirations of art."

I cannot make use of many individual cases strongly illustrative of the impossibility of carrying on historical painting in this country, being debarred from that species of evidence, so I will hastily glance at two or three more of our opponent's inconsistencies. He regrets the trifling nature of modern works, and wishes for the importation of Tintoret's large painting, apparently that we may be induced to do the like, yet he confesses that he would *not* advocate the introduction of such works into churches, the very nature of which patronage gave birth to them! He next laments what he calls "the drawing-room taste for finikin pictures," as if one of Mr. Thomas's stanchest supporters. He grieves that an eminent artist should employ his time upon dogs, lions, and parrots, after having produced two such pictures as—one would think he was going to mention a "Last Judgment" and a "Last Supper," but no—"The Shepherd's Grave" and "The Shepherd's Chief Mourner"—two dogs! We advert to this curious piece of logic without intending the least disrespect to the very popular artist in question.

Perhaps of all that "Amateur" has said which tends to strengthen Mr. Thomas's case, there is nothing more striking than his lamentations over the decline of the taste for ancient art; this has been a fact known and understood for some time by every one awake to the rising taste for art in this country, and is alone sufficient to render unnecessary Mr. Thomas's efforts to hasten it, and unavailing his opponents to retard it.

I must now make a few remarks bearing on "Amateur's" taste and knowledge in matters of art. After assuring him that I have heard of such a name as Tintoret, I must inform him that it is not customary at this period to praise at one breath masters such as Fra Angelico, Perugino, and the Bellini; and then again, Tintoret, Guido, and the Caracci; it is not at present customary to express equal pleasure at the guileless inexperience of the one school and the pedantic incapacity of the other; neither is it common at this moment to hear historical painters mention Domenichino and the eclectic school as if their efforts were either to be admired or imitated; it is not prudent to make such a display about Tintoret merely because a graduate of Oxford has lately made a great fuss about him, while the men of most note throughout Europe show nothing but indifference towards him.

Opinions have altered, and become more matured since the days of Sir Joshua Reynolds. Diligent inquiry in London would show that there is no longer any fear of Fuseli being mistaken for a Michelangelo, and at Munich he might learn that Overbeck did not study Raffaelle; that he was one of four young men who sought to attain a like perfection by following the footsteps of that great master and his cotemporaries, for which purpose they reverted to his predecessors, because in their less sophisticated works they found a powerful antidote to the false taste and pseudo classical style then every where prevalent; when having accomplished this object, they abandoned the study of those imperfect though truthful masters, and have since relied solely on nature and the emulation derived from cotemporary efforts: for a better explanation of which see "Hand Book for Painting in Italy," edited by Eastlake. If the Bavarian painters still borrow any thing from the Italian, it is merely the external characteristics which they consider belong by precedent to Christian art, which they are chiefly employed upon, not the artistic qualities; but as no one will affirm that there is any request for that style of art in this country, or that antidotes are required for bringing back a taste for nature, at least with the more popular artists, so is there even less necessity for the study of any old masters than in the Catholic countries where mysticism flourishes. "Amateur" quotes some lines from Sir Joshua advocating the study of the ancients: let me remark that the study of Raffaelle and Michelangelo occasioned the Caracci to leave behind them the insipid trash that has been imported into this country, while the study of nature has produced within a few years a race of artists, if not the equals of the painters of the court of Leo X., at least their equals in many things, and often their superiors: need we turn the attention to names like Lessing, Cornelius, Sheffer, Ingre, yea, and even in our own country names that we may be proud of, only one of whom, M'Clise, ought to act like a talisman, in spite of his defects. France and Germany testify their admiration for the old masters, having full-sized copies made of those works which money will not buy, such as the Last Judgment and the Stanze of Raffaelle, instead of importing doubtful Corregios and puddingy Guidos. I could, if required, point out a *few defects* among the Italian and Flemish pictures at the National Gallery; I could also point out some merits in Hogarth, who, in an age of the greatest mediocrity, studied nature unassisted. I can also revert to the trash exhibited this summer at the British Institution—but enough for the present.

In conclusion, I would add a few remarks on the third, and certainly the most startling maxim inculcated in Mr. Thomas's lectures—I mean that belief which he expresses, in the existence of rules to art which alone ought to be sufficient to it. Let me candidly state that I myself belong to the hair-brained and poetic race, that is but little disposed to submit to the shackles of self-constituted legislators, but I am not deaf to the promptings of reason and common sense; and I aver it as my belief that there are certain comprehensive rules which we all *feel* and work by, although as yet undefined; we feel these rules become more circumscribed in measure as our aspirations become higher. I know by experience that from originality to eccentricity there is but one step, one step out of the ruled circle of perfection. I believe that Shakspeare himself is great from his beauties, and that his few defects are unallied to those beauties, and consist in his having sometimes overstepped, not the rules of Aristotle, but those unyielding yet invisible rules which encompass art whatever be its object; and, in conclusion, I will say that it is of rules to art as it was of medicine, they have been so long in the hands of quacks that mankind have despaired of finding any truth in them; yet, as in medicine, they are continually resorted to, and will one day be believed in; but first we must find some one with power of mind to define them. Mr. Thomas, in his lectures, has given good proof of ability. Let us hope that having thrown down the gauntlet, he will take it up again, and that he may eventually do something towards untying this "gordian knot."

AN ARTIST.

THE PRODUCTION OF CURVES.

THE SEPTENARY SYSTEM OF GENERATING CURVES.

QUOTING various remarks and reports which have appeared in THE BUILDER concerning the *entasis* of columns, and "the minute and beautiful curves which the refined minds of the Greek artists led them to substitute for the straight lines and circular forms with which the Egyptians, before them, and the Romans and their followers, after them, have been contented," Mr. Jopling has deposited in the Polytechnic Institution, Regent-street, some examples of *entasis* produced by his system*, and calls on architects generally, and ourselves in particular, to inspect them.

His object is, of course, to force on public attention the importance of the study of curves, with the secondary view (and the desire is quite legitimate) of seeing his system for producing varieties of these lines properly brought into use and carried out.

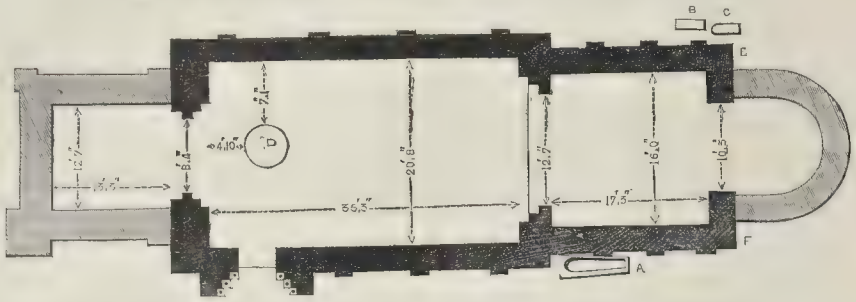
The inventor points out, in a sheet of letter-press which accompanies the curves, that "'Willis's Principles of Mechanism' contains abundant evidence that neither the simplest principles for regulating motion, nor their results, *true lines*, are practically or obviously known either at Cambridge or in the path of his research." And further, with truth remarks, that "Every periodical in which forms of lines are alluded to, shews that a *systematic extension* of a practical knowledge, or an ocular acquaintance with true varying geometrical lines, or of their applications, forms no part of the instruction in schools of design, or in colleges for architects and engineers."

That such a course of study would be exceedingly valuable, we have already, on many occasions, asserted.

THE MONUMENTS IN WESTMINSTER ABBEY.—At the close of the last meeting of the British Archæological Association, the alleged removal of some monuments in Westminster Abbey, by Mr. Blore, and which had furnished matter for severe remarks in the public journals, was brought forward. As doubt existed when the stone inscribed, "O rare Ben Jonson!" and that which covered Cowley's grave, were taken away, the subject was referred to the consideration of the council, in order to afford time to procure information, and test the truth of the charges brought against Mr. Blore, the Dean of Westminster, &c.

* 1. Shaft of a column with flutes, to the scale of the mode of the Parthenon, by Mr. Lucas, in the British Museum. Tangents to the curvature of each line at the base, are *inclined* to the axis; which, from Mr. Penrose's investigations, appears to be the case in that ancient structure. 2. The outside lines, extending the whole length of the drawing, rise *perpendicular* from the base, with a curve constantly changing to the points of contrary flexure at the top. 3. A small example of the shaft of a column; to each line in which, tangents to the curvature at points on the base are *perpendicular*. 4. With the same character as last, to the scale of the model of the Parthenon. 5. The outside lines on this side of the drawing board *recline* from the axis at the base, and the greatest swell is at one-tenth of the height, from which the curvature varies continually towards the top, when they terminate in points of contrary flexure.

PLAN OF FANGFOSS CHURCH AS OPENED OCTOBER, 1848.



THE DISCOVERY AT FANGFOSS CHURCH, YORKSHIRE.

On taking down the dilapidated Norman Church of Fangfoss (about four miles from Pocklington, in Yorkshire), the plan of the ancient church has been made clear, and many fragments have been discovered, belonging not only to the lately-existing building, but to the more ancient structure. The east and west end walls and small tower had been rebuilt within the last half century; and in those walls many of the arch stones, corbels, and fragments of ancient crosses had been walled in with other old stones, mixed with brick, and a brick porch had been added. With the exception of the porch and two modern square windows, the south side retained its original form, and the north wall of the chancel also, to a height of 10 feet: the north wall of the nave had been almost wholly rebuilt; the chancel pillars had been covered over with wood scantlings, concealed by lath and plaster, and the arch over them also by a flat ceiling; and round the nave was a very elaborate dentilled and modillioned cornice, which, by excluding the air from the oak roof, had caused a premature decay. We are indebted to Mr. R. D. Chantrell, the architect, for the following particulars.

During the last fortnight in September the old building was removed, and trenches ordered to be made for extending the walls, both eastward and westward; and on the 21st the return of the chancel plinth, at G and H, on the annexed plan, appeared: also about 8 feet of plinth to the west. On the 22nd and 23rd Mr. Chantrell traced the rubble foundation of an *apse* at the east end (coloured light on the plan), also the plinths of three buttresses, nearly equidistant from each other on the north side.

All the stone found is the oolite, which is obtained a few miles north of the village, and contains fossil shells, which are observable in that of many churches on the Yorkshire wolds. The dressing is cross drafting, and the stones are nearly square. The rubble foundation was composed of large and small stones, well mixed with sand and gravel (which runs immediately beneath the soil), and taken from the vicinity: this rubble, or concrete, was bedded regularly upon the stratum of gravel, wherever the excavation has been made contiguous to it.

Beside the three sets of arch stones of the entrance to the chancel, ten others have been found within the ashlar, firmly embedded in the bonding; under what has been the tower staircase, two fragments of pillar shafts, one 7 the other 8 inches long, were placed vertically. The bed of the tower plinth was 1 inch below that of the body, which may be attributed to the greater weight of the tower, as in other respects the plinths correspond. The arch stones under the east end of the chancel had two courses of herring-bone work beneath them. The bed stones of the ancient portal having been exposed, shew that the entrance door has had three pillars on each side, giving five sets of arch stones.

The interior shews that at some period the building had been destroyed by fire, the face of the whole inside, the pillars and arches entering the chancel indicating intense heat, and the chancel arch stones are so greatly injured thereby as to be unfit for rebuilding. At the west end, on the general level of the floor, the ashlar stone internally was burnt, and also the flag-stone floor (indicated by the same red colour as the rest), and a black line, varying from half an inch to an inch and half, with small fragments of charcoal, prove the fact: this must have taken place since the erection of the latter church, as the older arch stones are not discoloured like those of the chancel arch. The walls had been whitewashed, and no indication of fire appeared before the building was taken down. Some fragments of stone which could not have been reached by the fire, were burnt, and became the same colour, to prove that nothing but intense heat could have so discoloured and shattered the surface of the internal stonework. On some of the stones which had been coloured, are 2-inch letters, of scriptural sentences, not earlier than the end of the sixteenth century. Some peculiar ancient crosses were used as fillings-in in the walls; some were covers of graves, and others erect, being carved on two sides. The corbel table on the south side was of coupled arches rudely cut, the corbels of the general Norman character: on one is the warrior on horseback, with a spear and the nasal helmet (useu, according to Merrick, by the Danes, and till the end of Stephen's reign); on another, a large horse's head, and a soldier with nasal helmet on each side holding by a bridle across the nose. The corbel table on the north was in the form of a rude M, and this corresponding with the Norman ∞, may have alluded to the saint's name to whom the church was, probably, dedicated; as, if *orientation* is to be depended on, Saint Martin's day is thereby indicated.

It is greatly to be regretted that there are no hopes of raising more than 600*l.* for the rebuilding of this church, which, if restored, would cost double that sum. Could adequate funds be obtained, there are sufficient data for a restoration, and a beautiful and interesting specimen of early work might be rescued from oblivion.

The plan shews the foundation of tower since excavated. The part tinted dark is the outline of building recently taken down. The centre line of chancel inclines 3 inches to the north. A, B, C, show stone coffins, which were found last week: the two latter are very small. Each contained the bones of an infant. The stones are rude blocks. D shews rough base of font (in one stone), 3 feet 3 inches diameter, and 3 feet 6 inches high—15 inches above old floor.

Appointment by the General Board of Health.—We understand that Messrs. George Thomas Clark, Edward Cresy, Robert Rawlinson, and William Ranger, all professedly civil engineers, have been appointed the first superintending inspectors under the new Act. A dead set appears to be made by the leading parties in the health movement against *architects*, simply because they are architects, and without any regard to individual fitness,—concerning which we may have something to say before long.

WHAT IS MEANT BY THE "GROUND-FLOOR" OF A BUILDING?

Sir,—It seems to be the fashion now-a-days for every Act-of-Parliament-monger to use terms, and particularly trade and otherwise technical terms, in senses different from those in which the last before him had explained, or employed without explaining, the same terms. The common use in London of the word floor, applied to dwelling-houses, is in the sense of story, in the same way that a labouring man is called *a hand*, or such men, collectively employed upon any work, *hands*; but it would not do, I suppose, to describe the crew of a ship or the men employed in building a ship or a house in an Act of Parliament, or other document requiring definite language, as hands! The Metropolitan Buildings Act declares, in somewhat clumsy language, certainly, but definite nevertheless, and consistent with technical propriety, that the word floor, as employed in that Act is intended to mean "the horizontal platform forming the base of any story," and that the word story "is to be taken to include the full thickness of such floor as well as the space between the upper surface of one floor and the under surface of the floor next above it."

Now come the New Sewers' Acts with their "fumyologies."

The Act for all the metropolis but the City —*all the man but his stomach!* or *all the ship but her hold!*—says, in section 46, that a house that has been pulled down to or below the floor, commonly called the ground-floor, is not to be rebuilt, unless the lowest floor be made low enough to admit of being drained; and the City Sewers Act (11 and 12 Vict., c. 163) says, in section 64, with reference to the same point, that whenever a house shall be taken down within twelve feet of the surface of the ground—[Does this mean of the ground the house stands upon, or of the ground, paved way, or what-not, nearest to the level of its principal entrance?]—for the purpose of being rebuilt, such building up shall be deemed a rebuilding, and the level of the lowest floor is to be raised to allow of its being drained, &c. —[and this whether it wants raising for that purpose or not!].

If these two Acts intend the same thing, upon the same point, it is clear that floor, as used in the first place, in the former, is to be understood in the vulgar sense of story, and different from that in which the Metropolitan Buildings Act requires it to be applied, though it is tolerably certain that both of the Sewers Acts, in speaking of the level of the *lowest floor*, mean the floor, and *not* the story!

The parentage of the Metropolitan Sewers Act and of the Public Health Act is understood to be the same; but even these twin sisters differ in the terms employed to express the same thing, or what we may suppose to be the same, so much as to admit of doubt, whether they do embody the same intention. The Metropolitan Sewers Act, says, with reference to the pulling down of houses to be rebuilt, as before quoted, "to or below the floor commonly called the ground-floor," whilst the Public Health Act says in section 49 as to the same subject, "to or below the level of the

ground-floor." If the same thing be intended, why the difference in the expression? and, if they do not mean the same thing, why the similarity?

Are these things done from sheer love of mischief to puzzle surveyors and builders, and to induce litigation? or is it upon the "no connection with any other shop" principle that every Act of Parliament is made to employ terms, and to use language differently from every other? Lord Shaftesbury and the Speaker should see to this, and refer all bills presented to their respective houses to properly qualified persons, or a public officer should be appointed to revise all bills with reference to such matters, to insure consistency in the use of language, and most especially of technical language in all Acts of Parliament of which the subjects are cognate.

A SURVEYOR OF METROPOLITAN BUILDINGS.

London, Oct. 31, 1848.

THE PRESERVATION OF OUR ARCHITECTURAL ANTIQUITIES.

MR. CHARLES ROACH SMITH has just now completed the first volume of his "*Collectanea Antiqua*, Etchings of Ancient Remains, illustrative of the Habits, Customs, and History of past Ages."* It presents in an unpretending form, an interesting record of facts, very copiously illustrated, and will supply materials to many future writers.

We take the following pertinent observations from the preface:—

"Unhappily, the Government has not yet been awakened to a sense of the importance of our national antiquities. It neither originates any scheme for their preservation, nor encourages the exertions of societies or individuals. It even defends its pertinacious apathy by asserting that the chartered Society of Antiquaries of London should, and may, do all that is required. If this argument had ever any reason or justice, it would be the more forcible and conclusive since the establishment of the Association has brought forward so many institutions having similar objects in view. But it was ever a poor excuse for indifference, and is now manifestly absurd. The income of these societies is exceedingly trifling in comparison with the claims upon it, and this income is becoming more and more inadequate as the exertions of the members increase, and as materials are collected and accumulated. And it must ever be borne in mind, that the science which these collections promote is one of the highest consideration that it might be made of great public utility and without which every system of education must be incomplete.

The Government of Great Britain, with resources beyond those of any other state in Europe, is behind all in the appreciation of its valuable national monuments, and in the encouragement of inquiries which have a direct tendency to advance the intellectual and moral condition of the people. Ever boasting of its institutions, and inculcating reverence and attachment to them, it neglects the preservation of those memorials the knowledge of which can alone give sound notions on the origin, progress, and value of national institutions, and beget, in the people at large, a capacity to appreciate the great social regulations and the political organizations under which they live and which they are daily expected to cherish and defend.

It has been the custom to ascribe to the ignorance of past ages the chief share in the destruction of our national works of ancient art, as if the present generation were the sole representative of all that is enlightened and conservative. This is an error both vulgar and common. If there be not at the present day the same amount of ignorance as in past times, there is an increased spirit of selfishness—a proneness to test the value of every thing by the scale of the trader—a dogged utilitarianism, to which has been sacrificed perhaps in the last fifty years more of our national ancient remains than in previous centuries not so distinguished for the progress of science and general knowledge. Public and private enterprise and speculation have within the last few years dissected the kingdom from one end to the other; and, in consequence (from the supineness of the Government), many a record of the olden times has been swept away, and the desecrated church, the ruined monastery, the baron's castle, as well as the less and more exposed, but not less valuable, monuments of earlier times, have been hurried to their doom of oblivion. Even the zeal of the archæological explorer has, in numerous instances, contributed to increase the amount of destruction; for it often happens he is obliged to abandon his researches at the very moment of their being crowned with success, forego his reward, and stop short in his discoveries, for the want of pecuniary resources. The Roman theatre at Verulam affords a case in point. It was one of the most interesting objects brought to light within the memory of man, and in this country was without parallel.* It was in good preservation; and at a comparatively insignificant cost might have been preserved to the country. But the people of the county cared not about it; the Government, petitioned through Lord John Russell, would hearken to no supplications on its behalf; the excavations were discontinued, and the remains of the theatre were destroyed. Had such a discovery been made in France, a different fate would have awaited a monument so curious and valuable. The disastrous result of the researches at Verulam shew that it would have been better had they not been undertaken, for at some future day they might have been prosecuted under circumstances more auspicious, either by the aid of liberal private patronage, or by the support of Parliament.

The establishment of archæological and antiquarian societies in almost every county, is, then, an additional reason for the expediency of some extensive parliamentary measure which would effectually embrace the various classes of our ancient national monuments, and secure their preservation. These societies, although frequently exhibiting a long array of names, are so poorly supported by subscriptions, that only a very few are able to publish their proceedings, and thus prove themselves to be in a state of healthy vitality. For the most part they are clogged and shackled with persons who yield neither pecuniary nor literary aid, but are pressed to consent to swell the list of names, from a prevalent but ridiculous notion that numbers alone can ensure permanent success, and supply that intelligence and earnestness of purpose which belong only to the few. In England, moreover, there is a strong tendency in literary and scientific societies to encumber the executive departments with persons selected solely for their eminent rank or position, but whose tastes and habits do not usually incline them to take the slightest interest in the objects of the institutions they ostensibly patronise and superintend. Where rank is allied with ability, or with generous feelings, it will naturally in all well regulated bodies take proper precedence; but where it represents nothing whatever beyond mere rank and station, it is beneath the dignity of men of science to waive their own honourable rights and privileges, and invest with the credit of the labours of others, persons who have no sympathies in common with them, and who must in their hearts, if they reflect, despise the adulation which, under the disguise of courtesy, prostitutes intellect to worldly power.

Nothing in fact, short of a parliamentary commission, can do justice to our national antiquities. It must be a commission responsible to Parliament and the public, and composed of men of character above suspicion, who will constitute a board to see that the funds granted by Parliament are properly expended; to call to their assistance persons of ability; and, as a first step, to obtain the *statistics* of the national antiquities yet remaining, and then to devise measures to place them beyond the reach of danger. It is not necessary that all the members of the commission should be antiquaries; but it is essential they should be men of general practical knowledge, of tried integrity, and of judgment, to be enabled to select fit and proper instruments to work with, and to prevent what, it must be owned, is to be apprehended and guarded against—the misapplication of the funds placed at their disposal.

Until the day shall arrive when the Government shall be awakened to a sense of the value of ancient national remains, societies and individuals must work on with zeal and earnestness; but they should never relax in forcing upon the attention and consideration of the representatives of the people, the conservation of the antiquities of the kingdom."

* Published by J. R. Smith, Old Compton-street, London.

* See "Journal of the British Archæological Association," vol. iii. and iv.; and "Description of the Roman Theatre of Verulam," by R. Grove Lowe, Esq. Pp. 18. 8vo. London and St. Alban's.

CHURCH CLERESTORIES AND EXTERNAL WALLS, UNDER LIVERPOOL BUILDINGS' ACT.

A CASE was tried at the Liverpool Police-court, on the 10th instant, in connection with St. Peter's Scotch Church, Great Oxford-street, which excited some interest in that town. An information was laid against the contractor for the masons' work, Mr. Paterson, by the building-surveyor of Liverpool, for erecting the clerestories in contravention of the Liverpool Buildings Act, 5 Vict. c. 44. We take the particulars from the *Mail*.

The real defendants were the trustees of the church; and the point in dispute was, whether the clerestories were *external walls* within the meaning of the 44th section of the Act, or merely *portions of the roof* of the church.

Mr. John Robinson, assistant building-surveyor, was called, and stated that the external walls of the church were not built according to the provisions of the Buildings Act, inasmuch as the clerestories were intended to be constructed of framed timber, boarded and slated.

In answer to questions, witness said that all the external walls, with the exception of the clerestories, were of greater thickness than required by the Act, and were also further strengthened by buttresses. He was asked whether the roofs of St. John's and St. James's Markets were not precisely on the same principle as the roof in the present case, when he said he did not know sufficient of these roofs to answer the question.

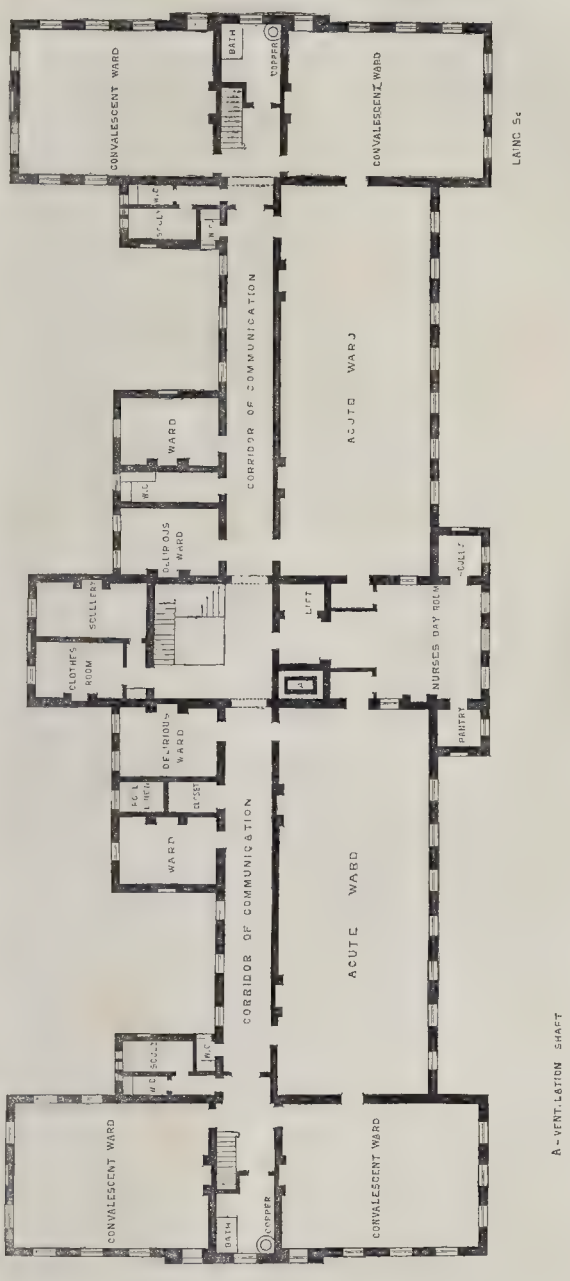
Mr. Rishton, the chief building surveyor, in answer to the court, admitted that the roofs of these markets were on the same principle as the one in question.

The witness Robinson was asked by the magistrates whether, in his opinion, the security and stability of the church would be endangered by the clerestories being constructed as proposed in the present case; and in reply stated that he thought the church would be *more* secure if they were built of brick or stone; but he was requested to answer, not remodel, the question, when he stated he did not think that either the security or stability of the church would be in danger by the proposed mode of construction.—A number of architects, surveyors, and builders were attending in court as witnesses for the defendant; but the magistrates, after the short examination of the assistant building surveyor, said the Act ought to receive a liberal construction, and decided, without calling on the defendant's witnesses, that there had been no infringement, and dismissed the case.—Defendant asked for his costs, on the ground of the very heavy expense he had been put to in preparing to defend the case. The court said they had not the power, or would have given them: the building surveyor had stated that he considered himself bound, in discharge of his public duty, to bring the case before the magistrates, and the court thought it would therefore only have been reasonable that the public, for whose benefit the case was brought forward, and not an individual, should be at the expense of trying the question, and regretted they had not the power of giving costs in the present case.

CLEANSING DRAINS.—An apparatus has lately been patented, invented by Mr. R. G. Salter, surveyor, of Birkenhead, the object of which is to flash sewers, to carry off filth of every description, and also to purify the house and other drains. According to the *Liverpool Courier*, it can be applied to sewers already constructed with facility, at a cheap cost, and when so supplied, will keep them cleansed and ventilated.



THE NEW SMALL-POX AND VACCINATION HOSPITAL, HIGHGATE.—Mr. J. W. Dawkes, Architect.



PLAN OF ONE-PAIR STORY.

NEW SMALL-POX AND VACCINATION HOSPITAL, HIGHGATE.

READERS will remember that we noticed, some time since, the plans submitted in competition for the new Small-pox Hospital, required in consequence of the Great Northern Railway Company having purchased the site of the present hospital for their terminus. A design by Mr. Daukes was selected, and we now give a view of the building as it will appear when completed, together with the plan of the one-pair story. Next week we shall give a general plan of the ground story.

The building is being erected on a very healthy and picturesque site at the foot of Highgate-hill; and will be faced with picked grey stocks, with Bath-stone dressings. The ground-floor is devoted to the residences of the officers and household purposes; the whole of the wards being provided on the upper floors. The acute wards are 17 feet in height, with windows at the back, over the corridor, for thorough ventilation, and are understood to provide a space of 2,120 cubical feet for each patient. The convalescent wards are 13 feet high.

A thorough system of warming and ventilating is to be applied to the whole building; the shaft for which forms the ornamental tower in the centre of the composition.

THE IMPROVEMENT OF CHRONOMETERS.

THE talent and ingenuity which have been directed to the improvement of chronometers for many years past, have left but few defects in their construction, excepting the imperfect compensation for change of temperature: this has formed the great object to which the efforts of persons interested in their improvement have been directed. The defect alluded to is this, that if chronometers are adjusted for extremes of heat and cold, they will gain in the intermediate temperatures. The cause of this defect is, that the balance-spring loses elasticity by an increase of temperature at an accumulating rate over the effect produced by the ordinary compensation. The great difficulty of obtaining a principle the effect of which could be increased or diminished precisely in the same degree as the temperature increased or diminished the elasticity of the spring, has perhaps occupied more time and led to more profitless experiments than any obstacle which has ever opposed itself to the progress of chronometrical improvement.

Mr. Loseby has introduced mercury to achieve the object desired, which by its fluidity seems to admit of being adjusted so that its effect varies exactly in the same proportion as the change of temperature alters the elasticity of the spring, or in other words, which makes the law of the successive alterations of the momentum of inertia adapt itself to the law of alteration of the elasticity of the spring, whatever that law may be.* Since the invention was submitted to the Government in 1843, it has undergone several trials by order of the Board of Admiralty, with a view to test its principle. The chief points which required to be proved were, first, whether the principle admitted of being adjusted to the irregular loss of elasticity in the spring; and, secondly, if the effect produced by the mercury would be sufficient. The fluidity of the agent used at once answered the first point, and it was therefore to the second that the trials have been chiefly directed. The result shews that not only can the ordinary defect be obviated, but in most of the trials it has even been reversed. The first trial commenced in January, 1845, when two chronometers were placed at the Observatory, Greenwich, under the direction of the Astronomer Royal, and underwent a rigorous ordeal, having been exposed to the open air on the north side of the building during the coldest weeks of that severe winter, and also to temperatures varying from 85 degrees to 120 degrees Fahrenheit for the extreme heat. The Astronomer Royal's report, which was laid before the Admiralty in May, contained an account of the performance of these chronometers, and also his opinion relative to the principle. The following extracts are from this report:—"I consider this invention (taking advantage very happily of the two distinguishing properties of mercury, its fluidity and its great thermal expansion) as the most ingenious that I have ever seen, and the most perfectly adaptable to the wants of chronometers. I am not aware that it is liable to any special inconvenience." "I think it my duty to report as my opinion, that Mr. Loseby's construction has successfully effected its object, and remarking the ingenuity of the method used, and the fertility of its principle, I state as my opinion to the Board of Admiralty, that Mr. Loseby is entitled to their lordships' general encouragement."

Dr. Rae says, in his report of the Arctic expedition under his command, which returned last year, that nearly two months before the temperature reached 0° Fahreheit, the chronometer employed became so irregular in rate as to be useless for taking the longitude. This of itself shews the importance of improvement. The annual trial of chronometers for purchase by the Admiralty is now concluded for the present year: it contained forty-eight chronometers of various makers, including two of Mr. Loseby's improved construction, one of which has obtained the first, and the other the third place in the rates published by the Government for their superior merit.

We mention these facts, which seem little known beyond the Government departments, in justice to an ingenious man.

* Astronomer Royal's Report.

THE RAILWAY QUESTION.

THE general depression of railway property lately induced a large body of shareholders at Liverpool to memorialise the directors of the London and North-Western and the Midland lines, with suggestions for a restoration of confidence, by a change of management, including a new practical directory itself, appointed by the proprietors in place of by the general board of directors, whom it is proposed to reduce in numbers, the alteration to be brought about by the annual retirement of one third of the present members. New regulations in the meantime were also advised.——A "Traveller in many Lands" has come lately to the "Railway Rescue," as he titles it, in a publication by Effingham Wilson, Royal Exchange, in which he deprecates the attempts that are being made to increase dividends by additional fares and decreased accommodation of trains, with other absurd changes in past regulations. And it is not directors alone that are so blind to their own best interests, for even amongst the suggestions of the Liverpool shareholders just referred to, we find it recommended "that the rates of fare and tolls of all kinds *not productive* of a fair remuneration to the shareholders for their outlay and risk *be raised* at once, and where Parliament has limited the powers of raising such rates and tolls, that application be made next session to enable the directors to *raise them to a remunerative scale.*" Do directors and shareholders imagine that wherever fares and tolls are not *productive* or remunerative, all they have to do is to raise them? Can they not conceive the possibility of raising them to a ruinous, or of *lowering* them to a remunerative scale? Let them only consult the Parliamentary records of shareholders and directorship in gas, and they will find that a lowering of charge and a raising of dividend have ever been inseparably consequent, but never a raising of charge and a raising of dividend. And the traffic by rail is at least as expansible as the consumpt of gas by tempting reductions of charge; while, on the other hand, as the author just alluded to remarks, "it is dangerous to practice on public patience and tempt new modes of transit," by increase of fares and decrease of trains; for "people will travel as much as possible at their own convenience and as cheaply as possible, so that the consequent result would probably be an increase of horse transit." He thinks the railway interest had much better try every means of diminishing expense, rather than raise charges or diminish the public accommodation; and with with this view he points attention for one thing to the disproportion between the power of engines and the resistance of permanent way, and the consequent enormity of tear and wear, and of expense of the maintenance of way, and suggests a proper adaptation of the power to the resistance. "Small trains and frequent, with small station-room, few police and porters (?), and fewer clerks, a slight increase of drivers and stokers, and a huge decrease of platelayers and a reduction in iron invoices, would do more for your dividends and the public accommodation," he says, "than the present system of elephantine traction, with a yielding foothold -- a power developed and wasted; for it must be obvious that if, after expending millions to secure good gradients, a deflecting rail be laid down, it is equivalent to converting them into bad gradients. In water transit, a steam-boat drives a greater or lesser wave of water before her bows,—in rail transit, a locomotive drives a wave of rail before her driving-wheels equivalent to ascending a constant incline, and demanding a far greater expenditure of steam-power to surmount it. The difference in the two cases is, that it is impossible wholly to surmount, though we may modify, the difficulty with the steam-boat; whereas, in the case of the rail, it is practicable to surmount the difficulty altogether, by proportioning the load on the wheel to the strength of the rail." A liberty he thinks granted to companies to buil l houses contiguous to their lines would ultimately render the railway itself to some extent a secondary consideration, and infallibly result in cheap fares and numerous trains; while, on the contrary, men of business and many others may, by want of conveyance and high fares, be scared from country houses and railway transit altogether. By a withdrawal of the prohibition to build, he argues, railway companies would soon lay out farms and build factories, and let out power and supply water, and gas, and manure, and open mines and quarries, and teach landed proprietors to go and do likewise. They contain, dormant, the elements of prosperity far greater than their most sanguine projectors ever dreamed of in their calculation of tolls and fares. We give charters to water companies, gas companies, manure companies, canal, railway, banking, building companies, separately, and yet prevent a company from uniting together to work out conjointly all these things urgently for better advantage. Give them but free scope, and, in addition to all these, they will become provision purveyors to the community far more economical than we have yet beheld. The mile linear would come to represent the mile square—the toll trustee would become the landed proprietor—the long-stage proprietor would become the inn-keeper, and the short-stager would grow into a householder. Gas would be made in the original coal-pits, and every spring of pure water would be converted to man's uses. Under such a system all the stations would become market towns and bazaars. The shareholders would be safer for ever, for it would be impossible to have great fluctuations in the value of property so secured." Great and weighty license this author would indeed give to the railway interest! There is certainly, however, something like force of thought and forethought, with originality of idea in all this.

RAILWAY JOTTINGS.

THE amount of English calls this month is 943,632*l.*; of Scotch, 186,250*l.*; Irish, 112,625*l.*; foreign, 412,500*l.*; total, 1,655,007*l.* This sum is about one-half the amount of that called up in the preceding month. Will they come when you do call them? adds a facetious contemporary.——A new method of attaching tires to railway wheels has been patented by Messrs. Charles Green and James Newman, of Birmingham, manufacturers. The patentees employ a tire-bar, bent into a step-like form, and having a small portion of the lower vertical point bent again at right angles, so as to serve for a catch, or rest, to the felloe of the wheel.——There is to be a new station at Colchester. The Eastern Counties demanded a rental of 2,000*l.* for the use of their station from the Eastern Union, a charge which was deemed too preposterous to be accepted.——The Wenden station, near Saffron Walden, on the Eastern Counties line, is to be henceforth called the Audley-end station.——Mr. W. J. Cannon, of Cambridge, has patented a new species of cattle truck, with an open floor above the close one, made of galvanized cast-iron, or other metal or wood, ridged or reeded with transverse bars, to secure a sure footing. The ordinary floor beneath then forms a tank for the manure, which is sluiced off into a proper receptacle at the end of each journey.——We should have noted last week the fall of a bridge which crosses the Stour, near Canterbury, when a luggage and fish train, with its engine, tumbled into the vale and stream below. "The cause of the fall of the bridge is supposed to be the recent excessive floods."——The Directors of the London and North-Western Railway have published a detailed account of their engagements and liabilities, from which it appears that the total length of line in which the company are interested, directly and indirectly, is 1,141 miles; that the total amount already expended is 22,835,120*l.*, and that 3,136,626*l.* is the expenditure yet to take place. In addition to this, the company have obtained powers for the construction of fourteen lines, at an estimated aggregate cost of 3,876,963*l.*, which have not been commenced, and which will only be carried out upon the express sanction of the shareholders.——A statement made by some of our contemporaries, to the effect that the works at the Britannia tube across the Menai straits had been suspended from deficiency of funds, has been contradicted 'on authority.'——The works on the Wilts, Somerset, and Weymouth line are said to be suspended in the vicinity of Maiden Newton.——The directors of the South Devon line have passed a resolution, reducing the salaries of all men employed on the line. The policemen and porters are to have 14*s.* a-week instead of 15*s.*, and those of a higher grade will be reduced about 20 per cent. A great number of hands have recently been discharged all along the line, and a further reduction in the number of porters, policemen, and clerks is contemplated. The reduction made in the salaries of the officials is in accordance with a suggestion made at the last half-yearly meeting.—The secretary of this line has issued notices for the sale of 680 tons of atmospheric pipes, averaging about 8 cwt. each, now lying at Bristol; also for the sale of about 1,500 tons Scotch pig-iron, and about 1,000 tons Welsh cold blast iron, deliverable at Bristol and Bridgewater.——The construction of the viaduct across the river Mite at Ravenglass, on the Whitehaven and Furness junction, has been let, by contract, to Mr. William Brown, of Workington.——A meeting of contractors on the Aberdeen line was held lately, at Stonehaven, in consequence of certain orders by the Directors to suspend their works, and certain misunderstandings in regard to the company's engineers and the referee for the contractors. The meeting was attended by almost all the contractors; Mr. Forbes in the chair, and resolved unanimously to disregard the company's order, and to apply to the court for authority to finish their respective contracts, under the inspection of the original referee, Mr. Gibb.——The temporary wooden bridge across the Tweed, which forms the last link of continuous line from the southern to the northern metropolis, was inspected and opened on Tuesday week. It was commenced in the early part of this year, and the quantity of timber employed in its construction amounts to nearly 300,000 cubic feet. It is 39 feet wide at the base, contracting gradually as it ascends to 13 feet in breadth. The bridge itself is 1,200 feet long, and the height from the bed of the river 120 feet. The embankment extending from the bridge to the station at Tweedmouth, nearly half a mile long, is estimated to contain 1,000,000 tons of earth. The permanent stone bridge, on one side of this one, will be finished in July next, and will contain 28 semicircular arches, 11 to span the river. The whole length will be 3,000 feet, and the extreme height, from the foundation to the roadway, 134 feet.——It is said that one of the arches of the South-Western Viaduct at Lambeth has been fitted as an infant school, that another is about to be used as an Independent chapel, and that some charitable philanthropists are about to hire one or two as shelters for the houseless during the approaching winter.——The *Bee*, from Dieppe, has brought into the Thames a cargo of railway waggons, being returned railway materials from France, after having been used on one of the French lines.—According to a report to the French government, the number of locomotive-engines constructed in France, and employed by the country in 1842, equalled the number imported from abroad; in 1843, there were two more French than foreign engines; in 1844, the surplus was 44; in 1845, 76; and in 1846, this excess was 161. In 1846, there were 461 locomotives, of 60 horse-power each, upon the average amounting to 27,600 horse-power. Comparing the strength of man to horse-power, the steam-engines of all kinds employed in France in 1846, were substitutes for 2,097,625 men.——The first railway line in Spain, that from Barcelona to Mataro, a length of 5 leagues, was privately opened on 8th ult., and was to be opened to the public on the 15th.

ESTIMATES FOR SEWERS IN CITY OF LONDON.—At a meeting of the City Sewers Commission, on Tuesday, tenders were opened for the construction of sewers in the vicinity of Westmoreland-buildings, Aldersgate-street, Bartholomew-close, and several other densely-populated places. There were six competitors. The highest amount was 2,500*l.*, and the lowest 1,695*l.* The surveyor's estimate was 1,900*l.* It was ordered that the works be entrusted to Mr. Browne, whose tender was 1,695*l.*

COMPETITION.—Designs and specifications for the erection of a new workhouse at Birmingham, are wanted by 13th December: particulars as advertised.

CHURCHES.

The restoration at St. Andrew's Church, Ampthill, has been completed, and the building re-opened. The ancient mutilation instigated by family pride and exclusiveness, has been repaired, and the whole church fitted up with open uniform seats, and galleries no longer interfering with the pillars and arches which have been restored, and the aisles paved with tiles. A new roof of oak covered with lead has been presented by the Rev. G. Maule, the rector, who has also replaced a perpendicular window that had been walled up, and restored the east front externally. The remainder of the exterior, however, is still in a discreditable condition, but the Duke of Bedford, according to the *Bedford Times*, has offered liberally towards its restoration. Mr. J. W. Burrows, of Clophill, executed the works under the superintendence of Mr. J. T. Wing, of Bedford, who also erected the east window.——The new church of Holy Trinity, lately erected at Skirbeck, near Boston, and consecrated on Tuesday week, is built of hammer-dressed Ancaster freestone, with worked stone at the quoins and buttresses, doors and windows. The interior length, from east to west, is 96 feet, by a width of 46 feet.——The new church recently erected at Hursley, on the site of the old one, was consecrated also on Tuesday week. It is in the Decorated style, with a nave, chancel, aisles, and the original tower erected 500 years since by Bishop Edgerton. The chancel is paved with encaustic tiles.——A subscription of 500*l.* is being raised for the restoration of the Church of St. Philip and Jacob, Bristol. ——A new church is about to be erected at Abberley, Worcestershire, at the expense of Mrs. Moilliet and Mr. James Moilliet.——The church of Holy Trinity, Abbot's Leigh, near Bristol, was opened on Sunday last. It has been rebuilt at the expense of the member for the county, Mr. William Miles. It is now a uniform structure of perpendicular, or third-pointed Gothic, the church having been erected to assimilate with the tower, which was not destroyed by the fire. The plan is a tower, nave, north and south aisles, chancel and sacristy, with open timber roofs, low seats, and chancel stalls. The windows are filled with painted glass.——St. Jude's Church, Eldon, Sheffield, is being roofed. It has been built over an old coal mine, but anxiety on that account is said to have ceased, we do not exactly know why, nor wherefore such a site was chosen at all, unless merely because it was offered as a gift. The intention to erect a tower and spire has been abandoned, from "a desire to forego all dispensable decorations and appendages." The estimated cost, according to the *Sheffield Times*, will be 2,000*l.*, and the church will accommodate 730 persons. The site was a gift of Mr. Samuel Younge. Mr. Joseph Mitchell is the architect.——The new church at Follifoot, Spofforth, opened on Sunday week, consists of a nave and chancel, with belfry at west end. It accommodates 150 persons, and cost, including site and stone, about 750*l.*, contributed principally by Lord Harewood and Sir Joseph Radcliffe.

DECORATION OF THE HAYMARKET THEATRE.

We have already mentioned the new decorations recently executed in the Haymarket Theatre by Mr. Sang, under the direction of Mr. Manby, but reserved an opinion until we had the opportunity of judging of them personally. The fronts of all the boxes are light cream colour, with gilt running scrolls upon them. The ceiling and proscenium alone display colour and design, and are remarkably sparkling and elegant. The ground of the ceiling is light blue, with medallions, circles, and other geometrical forms on it, containing cupids, heads, birds, and flowers, mostly very small, and giving a chintz-like appearance, but carefully and harmoniously painted. The principal group — Tragedy and Comedy—in the centre of the proscenium, and the Cupids representing the seasons in the four spandrels of the ceiling, are cleverly painted. The connecting lines of entwining leaves and flowers, too, are very delicate. This ceiling has the merit of at once presenting an agreeable whole, and affording satisfying subjects for examination when looked at in detail.

The new drop scene is cleverly designed and painted: in respect of the design, however, if the screen or frame-work (a composition of Flemish Renaissance, attributed to Mr. Haghe) had seemed to stand on the ground, and so the central landscape been brought *lower*, and as to the painting, if this landscape had been a little brighter,—the general effect of the whole would certainly have been better.

It is very satisfactory to us to see the attention which is now paid to the decoration of public places, as we take some little of the credit of the movement to ourselves.

SCHOOLS OF DESIGN IN BELGIUM, AND LORD GRANVILLE.

Sir,—I was in Belgium when the distribution of prizes took place at the School of Design in the Potteries district, and did not have an opportunity of seeing the report of Lord Granville's speech till your notice of it last week.

I beg to correct an error in his lordship's statement that the School of Design in *Antwerp* was attended by 600 pupils. In truth, there is no school of design at all in Antwerp, nor in any of the cities of the kingdom of Belgium,—the manufacturers in that country relying entirely on copying the productions of France. There is an Academy of Arts in Antwerp, attached to the Museum, of considerable extent, held in the ancient convent of St. Augustin, the cloisters of which are formed into separate studios for sculptors, and the area covered in for the drawing classes. Thirteen hundred pupils receive instruction here at the present time, of whom one hundred and forty are sculptors: the remainder are instructed in artistic studies of the figure and painting.

The whole establishment is under the direction of the President of the Academy, the Baron Wappers. In a conversation with him, lately, he regretted the non-existence of a school of design applicable to manufactures in Belgium, and said he had petitioned the Government to establish one,—alluding at the same time to the great attention given to this subject in England, by referring to the pages of the *Art-Journal*, and its numerous cuts of designs for manufactured articles.

I may add, that Antwerp possesses no manufactory whatever of articles depending on design, being only celebrated for the beauty of its black dying of silks of an uniform colour. There is a small pottery established by an Englishman, but it is confined to common brown ware.—I am, Sir, &c., H. M.

FALSE APPEARANCES IN ARCHITECTURE.

CHIMNEYS IN CHURCHES.

It has often struck me that one great point of difference between the architecture of the modern school and that of the ancient is that in the former the attempt is to disguise, and give a false appearance to many essentials in a building, while in the mediæval ages this was never done. In no point is this more seen than in that most necessary appendage to a church in our climate, a chimney. In modern churches, how often do we see this erected as an ornamented finial, a pinnacle, or even the head of a buttress, with the water-table pierced. Never have I met with any ancient example to justify this: on the contrary, I could name several churches in this country, where the fireplace is in one corner of the aisle, the flue carried up in the wall, and an unmistakeable chimney, with very good mouldings, according to the date, surrounding the whole.

One of the earliest examples is apparently about the date of Henry the Second, at the church near St. Lo, in Normandy. It is carried up at the side of the aisle, and surmounted with an octagon shaft, with very good plain mouldings to the base and cap. If we profess to copy ancient models, let us, at least, endeavour fairly to carry them out as they were intended by their designers, and I am sure that the more we give up the mockery and poor disguises of the present day, the more satisfactory and correct will our works become. C. W. Orford.

GAS IN THE CITY OF LONDON.

On Wednesday evening in last week a meeting of influential inhabitants of the ward of Bishopsgate was held at the White Hart Tavern, to take into consideration the best means to be adopted for the purpose of improving the supply of gas in the city of London. A correspondent has forwarded to us the following note of the proceedings:—

Mr. G. Taylor having been called upon to preside, stated the purpose for which the meeting had been convened. Several gentlemen then addressed the company at considerable length. It appears, that the city of London is supplied by two companies, who, by arrangement, partition the ground between them; and that the Commissioners of Sewers have always objected to the entry of any other company into the city. As long since as the spring of 1845 it came to the knowledge of gentlemen in the ward that the company supplying it with gas was charging a higher price to consumers in the city than it was charging without the city boundary. A deputation waited upon the directors, and, after considerable trouble and a delay of twelve months, the reduction of 1s. per 1,000 feet was obtained. Soon after, cause for complaint was again given to the citizens, it having transpired that the company had made a further reduction of 1s. to all their customers except those within the city. Another application upon the subject was then made from the ward to the Chartered Gas Company, which not proving successful after considerable delay, a petition, signed by 260 inhabitants, was presented to the Court of Sewers, who, after hearing the petitioners and the directors of the gas company, decided upon not interfering in the matter. A decision so extraordinary led to further inquiry on the part of the petitioners, when it appeared, that in consequence of the great number of lights upon a given length of main within the city, the supply might be afforded to it at a lower price than to any other part of the metropolis,—indeed, that it might be supplied at 4s. per 1,000 feet.

It is well known that although the price of coals is higher in London than in some other towns, yet the high price obtained for coke places the city gas companies in as good a position as companies even in the immediate vicinity of coal pits. The fact is that the price of coals is altogether a trifling consideration in the matter, inasmuch as one ton produces 9,000 feet of gas. It is true that the gas companies have since reduced the price within the city to that paid elsewhere, but as if still determined to show that they will take an unfair advantage of their position, they have advanced the metre charge from 4s. to 6s. per annum within the city, although they have not done so in other districts.

Some strong remarks were made by some of the speakers upon the fact, that the Commissioners of Sewers had not protected their fellow citizens from such impositions: it was also remarked that the commissioners might have made an arrangement for possessing their own gas pipes, and then have contracted with any company they pleased for a supply to the citizens.

A resolution was proposed, that a petition which was read to the meeting, should be presented to the Court of Common Council, requesting them to use their utmost influence that the citizens may be supplied with gas upon the lowest terms: it was carried unanimously. It was also resolved that the representatives of the ward in that court be requested to support the prayer thereof. A sub-committee to carry out the object in view having been appointed, and a vote of thanks given to the chairman, the meeting separated.

A Railway Engineer's Epitaph.—According to Mr. Noake, in his "Rambler in Worcestershire," the following epitaph is placed over the grave of a railway engineer in Bromsgrove churchyard, the date 1840:—

"My engine now is cold and still,
No water does my boiler fill;
My coke affords its flame no more,
My days of usefulness are o'er;
My wheels deny their noted speed,
No more my guiding hand they heed;
My whistle, too, has lost its tone,
Its shrill and thrilling sounds are gone;
My valves are now thrown open wide,
My flanges all refuse to guide;
My claeks also, though once so strong,
Refuse to aid the busy throng;
No more I feel each urging breath—
My steam is now condensed in death.
Life's railway's o'er, each station's past;
In death I'm stopped, and rest at last.
Farewell, dear friends, and cease to weep,
In Christ I'm safe, in him I sleep."

We need scarcely say we do not give this for imitation: such epitaphs are fearful mistakes,—amounting almost to profanity.

Miscellanea.

Ware Church—Maintenance of Kind Feeling.—On Saturday evening last the workmen engaged in the restoration of St. Mary's Church, Ware, sixty in number, by direction of the churchwardens, were regaled with a supper in the large room at the Saracen's Head Inn, the resting-place of the "great bed." The chair was taken by Mr. Innes, the clerk of the works, supported by Mr. Carter, the contractor, Mr. Beedle, the mason, and several respectable inhabitants of the town. After the usual loyal toasts, the Chairman proposed the health of the Rev. J. W. Blakesley, the vicar, and also that of the churchwardens, and called the attention of the men to the thoughtfulness and good feeling of those gentlemen in providing for them that evening. The health of the architect was then proposed, and warmly drunk. The health of the chairman was then drunk, with an admission that while he had performed his duties as clerk of the works with strictness, he had behaved with consideration and courtesy towards those with whom his office had brought him into connection. Then came the health of Mr. Carter, the contractor, who, in spite of the work turning out heavier than he had anticipated, had used every exertion to carry out his contract duly. The health of the workmen followed, with praises of their general good conduct, and at twelve o'clock the National Anthem was heartily sung, and the men separated with fresh spirit to continue their work.

The Assyrian Marbles.—It is with infinite regret we have to state, says the *Literary Gazette*, that the cases of Assyrian sculpture, &c., which have reached the British Museum from Nimroud, *vid* Bombay, have suffered so much in their transit as to have greatly impaired the value of some, and utterly destroyed the usefulness and interest of others. The whole are in bad or ruined condition, and obliged to be placed at once in skilful hands to amend and restore what is possible. The drawers, generally, had been so carelessly packed with stone and glass, or vitrified substances and alabaster, mixed together, that the latter two frailer materials have been, in many instances, broken to pieces, or ground into dust. The destruction in this respect is irreparable. The ivory subjects and carved stones and inscriptions, though mutilated, are not so fatally lost; and when they are cleared of the mud and dirt in which they were found by Mr. Layard, and forwarded to England, will, we trust, lead us to a more certain knowledge of this ancient-world people and their arts and histories. We presume that several weeks must elapse before the antiquities can be in a fit state to be shown to the public. It is lamentable to think that, after having been preserved by Mother Earth for three thousand years, they should have been brought to the sight of day only to perish.

Competition. — St. Edward's, Romford.—The rebuilding of the parish church of St. Edward, Romford, will be commenced early next spring. It is to be built in the decorated style, to contain 1,100 persons, at a cost of 6,000*l.*, from the designs of Mr. Johnson, architect. The plan was selected from seven, which were submitted in competition for the decision of the committee. Sir Digby Mair, Bart., of Dagnam's Park, has offered some stained glass for the east window.

Fines Imposed by the Commissioners of Sewers.—"A Barrister" writes as follows:—"A fine is said to have been imposed by the commissioners on a Mr. Mitchell, of Beresford-street, Newington, of 50*l.* I can find no such power of fining conferred on the commissioners by the new Act, or any such amount of fine mentioned. All fines for obstruction, &c., must be imposed by justices, and there is no mention that the fine was so imposed. The commissioners may be justices of the peace, but such a proceeding in such a case would be highly irregular, not to say illegal. My attention has been particularly called to the above report, and I have been asked for an explanation, which I am wholly unable to give. If you would therefore kindly point out the power under which the commissioners have acted you will oblige me."

*** We understand the fines were imposed under the powers of certain old Sewers' Acts, now about to expire.

Sanitary Progress.—The inhabitants of Mile-end Old-town lately resolved to send a deputation to the Board of Health regarding the public nuisances at Bow-common.——At Chelmsford, the vestry committee and sub-committee are vigorously at work in cleansing the town, on peremptory notices, &c.——At March, in the Isle of Ely, some stir is being made to get completed the arching of a ditch into which great part of the off-scourings of the town are deposited——At Gosport, a sanitary committee has been appointed.——At Winchester an impatience with the inefficiency of the committee there, and a determination to place the town under the new Sanitary Act, are being expressed.——The Board of Health having given the requisite power at Worcester, notice of the most vigorous measures for removal of nuisances has been isued, and not only the council, but the city commissioners and the board of guardians are all at work. ——Inspectors have been appointed in All Saints and St. Andrews, Newcastle, and the authorities are proceeding with energy and promptitude, in serving notices to some hundreds of owners of nuisances, and other parishes are following their example.——Notices are also being issued by wholesale at Hull, by the Sanitary Committee.——The constitution of the local board of health of Edinburgh is suspected to be illegal, the general board not being empowered by the new act to delegate their authority in Edinburgh.——At Glasgow, the police are daily compelling landlords, factors, and tenants, to cleanse their dirty wynds or lanes, and courts, &c.

Gilmorehill Estate Competition, Glasgow.—The directors of the Gilmorehill company having offered premiums for the best plans for laying out their land for building, received, we are told, about 100 designs from 51 competitors. After consideration, they have awarded the first prize (30*l.*) to Mr. James Wylson, architect, Glasgow. The second (20*l.*) to Mr. Gibson, London; and the third (10*l.*) to Mr. Andrew Macfarlane, Glasgow.

Provincial.—A college is about to be erected at Harlow.——A corn store lately fell at Poole quay.——The East Sussex magistrates are about to expend 35,000*l.* in the erection of a new prison.——The public baths and washhouses of Manchester yielded, in year ending September 30, 1848, a surplus of 30*l.* after payment of rent, water, soap, gas, salaries, and other expenses.——The ordinary expenditure of the baths at Frederick-street, Liverpool, was 495*l.* 15s. 11d., while the receipts were 387*l.* 0s. 11d. At Paul-street the expenses were 973*l.* 1s. 7d., while the receipts were 690*l.* 2s. 6d. We see no notice of the amount expended in gratuitous bathing to the poor, says a local paper. If that be added to the receipts, it will be seen that the baths are not likely to be very burdensome to the corporate estate.——Nearly half the cast-iron water pipes intended to be laid as mains, in the streets of Liverpool, are stated to have burst when submitted to a proper test.

Electro-telegraphic.—A great lightning law-suit, between Morse, Kendal, and Co., and H. O'Reilly, is now being tried before the Federal Court at Frankfort, Kentucky. The case is one of the most important ever contended for in the United States. Morse, Kendall, and Co., contended for an exclusive monopoly of the principle of electro-magnetism in its application to telegraphing in the United States. O'Reilly's counsel resist the claim, asserting that a general principle like electro-magnetism cannot possibly be made the subject of a patent, even if the claimants had discovered the said general principle. Both sides have employed the ablest counsel, and no less than three telegraphs—Morse's instrument, the Columbian instrument, and the invention of Dr. Stiernhiel, of Bavaria, have been put up in the court, for the purpose of explaining telegraphic operations.—*Boston Journal.*

Examples of Ancient Pulpits.—Mr. Dollman's work on this subject is announced for publication in December. The completion of the series has been delayed till the best subjects that could be selected were obtained. The illustrations will include examples from Chester, Shrewsbury, Wolverhampton, and several interesting specimens from the counties of Gloucester, Somerset, and Devon.

Hydraulic Engines.—While pointing attention year before last (vol. iv., p. 539), and since, occasionally, to 'a new use for water works,' we ventured to anticipate that the application of hydraulic power to the ordinary business of a town would open up a wide vista through which might be traced the indefinite outline of multiform uses for such a convenient power in the sphere of domestic as well as of business life. Now, whatever may have been the peculiar obstacles in the way of the practical working and adoption of so convenient and variously useful a power, as that which runs through our ordinary water pipes we are pleased to observe not only the influence of a sustained determination in men of mechanical genius to overcome all such obstacles, whether in working or by way of prejudice or ignorance, but a re-echo of our own anticipations amongst writers most alive to future progress. An experimental engine, in the construction of which it is said that a difficulty hitherto experienced has been overcome, in the free discharge of water from the cylinder, has been made for the water company at Dundee, by Messrs. Steele and Sons, of the Lilybank Foundry there, and successfully set to work with a power equal to that of three men derived from the mere flow of a thin stream of water through an ordinary water-pipe. Neither preparation, risk, nor experience is requisite to set it a-going, the turning of a stop-cock being all that is necessary. A small machine of this kind has been set to work in a coffee-shop at Dundee, where it has been found to grind in a 'neat and efficient,' as well as economical and expeditious manner. One of the editors of *Chambers' Journal*, in describing another at Peebles, worked by the water running through a common leaden pipe, only an inch in bore, and pumping with the force of several men, remarks "How easy it would be to fit up machinery of this simple kind in cities—how inexpensive the power! A pipe of water introduced into a dwelling for domestic or other purposes might, in the first instance, be led to the top of the house, and made to turn a wheel in making its descent to the lower floors. The world has not yet awakened to hydraulics."

Compensation for Land.—On Friday week a special jury was empannelled at the Devonshire Hotel, Skipton, to assess the amount to be paid by the North-Western Railway Company to Miss Catherine Hardacre, and Mr. William Hardacre, for 2a. 0r. 24½p. of land situate in the townships of Long Preston and Hellifield. The Company had made a formal tender of 710*l.* On behalf of the claimants, Mr. T. Statter, of Bury, agent to the Earl of Derby, valued the land and damages at 1,330*l.* 5s.; Mr. G. T. Lister, of Bradford, at 1,037*l.* 17s. 0½d.; Mr. Daniel Seaton, of York, at 981*l.* 12s. 6d.; Mr. Ingram Walton, of Barrowford, at 1,283*l.* 3s. 0½d. On behalf of the Company, Mr. W. Talbot, of Burton in Kendal, the land agent to the Company, valued the land and damages at 592*l.*; Mr. Hesketh, of Penrith, at 518*l.* 12s. 8d.; Mr. J. Bradshaw, of Caton, near Lancaster, at 553*l.* 6s. 3d.; Mr. Thos. Dodds, of Newton in the Willows, at 573*l.* 18s. 6d.; Mr. W. Jackson, of Preston, at 598*l.* 5s. 3½d; Mr. W. Hutchinson, of Over Darwen, near Blackburn, at 569*l.* 13s. 9d. The undersheriff charged the jury, who then retired, and after deliberating two hours returned a verdict for 791*l.* 1s. 3d.

Institution of Mechanical Engineers.—The quarterly meeting was held at Birmingham on Wednesday week, when Mr. Robert Stephenson was elected president in place of his father, and papers by Mr. Scott Russell on their late president, by Mr. John Jones, of Bristol, "On the Adaptation of the Cambrian Engine to locomotive purposes," and by Mr. W. L. Kinmond, of Glasgow, "On the Railway Elevator," were read, and a discussion was held on Brockedon's patent India rubber joints.

Wanted.—The *Graham's Town Journal* says, "From Burgher's Dorp we have sad complaints of the want of useful mechanics. A letter before us states, 'We want a blacksmith or two, some shoemakers, tailors, a saddler, a carpenter, who could also cooper, a tinsmith, and a shopkeeper who could and would make decent candles.'"

CHARGES IN THE SEWERS COURT.—The complaint of bills of unnecessary charges, said in our report to have been made by the court against the *Poplar* district, applies to the *Tower Hamlets*.

TENDERS

For the "Ship" public-house, Wandsworth; Mr. J. A. Young, architect.

Lont	£1,150
Hayward and Nixon	1,147
Miars	1,119
Lawrance and Sons	1,085
Nicholson and Son	1,044

TO CORRESPONDENTS.

"*H. S.*"—We regretted to see the name, and will gladly bear it in mind.

"*The 19th century.*"—The printer made us misinform Subscriber" last week. The reply should have been "the 18th century ended when the year 1801 began."

Received.—"H. J." "W. S." "W. C. T." "J. D. M." "Lover of Pure Air," "Sir H. M." "Sir H. D." "J. A." "H. H." (The assessed taxes on carriages, &c., are claimed for the year after notice of discontinuance is given). "T. L." "Practical Man," "G. T." "J. C." (Shall hear from us). "R. M." "Young Reader." "W. R." (We are unable to advise). "A Young Student," (Mathematics are most desirable). "Nauticus."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCALE FOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention. WILLIAM PRIDMORE, 125, Bore-street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

TO BUILDERS AND OTHERS.

RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sink and stable traps and gratings, air bricks, close and open coal plates, scrapers, tile lights, balcony panels, harrow wheels, &c. GAS and WATER-PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, for all the usual purposes. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Bruton Manor, the new Conservatories at Chatsworth, Grosvenor Hall, &c.; also at the British Museum and Southeon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 examples of the same, forwarded, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water-Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at Yarmouth, are, that the glass tube, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the steam-pipe of the gauge, and should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly steam-tight.—To be had of G. HOWE, Portable Steam-Engine Maker, 119, Great Guildford-street, Borough; also of Messrs. FROST, NOAKES, and BENNET, Brassfounders, 105, Brick-lane, Whitechapel; price 12s. each.

COMPOSITIONS for WRITING with STEEL PENS.—STEPHENSS WRITING FLUIDS compose the most splendid and durable colours, and the most indelible composition which art can produce; they consist of a BLUE FLUID (being the brilliancy of a lapis lazuli), PATENT UNCHANGEABLE BLUE FLUIDS, remaining a deep blue colour. Two sorts are prepared, a light and dark blue. A superior BLACK INK, of the common character, but more fluid. A superior CARMINE RED, for contrast writing. A liquid ROUGH CARMINE, for artists and contrast writing, in glass bottles. A most excellent RECORD INK which writes instantly black, and cannot be washed out by oil of vitriol, or the most subtle in the prevention of frauds. A liquid MECHANICAL and ARCHITECTURAL DRAWING INK, equal to Indian ink. Marking INK, in liquid, paste, and pens, indelible even by the inventor HENRY STEPHENS, 54, Stamford-street, Blackfriars, and sold by booksellers and stationers everywhere, in bottles, at 1s., 2s., 3s., 5s., and 10s.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Footwalks, Malt houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the same price, and the work guaranteed. Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF ROAD, CITY-ROAD, N.R. Country Agents and Plans. Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c. BROWN'S Fire Proof Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c. Manufactured only by Messrs. ORSI and ARMANI. Specimens and list of prices may be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City; and at the office of "The Builder."

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward Street, Westminster Road, London. M. H. BLANCHARD, from late Coade's original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our most Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable quality of the material. Specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, busts, capitals, panelling, pannels, tiles, pavements, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances less than the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth.—A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application or a pair can be made, and sent by post, if stamps. The prices are under those advertised for inferior slates.

ENAMELLED SLATE.—Messrs. JONES having had many years' experience in manufacturing Slate, and invented improved machinery for the purpose, can offer ENAMELLED SLATE in all its branches, of superior workmanship and elegant designs, at very moderate prices, warranted in every respect equal to any manufactured in London. Plain Slab work for dairies, &c. Large assortment of best BANGOR ROOFING-SLATES constantly kept on hand, at reduced prices, to be had of Messrs. JONES, Bangor Wharf, Pimlico, and 18 Wharf, Macclesfield-street, City-road Basin.

ENAMELLED SLATE.—CAUTION!—Some discarded workmen of Mr Magnus's, having printed bills meant to mislead purchasers, and name him in the public streets imitations, which unfortunately are frequently confounded with MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them in their true light. Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles, which articles have won for him the patronage of the Architects in this country and the realm, the application and support of the first architects, and the medal of the Royal Society of Arts, deems it incumbent upon him for his own protection, and that of the public, and for the just fame of his inventions, to caution purchasers inexperienced against these imitations. The public are, therefore, requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and in future all articles of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Walderave, the Countess Wilton, Viscount Combermere, Lord Robert Grosvenor, the Bishop of London, the Bishop of Bath and Wells, the Hon. Col. Douglass Pennant, Mr. Assheton Smith, Col. Challoner, Sir J. Easthope, Sir Frances Lawley, Sir Ralph Gerard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous others of the nobility and gentry of this and other counties; by the most eminent architects and surveyors, the engineers and directors of the principal lines of railway, the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some thousands of tons annually, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Parties ordering large quantities will be allowed a considerable discount off the recently reduced price list.—Address, MAGNUS, Pimlico Slate Works.

STOKES'S ANTHRACITE FIRE BRICKS.—Engineers, Gas Companies, &c., can now be supplied with these superior Fire Bricks and Fire Clay.—Samples may be seen, and further particulars known of JOHN THOMPSON, Sole Agent, 16, Billiter-street, London.—Wharf, 43, Lower Shadwell.

FIRE BRICKS.—WARD and HART, Hondurus Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering on every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Flanders Bricks, Oven Tiles, Pan, Pitch, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c. Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 2s. 2d. per square foot; "Seconds" at 2s. 6d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any other of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GUILLIERM'S Marble Wharf, Belvidere road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.



TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.

BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate of Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Bankfield's Wharf, Longmead road, Lombard-street Waterloo-bridge, consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts of various designs, label mouldings, cornices, copings, window sills, dressings for windows and doors, mullions, jambs, sections, &c. Also roofing and paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the head of "Brickwork," in Nos. 290 and 291, of "The Builder."

UNDER BRITISH and FOREIGN LETTERS PATENT.—Capitalists are invited to inspect the secure and profitable investment in HUTCHISON and Co.'s INDURATED and IMPERVIOUS STONE, CHALK, SAND, PLASTER, WOOD and CANVAS-ROOF SHEETING WORKS. Paving in diamond cottes, supplied at Calvells Quarry, Tunbridge Wells, at 6d per foot super, perfectly compact and impervious. Other orders executed. Also à la Maladrerie, near Caen, France. Chief offices, East Temple Chambers, 3, Whitefriars-street, London, where specimens and particulars may be seen. Licenses granted also for Hutchison's patent saw frames.

PLASTER of PARIS.—Plasterers and Others can be supplied with PLASTER of PARIS, of excellent quality, delivered at Three Cranes Wharf, London, at 50s. per ton, casks included; or by sending bags, can have them filled and delivered at 43s.—Orders addressed to W. B. WILKINSON, Manufacturer, Newcastle-on-Tyne, accompanied by a remittance or a reference, will meet prompt attention.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Pannellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney Shafts, 8 ft. 6 in. Red in tables, Patera, &c., &c., 36 inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-street, Drury lane.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT. Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLADSTONE'S WARD DRAIN PIPES in hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLAKEFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth. No. 1, Ironcase Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Marsh, Tarras Bricks, Tiles, &c.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may easily be prepared for paint, or tinted in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, sashbars, and other mouldings, in its applications for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Sedgefield, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements. These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its fine adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to Nos. 283, page 491; and also Nos. 284 and 285, pages 344 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is established. This has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected in any atmosphere whatever the climate, to establish the action of frost and heat. It is not mixture for setting five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN and Company, at the Manufactory, Northfleet, Kent, and their Wharf, Fort of Southend yard, Whitehall; also of their Agent at the Dep't. 1, Back Grove, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is called to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, at all seasons and climates, and from their great economy in point and first cost, they fully the confidence reposed in them, as shewn by the numerous testimonials received from public bodies and private individuals of the first importance. Specimens and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflorence in any degree. The fine quality will incorporate with the most delicate colours; is adapted to cornice work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystalising properties, that the coarser quality, when applied to walls built or lath walls, may be immediately polished, painted, or papered; and wherever Portland cement is used, Parian Cement would be found to do. Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements whereby them to offer this invaluable cement at a considerably reduced price. It has now been before the public many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use from the greater amount of surface which it covers, the saving of time, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens, with full particulars, may be inspected at the Works, and for ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury lane, London.

PROTECTION from FIRE.—The PATENT FIRE-PROOF FLOORS and CEILINGS invented by Dr Fox are applicable to buildings of every description, and effectually prevent the ravages of fire. They at the same time destroy the pole secretly from dry rot and prevent the annoyance of vermin and insects; and though far more durable than ordinary floors they are not at all more costly.—The Flooring may be seen and further information obtained on application to the proprietors, Messrs. FOX and BARRETT, Leicester-chambers, 4, Leicester-square.

WALKER'S PATENT. — WARMING and VENTILATING WORKS, LOWER KINGSTREET, MANCHESTER.

Established for the manufacture by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been engaged for many years in an extensive practice of this art in various parts of the kingdom, and having had the most favourable opportunities of testing, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, who can undertake such works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying-rooms and stoves tested, where required, on the most approved principles. Plans and estimates generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating and warming, he solicits public notice to the following highly useful, compact, and well-tried inventions:

Walker's Patent HEAT-BOXES. Portable SELF FEEDING BOILERS improved SCREW WARMING and VENTILATING MACHINES. HOT WATER STOVES. TUBULAR and other WARM-AIR STOVES. Portable Steam-Engines of useful sizes, with cylinders of tubular boilers.

Competent workmen sent to any part of the country. Reference to numbers of public institutions, churches, nobility and gentry, architects, manufacturers, &c., throughout England, Ireland, Scotland, and Wales.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PARQUE FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to ¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, tongued to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Banksi.e, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.—T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Begs to inform his New Road near the Bricklayers Arms, SEASONED PLANK and MAHOGANY BOARDS FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every Dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panelled, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at mill prices. Very extensive Drying Sheds.

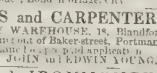


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TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantage of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
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N B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, Devonshire Square Mills, immediately adjoining the Commercial and East County Docks, Bishopsgate.—The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinking, &c., and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Office removed 2[illegible] from 28, New Broad-street to No. 31, GRACECHURCH-STREET, CITY.

The Company's Agents are Mr. WM. LANE, Timber Buildings, Manchester (late of Stockport); Messrs. RALPH & PHILIP ELLIOT, and Co., Glasgow; Messrs. CLIFFORD and BROWN, Hull.

IRON ROOFING WORKS, SOUTHWARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings from Rapple, and every other description of iron work generally. Lists of prices and estimates furnished upon application.—Office, 2, Arundel-place, London-bridge, City.

BUILDERS and CARPENTERS' IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, late front of Baker-street, Portman-square. Lists of prices may be obtained by a post application.

JOHN and EDWIN YOUNG, Proprietors.

NAILS and IRONMONGERY from BIRMINGHAM To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, on the lowest Birmingham prices, by FRED'RICK BLAYDI, Patent Iron Hand Manufacturer and General Factor, Birmingham. Lists of prices for warehousing upon application.

IRON FOUNDRY, 9, Brick-lane, Oldstreet, St. Luke's.—J. J. JONES having made great additions to his STOCK of PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Columns, Girders, Beam Screws, Iron Piling, Bronzes, Window Guards, Verandahs, Ornamental Surface Plates, Iron Staircases, Trash Encasings, Circles Panelling, Lamp and other Brackets, Counter Levers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wood Plates, &c.

BAKERS' OVEN WORK, Fire Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
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Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting often so for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soft Iron, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and shape.

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RAIN PIPES, &c.—F. A. TIDDEMAN, Perfect Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O G Gutters, Socket Pipes for Water or Gas, Branch Pipes, Sash Weights, and other Castings; Iron Work for Bakers' Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Steam, and other purposes.—Patent Tube Works, Darlaston, Staffordshire

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being more malleable, weight and strength for weight, and for many other purposes much superior to lead, tin, or any other galvanized iron now in use. This fine proof material is being used for the new Houses of Parliament, shipping, and for Public Buildings, also Her Majesty's dock yards of Deptford, Chatham, and Pembroke, and many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, rust-sealed doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the offices of the Company, No. 3, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

NOTT'S PATENT STOVES, for warming Churches, Chapels, Shops, Warehouses, &c.—Architects, Builders, and Ironmongers are informed that the manufactory is REMOVED for a short time to Great Queen-street to Messrs. BENHAM AND SONS, Wigmore-street, Cavendish-square, where there is also a large assortment of other Warm Air Stoves, and a very extensive variety of fashionable Stove Grates, Fenders, and Fire-irons.

N.B. Churches, Conservatories, and other Buildings warmed by hot water

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner BURBIDGE and HEALY, 190, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brick-work, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6 in., £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Pitch Pipe, 13s. per cwt.

Best Town Glue 38s. Do. Scotch, 42s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	9s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO ARCHITECTS, BUILDERS, &c.

REDUCED LIST of PRICES.—R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 198, Blackfriars-road, and 17, Union-street, Borough.

Strong Self-acting Kitchen Range, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
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The Builder.

No. CCCI.

SATURDAY, NOVEMBER 11, 1848.

FOR some years past we have continued to point out the absurdity of building houses *as if to burn* (as is still the case),—houses so arranged that, if once on fire, there is little chance of staying the progress of combustion — houses, with hollow timber partitions, open from the top to the bottom, formed so as to introduce the flames, in the readiest possible way, to the joists and floor boards of each story and the timbers of the roof; and with staircases a mere bundle of sticks piled up from story to story, to make failure on the part of the partitions impossible. As we said, however, in an article on the subject at the beginning of the year 1845,* "the *application* of advice and moral precepts seems little regarded; 'thou art the man' must be whispered in our ears many times before we see the personal value of the lesson. That a similar event to that of which we have deplored the consequences in the family of another may happen to us, seldom enters our mind, or leads us to adopt preventive measures." The outlay for the latter is certain, though small; the danger, though great, is supposed to be doubtful, and the majority are willing to depend on the doubt.

In the volume from which we have quoted will be found a number of articles on the subject, urging the importance of rendering houses fire-proof as far as possible; rehearsing some of the principal plans which have at different times been proposed, and recording various suggestions forwarded to us by correspondents. It is to be regretted, that up to this time little or no improvement has taken place; repetition of the demand for proper precautions in the construction of buildings to prevent fire,—the neglect of which, indeed, amounts to positive *sin*,—continues therefore to be needful; but we venture to think arrangements are dawning which will conduce to a profitable change.

In the latter part of the last century Lord Stanhope (then Lord Mahon) proposed a plan to prevent fire, the main point in which was, filling the intervals between the joists that support the floor, with a rough plaster, laid on short pieces of lath, placed close together in a contrary direction to the joists,—in other words, "pugging" the floor, but with more care and completeness than is now usually done, with the intention only of preventing the passage of sound. Omitting mention of various unimportant projects, Mons. Louis Leconte, in 1841, with the same object in view, suggested an entire change in the mode of building, and obtained a patent for his plan. He proposed the use of frames, formed of cast-iron plates, set one upon another, in a substantial manner, to obtain the required height, and filled in with *concrete*. The main beams and cross beams of floor and roofs were to be of cast-iron, or iron and wood, having in the intervals between the beams iron rods, running in various directions, and supporting a metallic wire-work, as a foundation for the ceiling.

Others have proposed coating the underside of the joists with a mixture of alum, blacklead, clay, and lime, and covering them above with tiles, carefully jointed and bedded all round into the plastering of the walls,—contending, and with justice, that such a floor would long resist the action of flames.

Our esteemed friend, Mr. Loudon, whose memory we hold in sincere respect, saw clearly, what must be apparent to all who have thought upon the matter, that the two main points for consideration are to have incombustible staircases, and to avoid having any hollow partitions or floors.* He suggested, that when the partition could not be made entirely of brick, or brick-nogging, the interstices might be filled up with mortar prepared of clay, with a small proportion of lime. The same material, he said, might be filled in between the joists, and where it was desired to render the roof fire-proof, the rafters might be made of iron, or the space between wooden rafters might be filled in with this mortar. To render houses already built comparatively fire-proof, he suggested that all the interstices in the floors, partitions, and roofs might be filled in with an earthy powder, consisting of clay or loam mixed with a small proportion of Roman cement. That this should be injected by some description of pump or bellows which, while it forced in the powder, would permit the escape of air; and, while this was going on, that steam should be injected at the same time, so as to mix with the powder and be condensed by it; by which means the whole mass would be solidified with a minimum of moisture. "In short," says he again, "in rendering houses fire-proof, the next important object to using fire-proof materials is, that of having all the walls and partitions, and even the steps of wooden staircases, filled in with such materials as will render them in effect solid."

On examining into the causes of the rapidity of the spread of the flames in London houses when on fire, it will almost invariably be found, that, whatever may have occasioned the fire to break out, the rapidity of its progress has been in proportion to the greater or less extent of the lath and plaster partitions, the hollow wooden floors, and the wooden staircases. Were the occupiers of houses sufficiently aware of the danger from lath and plaster partitions, especially when they enclose staircases, they would never occupy such houses, or if they did, they would not give such rents for them, as they would for houses with bricknogging partitions.

Mr. Loudon goes on to say,—"Any building might be rendered completely fire-proof by avoiding the use of timber in everything except fittings-up and finishing. The floors might be formed of flat tiles and cement, and covered with ornamental tiles; or flooring may be made of composition, and polished in imitation of scagliola or artificial marble. The roofs might be made flat, and covered in a manner already described; and the outer walls might be tied together in all directions by wrought-iron rods made fast to stone bond as broad as the wall is thick,—the stone cramped or dovetailed together, and carried completely around the walls about the level of the centre of each floor. The netting or lattice-work of iron rods connected with this chain of stone bond, being thickly embedded in cement, and cased with strata of flat tiles, would be kept from extremes of temperature throughout the year,—so that the difference in their contraction and expansion, during summer and winter, would be of no practical importance. Every floor of a house thus formed would be, in effect, a single flag-stone; and as the iron rods would be prevented from oxidizing, it would probably last for ages. It is easy to conceive the skeleton of an entire house thus constructed,—the perpendicular supports being brick or stone piers, 3, 4, or 6 feet apart; the horizontal bond on these supports, of flag-stone of the width of the intended thickness of the wall or partitions; and all the horizontal floors or vertical panels of iron rods and wires, covered on one or both sides with plain tiles coated with cement. Even the staircases might be so constructed and covered."

In the beginning of 1845, Lieut. Higginson took out a patent for a system of construction wherein iron was substituted for wood. The system was this:—The joists of cast or rolled iron, T shaped, had at each end of any required length a dovetail projection, all of one size, fitting into flanched mortices on the iron girders and bonding sockets. The iron girders, of proportionate strength, were likewise ⊥ shaped, but reversed, having flanched dovetail mortices cast on each side of them, 1 foot or 18 inches apart, as necessary to receive the dovetail ends of the joists. The iron bonding sockets were of the size and shape of a brick, cut off angularly before, cone shaped, cast hollow; in the shorter side having a like dovetail mortice, to receive the joists. The short iron trimmer joists compassed the chimneys in the usual manner, fitting by dovetail ends into mortices cast on the principal trimmer, at one end, and into the bonding sockets built into the house wall beside the chimneys, at the other. The usual arch in support of the hearth being provided for by iron bearing-pieces, fitting in mortices between the short trimmer joists, with an iron plate to uphold the bed of mortar under the hearth-stone. The wells, or openings for staircases, were formed by iron trimmers, cast with dovetail mortices on them, to receive the joists. Additional means of support were to be provided, when requisite, by iron pillars, with a screw in the centre of the lower end, fitting into a screw socket, drilled into the trimmer beneath,—a tenon, or projecting piece, at the upper end of the pillar, entering a recess cast or drilled to receive it, in the trimmer of the floor above. Bressummers for shop fronts, gateways, or other purposes, were to be cast with the mortices for the joists inside, and trussing spans, to support great weights of superstructure, were likewise, when requisite, to be annexed.*

The inventor, however, got into difficulties, and the patent has not been worked.

Mr. Hosking, in his very useful "Guide to the proper Regulation of Buildings in Towns,"† has a chapter on the means of rendering buildings free from liability to take fire and burn, wherein he dwells at some length on the points above stated by Mr. Loudon, urging the abandonment of timber partitions, the importance of fire-proof stairs, and of ceilings sufficiently sound to defend the timbers from the flames. "Our in-door plastering upon laths is, for the most part, of the most fragile kind, and the slightest weight falling upon the back of a ceiling will too often make a breach through it; whilst our floors are commonly of deal laid upon fir joists, and are exposed to the action of fire from below, directly the lathed and plastered ceiling

* Vol. III. p. 265.

* "Encyclopædia of Cottage and Villa Architecture," p. 865.

* A fuller account of the system will be found in our third volume, p. 77.

† Murray, Albemarle-street.

has failed; if, indeed, the enemy be not led up, and introduced to, the joists under the flooring boards by the hollow lathed and plastered quartering partitions. In the timber enclosures and partitions which economy induces the Paris builder to introduce as substitutes for walls, the timber is so embedded in, and made part of a solid concrete, as to be protected from almost every casualty of which it is susceptible, and the building is insured against almost every possible chance of danger from its failure."

The mode adopted in France of forming partitions of stone rubble and plaster, and of constructing their ceilings, as described by Mr. Hosking, we quoted in our notice of the "Guide," and may be referred to by such of our readers as do not possess the book,—although they will do better by at once obtaining it.

In the second section of the same chapter Mr. Hosking, after speaking of the common practice of forming fire-proof floors by the use of cast-iron girders and flat arches in brickwork turned between them, describes a mode of forming a floor proof against fire, without the sacrifice of height entailed by the use of arches, or the fear of their thrust, which requires to be restrained by wrought iron tie rods. He says,—

"Let the binders be made of the full depth of the girders, opening them between the top and bottom flanges, not to waste metal. Form an open floor of slight cast-iron batten-like bars about three inches wide and three-eighths of an inch thick, and having their ends turned up and out to form a shoulder and a bearing lip, by which the bars may rest upon the lower flanges of the binders, and bring their own under-faces slightly below the level of the soffits of the girders and binders, and laid fully their own width apart. Raise a boarded table or platform, like a large mortar-board, up nearly to the under side of this open iron floor, and give it temporary support, adjusting its upper face at an inch and a quarter, or thereabouts, below the soffits of the girders and binders, and about an inch clear from the under-sides of the bar-battens, having first strewed a little dry sand over the surface of the board to prevent mortar from sticking to it, as a brickmaker does to his mould in moulding bricks. Then fill in from above to a thickness of not less than three inches from the top of the board with mortar, gauged with plaster so that it may set without waste of time. The mortar should be made to pass in under the whole of the ironwork—girders, binders, and bar-battens—and to cover these last and the flanges of the girders and binders to the same depth as the surface of the board is below their soffits, and so indeed as to form one uninterrupted slab of about three inches in thickness to the extent in area of the board of plaster-composition as a ceiling to the story below, hung up to the girders and binders by the open iron bar-battens which are incorporated with the slab of plaster-composition by the process."

The floor above is to be made of plain tiles, laid in two, three, or four thicknesses, having reference to the bearing from binder to binder.

Now, the last patent that has been taken out, having for its object to give security to buildings from the effects of fire, known as "Dr. Fox's fire-proof patent," and which is being carried out by Messrs. Fox and Barrett, is for a similar combination of materials as that described by Mr. Hosking, but differently arranged, and owing nothing to that suggestion (it is right to say), Dr. Fox having applied his system fifteen years ago in the construction of an extensive lunatic asylum known as "Northwoods," near Bristol. The system may be thus described. Small cast-iron joists are used of the ⊥ shape reversed, larger in the centre than at the ends, having 6 inches bearing on the walls, and placed 18 inches apart for floors, and 22 inches apart for roofs. In the spaces between the joists, and resting on the bottom flange of the joists are placed in a contrary direction to the way in which the joists lie, strips of wood about an inch-and-a-half square and half-an-inch apart, serving at once as the ordinary ceiling laths, and to carry the floor which is formed as follows:—A coat of rough mortar, about one inch thick above the laths, is laid on the top of these, of such a consistence that it may be pressed through the interstices and form a key for the ceiling underneath, which is afterwards laid on in the ordinary manner. Upon this first coat of mortar is laid a coat of pugging formed of road scrapings or refuse rubbish from the building, mixed with an eighth or tenth part of lime and passed through a pug mill.* This is laid in, the whole depth of the joists, as a solid foundation to receive either a facing of lime and sand in certain proportions, coated with linseed oil, or a flooring of wood or stone. It thus forms a solid mass perfectly fire-proof, and, according to the calculations of the patentees, *the cost does not exceed that of the ordinary mode of construction with timber*. For roofs indeed, they assert that it is considerably cheaper than the common plan. Moreover, the expense of insurance is avoided, as well as injury from dry rot; and protection from vermin and insects is obtained.

In order to afford precise data, we will give the dimensions of the iron joists used in two of the rooms at "Northwoods," put up fifteen years ago. In one, where the bearing is 18 feet the joists are 3 inches deep at each end, increasing to 5½ inches in the middle, and tapering from ¾ to ⅝ of an inch at top in thickness. The bottom flange is 2½ inches wide and ⅞ths of an inch thick, included in the depth already given of the joist. The average weight of iron is 15½ lbs. per foot. In another room, where the bearing is 10 feet, the depth of the joist is 2½ inches at each end, and 3¼ inches in the centre; the thickness ⅝ths to ½ an inch. The width of the flange is 1¾ inch, and its depth ¾ inch. And the average weight of iron 8¾ lbs. per foot.

We have not seen "Northwoods," but with a curious coincidence, only a few days ago, we received a communication from Mr. J. C. Christopher, one of the Metropolitan District Surveyors, testifying to the success of the system in this building, which he had accidentally visited. He says there is not a crack in any of the ceilings, that the house is warm and dry, and that the only repairs ever needed are performed *by the gardener*. The walls are not thicker than for an ordinary construction.

A large landing has recently been formed by this mode at the Middlesex Hospital, and we understand that it is to be employed to a considerable extent in the new Lunatic Asylum which is being erected for the same county, at Colney Hatch.

It is scarcely necessary now to insist on the dangerous consequences of making use of cast-iron beams of wide span, without intermediate supports, unless the beams are very large or protected from the effect of the flames should fire occur. When suddenly cooled with water the beams snap, and columns of the same material are liable to yield as well as break under the same circumstances. Under the system to which we have been referring, there would be little fear in this respect; for lar spans, however, the patentees do not seem to have arranged their plans.

With reference to the use of iron for g ders, we may mention, that Messrs. Mare a Co., the builders of the tubular bridge ov the Menai Straits, are now making *wrought-ir* box girders and beams, which are likely to found useful. For spans of 50 or 60 feet, which extent these box girders are being a plied, cast-iron could scarcely be trusted.

Again and again we protest against absurdity of constructing buildings as if for express purpose of readily burning, and ur on the other hand, the importance of adopti every practicable precaution to render the fire-proof, and the sin against society whi the neglect of these precautions involves.

George Godwin.

* Where lime is readily procured, the refuse lime and ashes from the kiln may be substituted with advantage, forming a species of concrete.

THE ELECTRIC LIGHT.

When we mentioned Messrs. Staite a Petrie's electrical light three weeks ago, the report of others, and what the patentu proposed to effect by it, we remarked tha they could thus produce a *steady and sustain* light, they had accomplished what had here fore been the preventive to the substitution galvanism for gas. Since then we have attend a private exhibition of the invention, and hea what Mr. Staite had to say upon the subj himself. The claims made for it are of an traordinary nature,—power of producing light equal to that of 10,000 wax candles fr one *square inch* only of illuminating surface, perfect safety, the light not being the result combustion,—no possibility of explosion, light equal to 100 wax candles for one pen per hour,—that it is self acting, and univ sally applicable. Of the truth of much of th if certain difficulties are or can be overcom there is little doubt, but we are not in a positi yet to say that this is the case. We have seen in the lecture-room the brilliant li which may be obtained by electricity,— difficulty was to produce this permanently a economically, and that this has yet be effected, we do not think satisfactory proof v afforded at the exhibition in questi For various purposes the light was extinguish every eight or ten minutes during the evenin and there seemed to be a necessity for adju ment, and for changing the carbon at the po of the circuit, of which nothing was said the inventor's address. We do not raise t doubt in a captious spirit, or with any des to underrate the invention: when all that asserted in this case can be effected, an i mense advance will have been made in t science of lighting—a science yet in its infan We fear, however, that this is scarcely a "fi accomplished" yet, and for the sake of after ventors it is desirable that the public shou not be led into a contrary belief, and findi themselves hereafter disappointed, thus induced to throw cold water on what may co next. The invention is a very important o and we shall be glad when we can record c conviction that Messrs. Staite and Petrie ha overcome all difficulties.

Had other journals been less unanimous, might have been less reserved.

Sanitary Progress.—East Cowes likely to have the benefit of the Health A and the inhabitants are therefore looking fo ward to the establishment not only of a prop system of sewerage, but of water and g street repair, &c., all under their own contr ——A committee has been formed at Abd gavenny for carrying out the provisions of t Health Act.——Fire-engines, scavengers, an other agencies are at work in Leith and Edi burgh, cleansing wynds and closes; and every town and village in the neighbourhoo such as Newhaven, Portobello, Dalkeith, G merton, the authorities are astir, and nuisanc are being rooted out.——*With the conjoi liberal use of neutralizing deodorizers*, mortali and disease cannot but be thus vastly dim nished, even in spite of cholera.

THE THRALDOM OF MODERN ART.

Sir,—As your correspondent "Amateur" still remains unconvinced that the study and purchase of old paintings and sculptures are prejudicial to progress, we attempt finally to put our arguments into as concise a form as possible, hoping, should they be just, to prompt a resolve in the minds of some of your numerous readers to discourage by all means in their power a taste based on no criterion but habit, and an expenditure of wealth at once unwise and unjust.

The artist and the public are overawed by the spectral monster of antiquity which has been evoked. Is the present race a race of pigmies? have men over the space of two or three thousand years shrunk in stature? has the intellect become feeble? Modern science gloriously refutes such notions: what was the strength of Hercules and all the Grecian athletæ, compared with the gigantic powers of modern times, which wrestle with the storm? or the mysteries of the Pythagoreans, compared with the simple truths by which the mariner traverses the desert of waters? In the arts alone, let it be said with shame, have modern times cringed like cowards to antiquity.

The question that deserves the most earnest consideration is this—What criterion have we that the highest excellence has been attained in Greek and Italian art? The unqualified approbation of successive ages since their production is no positive evidence, for numerous fallacies have passed current through generations, exploding at length under the influence of those minds which accept nothing as golden truth till carefully assayed in the furnace of the understanding:—such intellects cannot rest satisfied till the premises have been diligently examined, on which their opinions are based. It may at first excite wonder that fallacies should remain so long unchallenged, unrefuted,—yet surprise abates when we reflect on the powers which education and habit have to aid and perpetuate almost any absurdity to the prejudice of reason, and of common sense. Consider what the system of education has been, and even now too often is—the communication of results rather than reasons, teaching the scholar merely to assert opinions, without giving him at the same time any criterion by which to test their truth: it is, in fact, only knowledge on "hear-say." If there is any one department of education in which this bad system prevails more than another, it is in art. Ancient examples are abundantly placed before the artist and the public; they are exhorted to believe in them; vision receives them as assertions of grandeur, beauty, and perfection; a rational perception of the truth or falsehood of the assertions is not possessed by the master, much less by the scholar, least of all by the public, which obtains its notions indirectly. With all, the admiration of ancient art is more the admiration of habit and fashion than of appreciation: when a clear and rational perception is possessed that it is not the *neplus ultra*, then will it be rivalled, for every artist must have felt that it is not difficult to execute when his aim and knowledge are precise; it is not so difficult to do as to know what to do: to know what to do is the experience which is most valuable, and it is precisely on this point that the relics of ancient art are dumb. We cannot see nature with other eyes than our own: if the spectacles of the old masters be placed before healthy eyes vision will be impaired; their constant use at last compelled. To possess the experience of others is doubtless a great boon; this can be acquired in two ways,—by oral tradition or written precept: the former is more to be desired, for books cannot answer all interrogations: there is, however, an experience self-earned more valuable than either. Phidias had a greater than Phidias to instruct him.

It may be urged by some, that the criterion of judgment is innate and spontaneous, but this is contradicted by our every-day experience. Men have to be accustomed, drilled into the admiration of ancient art. We are told that old pictures, old sculpture, old architecture, ought to be placed before the public till it be impossible to avoid them: it is said by these means it will be taught to appreciate; this we doubt: it will conform to surrounding influences, to which it will become accustomed by habit. This would equally be the result if Hindoo, Egyptian, or Chinese were substituted for Greek and mediæval art.

If there is any authority on which the public might be tempted to rely, from which it might be induced to take its opinions on trust more than any other, it would be the artist. He is, however, under the control of the same law of habit which reconciles nature to that which at first appears repugnant and totally foreign to it.

Italian art is not so far removed from the present age, but that the painter may, by the dint of study, force himself to mock the condition of mind of which it was the offspring. Still, this condition of mind is but an imitation, and the result of working under such influence—this assumed condition—is worse than imitation. The faith of the nineteenth is very different from the fourteenth and fifteenth centuries: we speak especially of England. It is far more difficult, however, if not impossible, for the artist, at this distance of time, to assimilate with Greek feeling, Greek habits of thought. He acknowledges Grecian art to be still a mystery, yet he blindly worships it, and continually exhorts others to do the same. It must be evident, then, that he will never be able to work in the same vein until it ceases to be mysterious; never will he be certain of its excellence till he possesses some other criterion than itself, whereby he may decide whether the tendency of Greek art is worthy of pursuit.

The more immediate evil of expending money on the productions of a past age is this, that it limits the purchase of modern works. If the sum of fifty or sixty thousand pounds,* disbursed for this purpose, had been spent in commissioning artists, partly in instructing the public on the principles of art, can there be a doubt in any mind as to which would have been the most effective in its results, as regards the promotion of taste and development of the painter, sculptor, and architect? If thirty artists are brought into the field of competition, there is the probability in favour of more talent being compassed in that thirty than in the ten or twenty which existed previously; and an increased demand would certainly have the tendency to increase the number of the profession.

In conclusion, we would urge our fellow students to doubt all their opinions, to dissolve the covenant which they have entered into with prejudice to protect them; leave opinion alone to stand or fall in the contest with reason,—if strong, it will be stronger in victory; if weak, it will die conquered, and will soon be forgotten.

W. C. Thomas.

FALL OF A SUGAR-HOUSE IN GLASGOW.

The cause of the failure of the sugar-store between Alston-street and Hope-street, Glasgow, by which at least thirteen men have lost their lives and many have been injured, seems still a matter of great doubt. As nearly as we can ascertain, the sugar-house must have been about forty-five years old. About thirteen years ago a builder was employed by the proprietor to support the joisting and beams, as they had shewn symptoms of giving way. The property was then secured by means of red pine pillars, taken up alongside the original supports, and on these, beams were thrown across, upon which the floors rested. The sugar-house remained in this state till about the year 1843, when, whether from an extension of business, requiring additional weight to be placed upon the floors, or whether from the decay of the timbers (which in such premises may be rendered less durable by the extreme heat employed in the manufacture), it was considered necessary to renew the principal part of the carpenter's work in the building. At that time the whole interior part of the building was taken out, when new beams and joisting, supported by strong iron pillars, were fitted up. In fact, the greater part of the building, with the exception of the four external walls, was renewed.

The Lord Provost has stated that there is no truth in the report that the building had been condemned eight years ago: on the contrary, he believed the proprietors, up to Saturday night, were under the impression that the building was in a more secure state than what it had been in for a long time previous. He also stated that the weight in the house was, he understood, much less than usual—about 50 tons, he believed; and so confident were the proprietors of the safety of their premises, that they were in the process, should the business have gone on as usual, of taking in a great many tons additional.

We have instituted a private inquiry into the matter, with the hope of obtaining for our readers some useful information.

* We believe we are considerably under-estimating the total amount of sales of old pictures this year.

THE ARCHITECTURAL MONUMENTS OF INDIA.

It is much to be desired that a faithful account of the architectural monuments of India should be obtained. Such things have been little cared for or thought of there, but we have indications that a better feeling is growing up. The *Delhi Gazette*, in the course of an article on the subject, mentions as one instance of this, that the paper on the "Ancient Buddhist Architecture of India," read by Mr. James Fergusson, before the Institute of Architects, last session, has been reprinted from our pages, in the Indian *Pic-nic Magazine*.

The Archæological Society of Delhi have recently passed the following resolution:—

"That a recommendation be submitted to the Government of India, to add to the survey of the district of Delhi, about to be instituted, a commission, to consist of a competent archæologist, and a draughtsman of acknowledged acquirements, to examine the whole of the ancient buildings, sites, inscriptions, &c., at present in existence in the southern pergunnah of Delhi; and that, if the results of the labours of the commission be such as to warrant their extension, other parts of the Upper Provinces be examined in a similar manner."

The *Delhi Gazette* observes upon this:—

"While Rajpootana has its Tod, Guzrat its Wathen, while Cunningham, Ellis, and others have described the ruins of Malwa, Bundelkund, &c., and even distant Affghanistan has been ransacked of its antiquarian stores by H. H. Wilson and another Cunningham still more indefatigable, Delhi, that should have been the first to attract attention, has remained almost a blank, and the exquisite and singular specimens of its architecture, its several Hindoo and numerous Mahomedan monuments, its inscriptions, &c., are all but unknown, in the antiquarian sense of the word, though they have for many years been objects of wonder to the traveller in search of the curious; but even he can only see and admire them frequently, without knowing what they really are. It is still a matter of dispute with some even at Delhi, and with cotemporary writers, whether the Kootub Meenar is a Mahomedan or Hindoo structure; the sites of the fourteen or fifteen towns of Delhi, Seeree, Kelokeree, Jehanpunnah, Feerozabad, Togluk-abad, Mahomdabad, &c. &c., that have followed each other in such rapid succession, are, with one or two exceptions, almost wholly unexplored; the numerous tombs of the great men who figured in the annals of by-gone years, are seen without our knowing precisely whose memory they are really intended to commemorate, and the splendid works, planned to fertilize the surrounding country, and defend its salient points, are as a sealed book, merely because we have not taken the trouble to open it as we might have done long since."

"We have already deeply to lament, in the past archæological history of India, the irretrievable loss of many objects of very great antiquarian interest, that have been allowed to perish entirely, or to deteriorate so much as to be hardly available for the purposes of the minute researches now proposed. We may here take the opportunity of alluding in particular to those splendid architectural remains around the Kootub Meenar, which, had they formerly received that attention they were so justly entitled to, would not now be in a state verging on absolute ruin, and of adding that, if nothing be done to preserve at least the memory of those that still exist, they, too, will disappear from the scene of their grandeur, without a record of their existence beyond the passing, and very frequently fanciful, sketches that the curiosity or admiration of travellers have induced them to commit hastily to paper.

Other important architectural monuments have also been allowed to decay, and no useful record of them has been kept; while many valuable works of art have been broken up for the materials of which they are composed (we allude particularly to what we cannot but call the barbarisms of the utilitarian Lord W. Bentinck, at Agra), and coins and other articles of gold and silver that might, if preserved, have proved of inestimable value, have been thrown into the melting-pot, unnoticed and undescribed."

The known liberality of the Hon. the Court of Directors, and the fact that the Madras Government have, under their orders, deputed a qualified officer to examine the Cave Temples of the Dekkan, induce a hope that the Supreme Government will not receive with indifference the appeal the society have resolved on making. We would suggest that the two London Archæological Societies might aid in obtaining what the Delhi society very properly ask, by addressing a brief memorial to the Indian Government.

THE IMPROVEMENT OF LONDON.

Sir,—So little has been heard of late about the improvements of the British metropolis, that it seems as if they were destined to follow the fate of our commerce, trade, and railways, in a similar impolitic and panic-struck suspension. Speculation has been put down, and with it the most legitimate commerce, and yet there is plenty of wealth in England for all purposes; so that if the monied classes would rouse the sleepy faculties of their patriotism, the most noble plans of improvement might be carried out, and full employment afforded the people. With your permission I would beg to suggest, through the medium of "The Builder," an improvement in one of our principal streets, and the opening of a new thoroughfare in another quarter of the town.

The first relates to Pall Mall. I hear it is reported that Mr. Pennethorne recommends the erection of a new National Gallery on the site of Cleveland-row, St. James's, and to raise the present building in Trafalgar-square a story, and make it fit for what it was originally intended, viz., the *atélier* of the Royal Academy of Painting. I do not pretend to be a competent judge of the eligibility of the proposed site for a National Gallery, but should the plan be adopted by Government, what I wish to recommend is, that the front of the new building should be set back so as to stand in a line with the north side of Pall Mall (which is really a fine-looking street with a very ill-looking western termination), and then make an opening into the Green-park, and remove the marble arch from Buckingham Palace to that site, which, I humbly think, would be a very appropriate one, in more respects than one, and afford a beautiful vista down the whole length of Pall Mall.

My second relates to the opening of a new thoroughfare, by forming a wide carriage-road in a straight line from near the west end of Old-street to the east end of Theobald's-road, *viâ* Liquorpond-street, the two termini of which, you will find on reference to a map of London, are exactly in a line. Should this plan involve the necessity of a viaduct over the valley, to which I can see no objection, two brick arches, at moderate cost, would be sufficient, and the rest of the hollow on each side might be filled up with earth. Much of the picturesqueness of Edinburgh is owing to its numerous viaducts.

No one can imagine, who does not reside in a north-east suburb as I do, how truly useful such a carriage thoroughfare would be, how round-about a drive it would save, and what an economising of time it would effect. Many a time I have been from one to two hours getting to High Holborn, having to stem the stoppages and shocks in the defile of Cheapside, the halts and "go-on's" in Newgate-street, and the falling of horses and breaking of legs at Holborn-hill; and what is almost as bad as witnessing the sufferings of these noble animals, is the provoking loss of time which you are compelled to bear, like poor Job, while being danced this long round to Holborn, at the same time that you know that an omnibus could do the distance in half an hour well, by a straight line of road, if it existed.

The property that would be required for opening this line consists, with few exceptions, of very old small houses, and there are no public buildings in the way. This new thoroughfare is urgently required by a population of many thousands spread over West Hackney, Kingsland, Stoke Newington, and Beauvoir Town, &c. It was hoped that it would have been effected by some railway company or other, several years ago; but if the Government waits for that consummation, I fear it will wait in vain, for there is not the most distant probability of such an event.

A Wiltshireman.

WANT OF HABITATIONS FOR THE WORKING CLASSES.

Sir,—The observations with which you prefaced your remarks on the "Lumsden Model Dwellings for the Working Classes," lately erected in Glasgow, are so much to the point, as regards our requirements for the people of England, that I almost deem any observations of mine superfluous, more especially when your correspondent's letter, signed "J. E. D.," is also considered. However, I trust you will permit me to make a few remarks on this all-important matter. Within the last few years much has been accomplished to remedy the sanitary condition of this metropolis and our large towns, both by the local and other authorities, yet much more remains to be done; and one of the principal considerations, next to a proper drainage, is the habitations of the middle and working classes of society. Government, by enactments and other measures, of course, can compel local boards to remedy the former, but not so the latter, which is entirely a matter of private enterprise and speculation. England, above all other nations, is proverbial for her industrious and speculative spirit, not to mention her advance in other respects; and when we come to consider her vast wealth, and the numerous ways in which it is invested in all parts of the globe, we cannot forbear exclaiming,—this is indeed a wonderful people!

But, in the midst of all this propagating industry, why is it that our monied men have hitherto never thought of investing a portion of their wealth in the erection of habitations for the working man? Surely this would be as safe a field for their capital as the Pennsylvanian funds, or the erection of splendid mansions and fancy dwellings for the noble and wealthy, which (if I may be allowed the expression) have sprung into existence within the last five years in this mighty city, and which at this moment are, I am sorry to say, but very partially inhabited. Many are still in the condition as left by the workmen, either more or less incomplete. There they stand, monuments of industry as far as regards rapidity of erection goes, but, on the other hand, sad spectacles of man's cupidity, want of foresight, and folly. The projectors, it would almost seem, were desirous that the rich man should be puzzled how to choose from amongst so many. I have no hesitation in saying, if the capital now lying dormant in empty houses had been applied in the erection of model dwellings for the middle and working classes, that the capitalist would be realising at this day a good per centage for his outlay, not to mention the unspeakable benefits he would have been conferring on his less fortunate brethren.

Perhaps, Sir, you may deem me somewhat tedious in thus adverting so fully to the man of money, but it is this individual class alone that we must look to for bettering the homes of our hard-working population: with them rests either to increase or decrease our bills of mortality. My wish, Sir, is, that they may be convinced that there is no risk attached to bringing about this happy change, for doubts on this head have hitherto been the great bugbear. I say this, not from mere theoretical deductions, but from my own personal knowledge and experience.

I have given this matter much consideration, and been induced—repeatedly induced—to call the attention of various parties to the safety of such an investment, and the great good which would arise from it: none for a moment have denied the existing necessities for such a change, but the invariable answer has been—I fear such a scheme would n pay; ground-rents are high and taxes equal so, not to mention the trouble incident to the collecting the rents, &c. &c. No Sir, I think you will hold with me that this very fallacious reasoning; the truth is (I fea that it is one thing to project for a poor bu honest man, and another for the rich, howev questionable his integrity may be; I say th with all due respect, trusting not be misun derstood.

As regards the two first objects, ground rents are certainly high in many parts of th metropolis, but plenty of sites are to be ha on reasonable terms, and as the calculation are only for what the building covers, let the be a higher elevation, as in Edinburgh an Paris: to such an arrangement surely the can be no objections. Touching the taxe of course they vary almost in every parish, bu in some they are low; however, I beg t submit that even with taxes and altogethe they would realize a good per centage. As t the trouble of collecting the rents, this objec tion requires no reply: I presume there exis no difficulty in appointing a person for that pu pose if the owner or owners deem it necessar As to the plans for such buildings, I find I hav already trespassed so much that I will leav the subject for some future occasion. M present object being to draw the attention o the capitalist, which I trust, with your power ful aid, may result in much good, I fe assured, as far as you are concerned, thi nothing will be wanting.

In 1844, the proprietors of the Docks an other public works at Birkenhead found necessary to erect model dwellings for thei workmen (the arrangements of which are ex cellent), and I believe they have answere exceedingly well; let, therefore, such as the and Mr. Lumsden do their duty in th respect, and I feel assured that association will be formed, the shares of which will be come good stock. W. S.

THE VALUE AND POWER OF ART.

We admire true art, on account of its en nobling tendency. It has its origin in prin ciples which, founded in the constitution o our nature, are the foundation of excellence It would not be a difficult, though a very in teresting task, from the varied and honoure labours of the artist, to shew that success de mands, on his part, the exercise of the highes mental faculties. Real art proclaims, wit eloquence, its intrinsic dignity. How often for instance, do the stately monuments which her genius have reared force themselves o our regard, rivetting our attention, and com manding our admiration, even when men ar intently occupied in the bustling transaction and exciting pursuits of life! When th appeals of art are so powerful, it would b idle to say anything in vindication of it character, were it not that there are creature upon whose minds they seem to make n impression, and who rudely pass them by, o only cast upon them a look of cold indiffer ence. To write, however, on subjects of art is to eulogise them, and is, at the same time to give a history of the good they hav effected; but this has been from time imme morial felt and acknowledged by all person who have a claim upon us from their keer sensibility to beauty, and their lofty eleva tion of intellect. To the poet they have eve afforded a congenial and favourite theme,—t the wealthy, an opportunity of gratifying thei own taste in encouraging talent; nor ha posterity ever forgotten those artists whos services and beautiful emanations have throwr such a glory over their vocation, but hav recorded their names on the roll of fame, a benefactors to their race.

There is no reader of that remarkabl poem, the "Iliad," but must remembe the frequent allusions which Homer make to the works of the skilled Sidonian artists and cunning artificers; with what warm sympathy, but, at the same time with what propriety, he introduces descriptions of various instruments of war — royal and sacerdotal vestments, curiously woven — thi shield of the hero Achilles; with works o larger construction—architectural fabrics, such as in after ages were conceived by a Palladi

or by a Sir Christopher Wren. He considers all these as growing under the superintending eye and inspiration of personified divinity—he it Minerva or Pallas;—their beauty and contrivance, and the transcendancy of their invention being referred to a superior Power, who strengthened the artists' energies. Moreover, he reminds us how the workmanship added immeasurably to the value of the material, by the superiority of mind over matter. In objects of fictile manufacture, where the finer and more delicate skill of the hands was visible, the splendid vase is praised, not because its material is costly, but because it is "figur'd with art that dignified the gold," and reflected "the image of a master-mind." We witness, in all this, a most consummate taste and judgment. So Ovid, in the opening of his glowing description of Phæton:—

"Regia Solis erat sublimibus alta columnis,
Clara micante auro, flammasque imitante pyropo;
Cujus ebur nitidum fastigia summa tegebat:
Argenti bifores radiabant luminæ valvæ.
Materiem superabat opus."

The bard of the "Iliad" says, the inventor of these elegant arts was a wise man, and that he must have acted from precepts delivered to him by Minerva. Thus:—

"The work
'Twas a wise artist fram'd, his wisdom taught
By precepts from Minerva."

F. Lush.

THE FOUR-O'CLOCK MOVEMENT.

Sir,—Observing in your valuable publication of the 28th of October a letter from Mr. Wm. Jenkins, Secretary to "The Masons of London Protection Society;" and knowing your willingness on all occasions to give publicity to any matter likely to be productive of real good to the employers and employed connected with the building business, I am induced to take the liberty of addressing a few remarks in reference to the four-o'clock movement.

I am but a young man, though during my short career have had much experience among workmen, having been engaged in works of considerable importance, and am fully convinced that "the four-o'clock movement" works badly, both for masters and men. I have generally in my employ from thirty to forty hands, and up to the present time have not been applied to by my men to adopt the four-o'clock system, which I can, in some measure, account for from their knowing my feeling in the matter, and moreover I am satisfied that affairs of this kind depend principally on the foreman of the establishment.

When the obnoxious system was first mooted, a meeting of the members of "the Builders' Society" was called together at the Freemasons' Tavern, Great Queen-street, when the gentlemen who first countenanced its adoption were present, one of whom, by the by, has, I believe, ceased to become a competing builder, and builds now only for himself. That gentleman (if I am correctly informed) stated at that meeting that he should put the deficiency caused by the mechanics striking work at four o'clock on Saturdays on the purchase of his several houses. So far so good; but pray may I ask in what way can the less favoured tradesmen of the metropolis make up for so gross an imposition on the part of the mechanic?

Is it possible, in times like the present, that a master who adopts this measure can be put fairly into competition with another who has (that which in all conscience he is justly entitled to) the full benefit of his men's labour on the Saturday as on other days? For instance, every mechanic employed in establishments where the plan, or rather privilege, is granted, receives 9d., and every labourer about 6d. over and above that for which they work—consequently a master employing one or two hundred hands, and being compelled to accede to its adoption, would fall very far short of the balance he ought to be able to shew at the end of the year. If quitting work at four o'clock on the Saturday really was, in the least, beneficial to the workman, or at all consistent with common sense or justice, I should be one of the first to promote its general adoption, but one glance at the public-houses in the immediate neighbourhood of the pay-table of builders who allow it, will soon convince an observer to the contrary.

I therefore do hope those gentlemen builders who first gave way to the demand, now they can plainly see the bad working of such a measure, will reconsider the matter, and not allow the little builders of the metropolis to be crushed by such oppression, notwithstanding they themselves are by good fortune placed beyond its lash.

A Young Builder.

PROTECTION OF PILES IN SEA-WATER, AND OF TIMBER FROM ANTS.

Sir,—In your last monthly part I perceive two letters, headed "Protection of Piles in Sea-water," and both recommendatory of iron clout nails; the last of the two, signed "W. B.," adding that timber prepared with Payne's process had effectually withstood the *torredo navalis* and the white ant of India. It would be difficult to give proof of this.

Iron clout or broad-headed nails lose their heads when rusted; and I have seen timber which had been covered with such, but which, when taken up, was quite destroyed. Copper nails are preferable, but more expensive. Some foreigners use sheet lead nailed on to piles, and wrapped close round with tarred rope, well tarred. For wharfing I have known sheet-iron fastened with zinc-headed nails resist the action of the sea-water (by tide) for ten years; whilst iron, fastened with iron, lasted only in the same situation two or three years. But my main object in addressing you is to refer to Payne's process as considered proof against the white ants.

In September, 1847, Mr. John Bourne, formerly of the East-Indian Railway, took out with him to Calcutta specimens of wood prepared according to Burnett's, to Margery's, to Bethell's, and Payne's two processes. The specimens consisted of larch, fir, birch, beech, ash, and teak, and he intended to have submitted them to the test of the white ant himself. Circumstances, however, induced him to return to England in February last, and before leaving he placed them at my disposal. I immediately went to the Howrah Dock, and deposited them in various places. Some specimens I put in the damp, and others in the dry, but all in ants'-nests. I also had others nailed on to the dock wharf to ascertain the action of the worm.

In July last (therefore only about an interval of five months) I revisited the spot, and examined the specimens. Those placed in damp situations were all more or less destroyed, some nearly eaten up, and but two sufficiently remaining to be recognised. No solution appeared to offer any superior advantage. Those placed in the dry, on the contrary, were untouched, while pieces of unprepared wood placed with them had been destroyed.

The pieces nailed on to the wharf were also undestroyed. The time, however, had been too short to enable any decided opinion to be formed; and as I was obliged to quit India in July, I left the experiments to be continued by Mr. Bremner, of the Docks. The subject is one deserving the attention of the East-India Company; and there are many experiments connected both with this subject and others which might be undertaken at but little cost, and which would prove very valuable in the event of any works (such as railway bridges, &c.) being executed. I have not troubled you with any details—but such have been properly kept.

Geo. B. W. Jackson.

Maida Hill, Nov. 6, 1848.

P.S. It should also be borne in mind that the white ants of Calcutta are nothing in size to those of the upper provinces.

A Fatal Explosion has just occurred in a pit near Whitehaven, leased by the Haematite Mining Company, in consequence of the folly and rashness of one or other of the workmen, who had taken off the top of his safety-lamp to light his pipe, and thus sacrificed not only his own life but the lives of other twenty-nine, men and children, being the whole number employed in the mine, with one exception. Why not lock the lamps, and have the keys in the hands of some one responsible party?

NOTES IN THE PROVINCES.

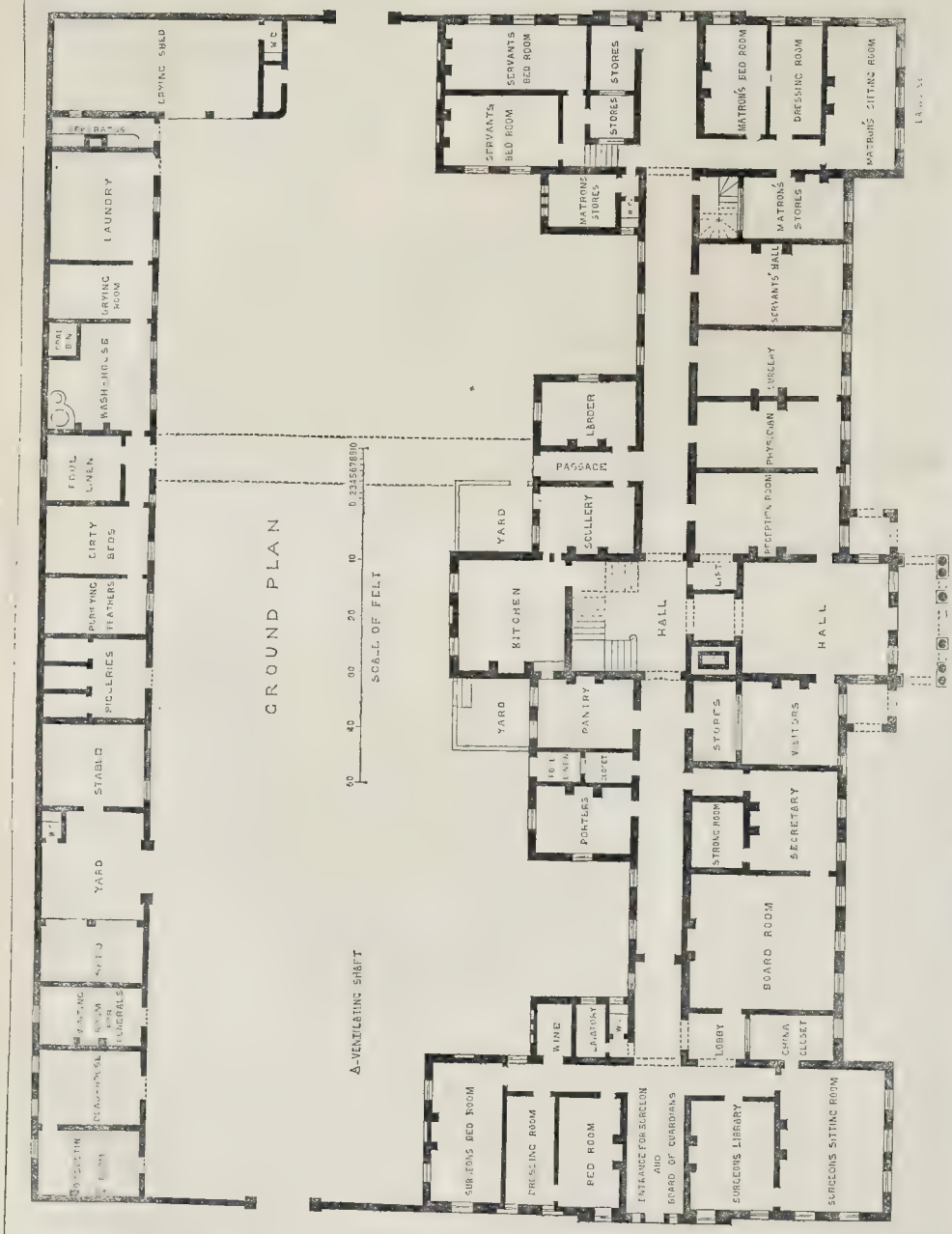
There is to be a competition, it is said, for plans for the new county lunatic asylum at Brentwood. A contemporary understands that eleven architects are already prepared to compete.——The Bedford prisons, as they progress, appear to be yielding a goodly crop of local criticism, at the expense of the architect; but we gather very little of the real substantial merits of the question from the leafy luxuriance of trees of knowledge which yield far more flowers of rhetoric than solid tangible fruits, whether ripe or unripe, sour or mellow.——H. R. H. Prince Albert has signified his intention of laying the first stone of the new Philanthropic Farm School about to be established near Barnet. ——A new church of stone, from designs by Messrs. Hamilton and Saunders, of Wolverhampton, architects, is shortly to be founded at Oker-hill, Tipton.——One of the Liverpool council has "very satisfactorily shewn that, deducting 400*l.* which the late Harrington Company had charged the Paul-street bath in that town for the supply of water, that institution was self-supporting. Twenty thousand persons had bathed there gratuitously last year; and he expressed a hope that salt-water baths for a shilling each would be given to the public at the George's Pier. The baths at that place had cost 39,560*l.*, and they were now only paying an annual rent of 210*l.*, something like one-half per cent., whereas, by a different system of management, they might be made self-supporting."—— Christ Church, Great Homer-street, Liverpool, was consecrated on Monday week.——The nave of Hereford Cathedral, according to the local *Times*, will shortly be refitted for the resumption of daily prayers.——The same authority states that the ancient structure at Hereford, known as the White Cross, built by Bishop Charlton, in the early part of the fifteenth century, has been carefully repaired during the past week, at least as far as regards the flight of seven steps upon which the stalk of the cross is elevated. These steps were very much worn in many places, and threatened to give way, and destroy the whole of this interesting relic of antiquity. The expense of repair has been defrayed by the Rev. Canon Lord Saye and Sele.——At a recent vestry meeting at Leominster attention was drawn to the state of the great west window of the church, which the surveyor had reported to be in a very dangerous state, and at least requiring repair estimated at 320*l.*, if not complete renewal. Plans for a new window had been made by order of a previous committee, and tenders advertised for; but the vestry determined on further inquiries before coming to any final decision on the subject.

WESTMINSTER DISTRICT SURVEYORSHIP.

An adjourned meeting of the Middlesex magistrates was held on the 20th ultimo, at Westminster, Mr. Pownall in the chair; for the purpose of electing a surveyor for the district of St. Margaret and St. John the Evangelist, Westminster, under the Metropolitan Buildings Act. Originally there were four candidates for the appointment, viz., Mr. Jas. Howell, Mr. George L. Taylor, Mr. W. F. East, and Mr. F. H. Groves; but the three latter resigned in favour of Mr. Howell, who has for some time discharged the duties of the office as the deputy of the late Mr. Pilkington, who had held it for sixty-four years.

On the motion of Mr. France, seconded by Captain Bague, Mr. Howell was unanimously elected, and was doubtless gratified by the complimentary observations which the chairman addressed to him at the close of the business.

Gutta Percha.—A correspondent at Singapore says:—"The price of gutta percha has greatly varied since my arrival here: at one time it was speculated on like opium; it was shortly after my arrival at 21 dollars to 22 dollars, it is now to be purchased from 9 dollars to 10 dollars per picul of 133⅓ pounds. They make wash-hand basins and water jugs of it here, also buckets, riding whips, &c.: it is an excellent material for ships' use, it not being breakable."



THE NEW SMALL-POX AND VACCINATION HOSPITAL, HIGHGATE.

SMALL-POX AND VACCINATION HOSPITAL.*

Above we now give the ground plan of the new Small-pox Hospital, an external view of which appeared in our last number. The arrangements will be found to be very good, and well deserving the study of those who may contemplate designing similar structures.

The scale will serve for the plan of the one-pair story given last week.

* See p. 534, *ante*.

PROPOSED CENOTAPH IN MEMORY OF LORD GEORGE BENTINCK.

Mr. G. P. Kennedy, architect, has published a design for a cenotaph, to be erected by subscription, to the memory of Lord George Bentinck. It is in the shape of a building of considerable pretence and extent, which forms on the plan a Latin cross, the three arms at the head consisting of projecting pavilions, one story high only, to contain emblematical groups representing the agricultural, commercial, and colonial interests. The body of the building, a parallelogram at the intersection of the cross, is taken up two stories, and the central portion has a third story, crowned with a dome, beneath which is to stand a colossal statue of his lordship. The style, to use Mr. Kennedy's own words, is to be "Highly *rusticated* Italian," and the cost, including statues, is estimated at 15,000*l*. The composition is harmonious, pyramidizing nicely in all points of view, and the plan a very pretty one.

THE BASILICA OF ST. BONIFACE, MUNICH.



THE BASILICA OF ST. BONIFACE, IN MUNICH.

The basilica of St. Boniface, commenced by order of the King of Bavaria in 1835, under the direction of the architect Ziebland, is now finished. It is in the Byzantine, or Roman-Christian style of architecture, and is the result of many years' study on the part of the architect.

We are indebted to the kindness of the editor of the *Art-Journal* for the accompanying views of it, internal and external, and we obtain from his pages the following descriptive particulars :—

The height to the apex of the gable is 80 feet. The upper story has three windows in front, and nineteen on each side, and below there is a portico with three doorways in front. This portico, the eight columns of which bear nine arches, is the only ornament of the exterior, if you except the lesines and the little arches below the cornice. The whole building is of red brick-work; but the columns are of sand-stone, the capitals and bases of white marble. The design of the capitals is new, but in harmony with the later Corinthian forms of the fifth and sixth centuries. In unison with the style of the above period, and with the character of the German Basilicas, is the arrangement of the arcades above the columns; and hence we find this system pursued throughout. Four large steps lead up to the portico, and three doorways into the church, the middle of which is semicircular, while the others are rectangular. The principal doorway is adorned with two marble statues of the Apostles Peter and Paul, by Schönlaub, both well composed draped figures, standing on short and thick columns, below which two baldachins bear the semicircular arch of the doorway; producing, however, the writer says, a very bad effect. The doors are of oak, and decorated with the sculptured figures of the patriarchs and prophets.



In opposition to the very simple exterior, the interior of the church is ornate and splendid. The full length is 300 feet, the breadth 120, the height 80 feet. The whole interior is divided into five naves by sixty-four columns of grizzled marble, with capitals and bases of white marble, united by arcades; there is no transept; the pavement is ornamented by well-composed mosaic; the ceiling is not vaulted, and the rafters are visible; but all the wood and iron are decorated, painted, and gilt, and the roof itself, covered with golden stars on an azure ground, appears as the open firmament. All the walls, from top to bottom, are covered with paintings and ornaments, and yet the effect of the whole edifice is said to convey tranquillity.

The absis is decorated in fresco by H. Hess, as are the walls of the nave,—the paintings on which include illustrations of the history of the propagation of Christianity and of the life of St. Boniface.

RAILWAY JOTTINGS.

The London and North-Western, the Great Western, and the London and South-Western Companies have advertised their intention to apply to Parliament in the ensuing session for power to amalgamate, alter tolls, and amend their Acts.——An 'Observer' in the *Morning Herald* states that it has been estimated that railways have effected a saving of 12,000,000*l.* annually on the traffic of the country, although

they comprehend as yet but a fraction relatively of the whole traffic of trade. Among other items of traffic he states that of building-stone to be not one-tenth of what is requisite for even a fourth part of the surface, "and whereas stone might be brought up to the metropolis at one penny per ton per mile by the London and North-Western and Great Western Railways, little is so brought, though there is a great wish to have public buildings of stone instead of brick."——It is said that the solicitor's bill of the South-Eastern contained 10,000 folios, occupied twelve months in taxation before the master, and amounted to 240,000*l*.——Messrs. Chaloner and Fleming, of Liverpool, in alluding to the difficulties attendant on the transmission of wood goods to the interior by rail or canal, remark that, "with a fostering anxiety to promote the traffic by both rail and canal, such as exists from the *east* coast to the interior, this port would be enabled to supply an almost inexhaustible traffic by both, and, as regards the produce of America, would be as remarkable for its distribution of wood goods as it is now for cotton. Apply the same skill to the goods traffic that the passenger traffic has had shewn to it, and a continued, almost uninterrupted stream, would flow into the manufacturing districts, to be thence distributed over the network of rails that is spreading itself throughout the kingdom."——While two joiners, last week, were at work on the premises of a cabinet-maker at Hull, near the railway station, three bricklayers being at same time on the roof, repairing damage occasioned by fire, a railway tender came right through the walls, and knocked down a stack of chimneys and the east and west walls of four rooms.——It is alleged, in a compensation case lately to be tried at Shipley, that the Leeds and Bradford Railway Company, in seeking a foundation for their line across a certain portion of the Bingley bog, have forced the wet and boggy earth beneath the floor of the claimant's mill, thereby not only throwing it out of level and impairing the foundation, but making the floor so wet and damp that the machinery is injured by rust and mould, and the floor rendered unfit to stand upon, and also that the high embankment raised against the weaving-room window had shut out the light, rendering the room unavailable, except as a warehouse. The deterioration of the value of the property from these causes was estimated at 1,500*l*.——On Tuesday week, says an Edinburgh paper, "while a number of workmen were engaged on the line of railway, near New Learmouth, in erecting centres for the bridge across a deep glen, in a moment the whole of the huge framework gave way, burying beneath it five of the workmen, all of whom were very much injured. The unfortunate circumstance, according to report, is ascribed to carelessness, which we believe to be the cause of almost all the railway accidents so frequently occurring both in this and other neighbourhoods."

SALE OF THE REGENT-STREET QUADRANT COLUMNS.

At the sale on the 7th inst., the assembled company appeared to be composed of brokers and dealers chiefly; some of whom, with little respect for poor Nash, declared that the "very handsome columns" were excellently good for a workhouse, while others talked good-humouredly about chimney ornaments, or turning them into "Roman-Doric" drains, but no one seemed inclined to start in the competition for their possession. The auctioneer stated that the columns each cost thirty-five guineas,—and, beginning at ten, he gradually reduced the price to four guineas, at which bidding commenced. A few were sold to private individuals at 7*l*. 10s. each, but the remainder are on hand, and may doubtlessly be obtained by any who desire them. They weigh 35 cwt. 18 lbs. each.

Improvement of the Serpentine.—The *Lancet* suggests that the bottom of the Serpentine should be so filled up and covered with gravel and concrete as to shallow gradually from 12 feet in the middle, and thus the cleansing process be rendered merely a sweeping of the concrete floor or bed.

FRESCOES AND OTHER DECORATIONS IN ITALY.

At a meeting of the Decorative Art Society, held some time since, a paper by Mr. Edward Cooper was read, treating of the frescoes and mosaics inspected by him during a recent journey through Italy.

The introduction embraced a review of some researches in the history of art, as disproving the supposed invention of painting, and its revival by Cimabue, as claimed for him by Vasari and other writers. This was followed by comments upon the productions of certain Greek and Roman artists antecedent to the Christian era, and then those of mediæval artists down to works of the fifteenth and sixteenth centuries. The remarks had reference to those frescoes only which the writer had the opportunity of inspecting, and their tenour had been regulated simply by his first impressions, and noted at that time. A fresco called the "Nozze Aldrobrandini," now in the Vatican, representing the marriage of Peleus and Thetis, in size about 6 feet long and 3 feet high, and found in the year 1606, in some ruins formerly belonging to the golden house of Nero, was described as particularly worthy of attention; a pure Greek feeling, it was remarked, pervades this work—a view supported by the elegance of the distribution and attitudes of the figures, and the perfect drawing and colouring throughout. The colours for the most part were said to be secondary, and of light tints, so as to bear a resemblance in character to a water-colour sketch. N. Poussin, who copied this work in oil, it was said lost much of the beauty and simplicity, by filling in the back ground with deep colours, whereas, in the fresco, the figures were painted upon the lime. The picture is in the Corsini Palace, at Rome. The decorative works from Pompeii, Herculaneum, the baths of Titus, and others preserved in the Vatican, were then alluded to, some as displaying considerable merit in their execution. They consist chiefly of small fanciful figures, which have been placed as centres to panels, &c., but it was added that the decorative paintings from Pompeii are mostly of but second rate ability. The mosaics by the Romans were adverted to, for the purpose of introducing a parallel whereby the state of the arts might be thus regarded. That found in the house of the Faun, at Pompeii, which measures about 24 feet by 14 feet, exhibits a representation of the battle between Alexander the Great and Darius, King of Persia, and is composed of small irregular fragments of marble of about $\frac{3}{16}$ inch in size, the colouring being good, the drawing and foreshortening spirited, the horses full of fire, and establishing a proof of great artistic powers of expression at the commencement of the Christian era. The decline of Roman power and influence being accompanied by a decadence of art, as shewn in the curious mosaics in the crypt of St. Peter's at Rome, it was contended that the arts were probably practised for the most part by Byzantine artists until the time of Cimabue. The frescoes of the Campo Santo were referred to as among the most interesting of any now to be found in Italy; the oldest having been executed towards the close of the thirteenth century, and the others at intervals during the two following centuries. These present in themselves a fair page of history, shewing the progress of the arts. Giotto Andrea, Orcagna, Taddeo Gaddi, and others have been employed upon some of them. It was remarked that the subjects are scriptural; the scenes, however, have been laid in Pisa, or its neighbourhood, and the costumes and personages are transcripts from those existing at the time the works were completed. In reflecting upon this period, which immediately preceded the productions of these great masters of the fifteenth and sixteenth centuries, the writer said he felt more fully the difficulty of drawing the line between high and decorative art, and he remarked that if the paintings in the loggie of the Vatican, and numerous similar works, should be classed as decorative art, still, in these instances, the human figure will be found drawn in every possible attitude, with the greatest artistic ability, while the works of Michelangelo in the Sistine Chapel are claimed by others as belonging to high art. He was therefore inclined to consider all art that tends to the ornamentation of an edifice, as decorative art, whether produced by Michelangelo, Raffaelle, Cellini, or any other great genius that could be mentioned. The works in the Sistine Chapel were then described. The building was commenced by Pope Sixtus the 4th, A.D. 1473; and Signorelli, Cosimo Roselli, Perugino, and Ghirlandajo each contributed to the decoration of the upper portion of the walls. In 1508, Michelangelo proceeded to decorate the enormous vaulted ceiling, 150 feet in length and 50 feet in breadth, with upwards of 200 figures, representing the fall and redemption of man: the details of the subjects were described at length. They were said to have been executed by Michelangelo in twenty months; and the Last Judgment, subsequently finished, is an immense work, occupying the whole of the east end of the chapel. In these productions Michelangelo has displayed the most wonderful skill in drawing the human figure, and representing it under every variety of foreshortening and position.

The "Last Judgment" the writer however contended, is deficient in elegance, and somewhat feeble in sentiment, and he considered it to be chiefly remarkable for the great ability shewn in depicting the human figure under every conceivable contortion.

Mr. Cooper then referred to, and described the frescoes in the camera of the Vatican, by Raffaelle, as especially enchanting from the harmony of colour and composition which pervades them throughout. Raffaelle was employed ten years in painting these, and a difference in quality between the first and last composition became evident on careful examination. The later work, it was stated, shews that he had then caught a *little* of the vigour of Michelangelo, such as is more particularly evinced in the fresco representing the "Fire in the Borgia." The frescoes in the loggia, or corridor, being next in point of time of execution, were next noticed. The subjects are scriptural, and generally known as Raffaelle's bible. It was remarked that the arabesque and other ornamental portions were probably painted by pupils, each designing the compartment upon which he had been employed.

Many of them are very beautiful inventions, whilst others display a comparative paucity of design, thus supporting this view. The writer added that his preconceived opinion that Raffaelle had derived much of this style of composition from seeing the Roman decorations of the baths of Titus was strengthened on inspection, and he felt that, amidst the vast variety of design and fancy, shown in the camera, and also in the loggia, there is a want of harmony in the general effect, and also of unity of purpose. He then referred to many incongruities in the choice of subject, and in the size of objects there brought together, and maintained that such peculiarities are less obvious in the works of the ancients, as well as that they are avoided, in a great measure, in subsequent works, by Raffaelle's pupils. The terms Arabesque and Raffaellesque having been freely used in his remarks, he observed, that the former is misapplied, in as far as its strict meaning is concerned; for it would appear that the Arab, never had adopted this kind of decoration. The Italians term this style Grotesques from the place or subterraneous caves, in which the examples were found that led to its revival.

Reference was then made to palaces in Genoa, which are all more or less decorated with paintings within and without. The architecture being of a picturesque and florid Roman character, the details, and the manner in which they are treated, formed matter for description. One method alluded to as effective, and very durable, consisted in the etching or scratching away the upper surface of lime, and displaying beneath a lime of a brown or darker colour than that on the surface. The entrance-halls, he said, have usually ceilings painted with historical subjects, and Raffaellesque enrichments, which are often continued through staircases and chief apartments. They date chiefly from about 1530, and were the works of Raffaelle's pupils.

Perino del Vaga decorated the Dorian palace in an admirable manner, which was described at length, as conducing to a rich, glowing, and harmonious result, and displaying much excellent drawing and treatment. This palace is, however, now unfurnished and unoccupied.

The decorations in this instance, it was added, are upon red, blue, and black-coloured grounds alternating, while another distinct class is elsewhere produced by painting on the lime itself, and this leaving a light or white ground, as at the Ducal Palace at Florence. Each style, it was contended, possesses advantages, the white ground being recommended for entrance halls and corridors, and the richer full-toned grounds, as harmonising better with the force, tone, and character of fully furnished apartments.

Ecclesiastical examples of fresco painting were also referred to. Those in the Church of the Annunciation at Genoa were mentioned as the richest examples he had met with: other frescoes in the villa Farnescina, and those in the Palazzo Farnese by A. Caracci, were also commented upon. The paper concluded by setting forth that in Italy we now find many copyists and mannerists, but no great painters; the artists of the present day appearing to restrict their efforts to copying the best works of the old masters.

New Books.

The History of Ireland from the earliest Period of the Irish Annals to the Rebellion of 1848. By Thomas Wright, M.A., F.S.A., &c. London: J. and F. Tallis. Parts I., II., and III.

Mr. Wright is so well known by his antiquarian attainments and his published works illustrative of British History, that his name on the title page of this book is sufficient assurance that it will be a careful and able work. With a large amount of learning, Mr. Wright has great industry, and may be relied on for the most pains-taking research and careful collation. Coming at the present moment, when the agitated state of Ireland and the circumstances affecting her prosperity are objects of interest to the whole empire, this history can scarcely fail to command attention, and to ensure that large sale which can alone remunerate its proprietors.

In the first part, the antiquities of Ireland are glanced at, and will, we trust, receive further development from the author as the work proceeds. He is speaking of the earliest period of Irish history, and says—

"The monuments of the earlier inhabitants that remain, confirm in general the statements of the Roman historians, that they resembled the Britons in habits and manners. Their mode of burial seems to have been precisely the same, and this, combined with other circumstances, leads us to suppose that the religious rites of the people of the two islands bore a very close resemblance. In Ireland as in Britain, the graves—the only constructions of the aboriginal inhabitants which have remained entire—consisted of a rough chamber or chambers of unhewn stones, covered with a lofty mound of earth or stones, the base of which was often surrounded with a circle of larger stones. In the central chamber or cist, the body was laid in full dress, accompanied with personal ornaments, weapons, or other articles, or if cremation had preceded the burial, the bones were placed in an urn, and similar articles were strewed on the floor. These monuments are of frequent occurrence in Ireland as well as in England, and they are often of enormous magnitude, as in the case of that of Newgrange, near Drogheda, in the county of Meath, and of two others in its immediate neighbourhood. It is far from improbable that Stonehenge, in England, was designed for an enormous sepulchral monument. In the numerous instances where the mound has, in the course of ages, been cleared away, and nothing but the central chamber and the external circle of stones is left standing, the former has received the name of a cromlech, and the latter that of a Druidical circle; and antiquaries who trusted more to their imagination than to a careful comparison of facts, thought they had been temples and altars.

In one respect, the contents of the sepulchres of the ancient Irish seem to contradict the Roman authorities, inasmuch as they apparently testify a higher degree of cultivation than in Britain. In most cases, the Irish urns are better made and much more richly ornamented than the British urns. The personal ornaments are more numerous and of greater intrinsic value, and articles of gold are far more abundant. Their forms and ornamentation are, however, similar in character; and we have other proofs that gold was found in Ireland in great abundance at a remote period."

The work is to be illustrated by Mr. Henry Warren, the president of the New Water Colour Society. Some of the prints already given are scarcely up to the mark, but this we must attribute to the engraver rather than to the artist, whose skill and power are admitted by all.

Incitements to Studies of Steam and the Steam-Engine. By W. Templeton., R.N., Woolwich. Silverlock, Wardrobe-terrace, Doctors'-commons.

This is a pocket *brochure* of thirty-eight pages, containing, in the shape of question and answer, facts pertaining to steam and the steam-engine, a knowledge of which the British Government demand as necessary qualifications for engineers in the naval service. We suppose there are few holding such responsible situations who do not know all that this little book teaches: still it may be found a useful prompter.

We give one question and its answer as a sample:—

"*What is the difference of the temperatures relative to the production of steam at equal densities, from those of fresh and sea waters individually?*

Sea water naturally holds in solution $\frac{1}{33}$rd. its weight of salt, which becomes gradually augmented by evaporation; each grade as approaching to saturation requiring a higher degree of temperature in attaining the boiling point;—thus, at $\frac{2}{33}$rds of saturation, the boiling point is 214·4° Fah.; at $\frac{3}{33}$rds. it is 215·5°; and at $\frac{4}{33}$rds., beyond which grade of saturation the water in a steam or marine boiler ought never to be allowed to exceed, the boiling point is elevated to 216·7°; hence, to find the degree of temperature at which steam of a given density would be obtained from salt water equal to that from fresh water, the excess of temperature due to the saltness of the water must be added; thus,

Suppose the temperature to produce steam at 12 lbs. per square inch, from fresh water, be 245·1° Fah., the temperature to produce the same from water holding $\frac{4}{33}$rds. its weight of salt will be 245·1 + 4·7 = 249·8° Fah., 4·7 being the difference between 212° and 216·7."

The Practical Contractors' and Builders' Pocket Guide. 2nd Edit. Trelawny and Saunders, Charing-cross. 1848.

This is a useful collection of tables and calculations in a compendious form, which many will find a valuable pocket companion. No. 22 shews what quantity of brickwork is contained in any culvert, from 9 inches in diameter and 4½ inches thick, to 6 feet in diameter and 18 inches thick, and the number of bricks required for one lineal yard: No. 48 shews the quantity of cube feet in one square of roofing, flooring, common framing, or quarter partition, according to various scantling: No. 49 shews the value of masonry and brickwork in cube yards, and reduced, from 1s. 4d. per foot to 5s. per foot cube. And these will serve to give a notion of the character of the tables.

The Works at the New Houses of Parliament.—In reply to several inquirers we are obliged to say,—it is too true that a large number of men have been discharged from these works. Where there were about 1,000 employed, there will now be not more than 500; and after Christmas a further reduction is threatened. What makes this short-sighted policy worse is,—that many of those who have been discharged are picked men, trained to the sort of work in hand, and not easily to be replaced hereafter.

Plan of Mooltan.—With that promptitude which characterises Mr. Wyld's publications, he has already issued a sketch of the fortifications of Mooltan, which will serve effectually to make known the site of the late disastrous outbreak in India.

Miscellanea.

The Marble Arch at Buckingham Palace.—Sir: Various sites have been suggested for the marble arch at Buckingham Palace, on its removal from its present position, —amongst others, that it should be placed at the end of the gravel walk in Kensington Gardens. Now it appears to me, that a more suitable site might be found for it than those already proposed. My plan is this, to place it at the present southern extremity of the broad walk in the Regent's-park (the termination of the park on that side), and to lengthen out the broad walk to Portland-place. The arch in this position would form at once an imposing object from Portland-place, and a noble entrance to the park. If it be contended that the extension of the broad walk as proposed by me, would destroy too much of the gardens in Park-square and Park-crescent, at least the trees and shrubs might be removed, and a grass plat, of the same width as the broad walk, be laid down in a continuous line with the walk to Portland-place: thus the vista along the latter to the arch would be uninterrupted, and the area of the gardens undiminished. Another good situation for the arch might be made by continuing the mall in St. James's-park, in a straight line to Charing-cross, and placing the arch at that end of the mall. On this site the arch would still be preserved as the entrance to Buckingham-palace, and the now circuitous and objectionable route to the palace under the building of the Horse Guards avoided. As this plan, however, would involve a heavy expenditure in the demolition of houses, and the purchase of their sites, perhaps the situation first suggested by me would be the preferable of the two. Alpha.

Art and Religion.—In the course of a lecture on the Relation of Literature and Art to Religion, delivered by Mr. G. Dawson last week, at the Whittington Club (Strand), the lecturer said he would not give much for any painting that did not express much more than was exhibited on the canvass, nor for the artist who did not aim at the accomplishment of so valuable an achievement. He wished that our artists would, like the immortal Michelangelo, aim to achieve what was comely and beautiful, rather than what was simply useful. Nature, which in a wise man was a method, was to him everything. He was not a "bread" artist—he did not paint, as some of our artists (from necessity) paint, for the market; he was an artist of the soul, and painted from and true to nature. The lecturer then proceeded to shew that art, as exhibited in painting and music, had been torn, in a manner, from religion, between which and it there was a divine association, and said they wished to know now whether it was possible so to re-unite them as to make them auxiliary to each other. To effect this, what were they to do? In these Protestant days they were rather out of tune with art. True, they had several new churches in course of building; but their great error was trying to invoke the antique spirit of church architecture. He wished they would throw more soul into them. They were unable to go on, or to appreciate art without a "guide," and if modern art did not go a little more forward, it would sink into a state of rheumatic frigidity. They should go forward then with spirit, and not attempt to warm up old art. He needs not dress in Cato's toga in order to have Cato's soul. Let them, he should say, be bold men of to-day, and if they agreed to have a saint, let it be a saint of to-day.

The Western Literary Institution is pursuing usefully a course commenced in a former session,—that of bringing before its members illustrations of new manufacturing processes, &c., in addition to stock lecture subjects. The magnetic telegraph; locomotives; processes for preserving timber, and Drayton's process for silvering glass, have been amongst them. A notice of the Aneroid barometer is to be given on the 20th.

Projected Works.—Advertisements have been issued for tenders—by 18th instant for works required in fitting-up gallery of lecture theatre for Birkbeck School, London Mechanics' Institution; by 15th, for the erection of a work-shed at the workhouse, Hampstead; by 1st proximo, for locomotive stores for the Midland Railway Company.

THE METROPOLITAN SEWAGE MANURE COMPANY held their usual general meeting at their offices, 7, Waterloo-place, Pall Mall, on 7th inst., when reports of directors, engineer, and auditors, statement of accounts, &c., were read. The reports announced the progress of the company to be sound and encouraging, the engineer's more particularly detailing the state of the works as now so far forward that, with the engine and other apparatus set to work, a series of satisfactory experiments had been gone into, and 300 tons of sewage water lifted per hour. A distribution of pipes for a district of 700 acres was announced. On a motion being made that the report of the directors be received and adopted, and be printed and circulated among the shareholders should the directors see fit, a long and somewhat stormy discussion arose, mainly on the subject and merits of a protest by Mr. Smith of Deanston (as we understood) and three other gentlemen, against the proceedings of the directors in the matter in dispute with the Sewers Commissioners, during which it was elicited that not only had the dispute in question been settled, but a boon had been granted by the commissioners, for fifteen months, to which it appeared the company had no legal title by their Act, namely, liberty to take sewage water from the opening of the Counters 'Creek Sewer into the Kensington Canal; that the liberty to do so enabled the directors to be going on with something profitable in place of resting on their oars, as they must otherwise do till the new scheme of general sewage to be gone into by the Commissioners of Sewers should be carried out; that the sewage water thus granted them, though not sewage properly speaking, was much stronger than many were led to conceive, each gallon yielding, near low water, no less than sixty-one grains of matter, not that in mere suspension, but in full solution, while the strongest quality of the sewage in the King's College pond sewer yielded but 80 grains, and the average only 46 grains; that the canal water itself yielded 36 grains, and was therefore double the strength of Thames water; and that as to the legality of the directors' proceedings and their dispute with the Sewers Commissioners, it was already their intention to call a special general meeting, in which a detail of these would be entered into with the shareholders. The motion was ultimately carried, in the face of more than one amendment, by a majority of 15 to 1. The minutes of the previous meeting were then read and confirmed, and other resolutions were put and carried before the meeting separated. In course of the proceedings it was stated that the Company now comprised about 160 shareholders, exclusive of the directory.

THE STATE OF THE LONDON SQUARES.—My dear Builder,—Do you ever walk through Russell or Bloomsbury or Brunswick or Mecklenburgh squares? If so, you must have observed at this time of the year a fearful amount of decaying vegetation in the shape of dead leaves, covering the area of the ornamental grounds of these squares. What can the inhabitants be about? In my way to the city, I pass two or three of these fashionable muck-heaps, and I have observed no clearance of the leaves for *fourteen days*. Given, the amount of dead leaves on an average of eight acres well moistened by the rains of this variable season; required, the amount of pestiferous malaria engendered for the especial benefit of the denizens of these aristocratic piles of building. Do launch an anathema against this bad example of apathy and dirtiness shown to the poorer classes by those who should be foremost in the race of cleanliness and decency—or a side blow in a corner—some of your '*fulmina secunda*'—would perhaps suffice to wake the sleepy souls, and I shall not be either compelled to wander out of my way down the New-road, or lose myself in the classic purlieus of Drury-lane or Clare-market. A.

MEETING OF SOCIETIES.—The Royal Society and the Society of Antiquaries will commence their session on Thursday next, the 16th inst. The Institute of Architects will hold their first meeting on Monday, the 20th. The Architectural Association will have a meeting on the 17th. The Manchester Athenæum *soirée* will be held on the 16th, when Lord Mahon will preside.

BLIND BUILDERS—RETURN OF THE DISORDER.—Tenders for additions to two houses in Dean-street, Fetter-lane; Mr. King, architect.

Madgin	£244
Hawke	225
Passmore (accepted)	172

For rebuilding the public-house known as the Black Dog, Shoe-lane.

Messrs. I'Anson	£1,396
Paul	1,332
Messrs. Arding	1,310
Starkey	1,291
Messrs. Locke and Nesham	1,290
Brake	1,240
Parkyn	977

For new shed and other works at the Grosvenor Canal Basin; Mr. Cundy, architect.

Nowell	£215	0	0
Fitzpatrick	209	0	0
Stoner	183	0	0
Lloyd	177	0	0
George	176	10	0
Bennett	174	0	0
Newman	173	10	0
Walker and Soper	160	0	0
W. Gerry	157	10	0
R. Watts	154	0	0
Underhill	153	0	0
Higgs and Son	153	0	0

ART IN THE CRADLE AT LIVERPOOL.—

"Gif Leverpooles good maior sd everre be
Made fatherre inne hys yere off maioraltee,
Thenne sal be giften, bye ye townemenne free,
Ane silverre cradle too hys fair ladye,"

says the old legend; and the present mayor, Mr. Horsfall, having had the good fortune to *be* made a father in his year of mayoralty, a number of the burgesses subscribed to maintain the custom. Last week the cradle was presented, and is thus described by the local press:—"It is a fairy-like model, of the value of 120*l.*, and is a beautiful work of art, placed under a glass shade, forming a magnificent ornament for the drawing-room. The general form of the body is that of the nautilus shell, which was chosen as being appropriate to a seaport town, on one side of which is chased, in high relief, a group of figures, representing a mother placing in the arms of its father their new-born child. Supporting the medallion on which the figures are placed are two angels, with expanded wings; and issuing from beneath them, and under the medallion, are beautiful scrolls of poppies and lillies, emblems of Sleep and Peace. On the top of the scroll or apex sits the Genius of Liverpool; and at the foot stands the Liver, the ancient bearing in the arms of the town. The cot rests at each end on axles, so as to allow it to rock backwards and forwards. These are passed through the stems of two large seaweeds, or lavers. At the bottom of their stems are two sea-fish, resting on a richly chased ground or shore, strewed over with shells, coralines, fuchi, and other marine plants and objects." At the base of the whole is written on one side, "Ye spirit of ye legende," which we have given above, and on the other an explanatory dedication. The design is attributed to Mr. Solomon Gibson, sculptor, of Liverpool, brother of Mr. John Gibson, of Rome.

ELDON CHURCH, OVER A COAL MINE.—Sir: In your notice, last week, of churches, you mention the new church for the Eldon district, Sheffield, and ask the question—Why it was built over an old coal mine? Most of the land in that neighbourhood is undermined, but only to a short depth, averaging about 10 yards. To render the building perfectly secure, I had 5-feet square shafts sunk to the solid ground; these are filled up with rubble, and well grouted. The shafts are 15 feet apart, centre and centre. From these shafts, double brick semi-circular arches were thrown over,—the ground being cut out the shape required, thereby forming the centres for the arches. You will see by this that the whole rests on a solid foundation. The extra expense of putting in this foundation has not exceeded 50*l.* above what an ordinary one would have cost. For my own part, I never entertained the slightest doubt as to the stability of the foundation; and I do not anticipate more than very slight settlements arising from the great quantity of rain that has fallen, and what is ordinary in such buildings.—JOSEPH MITCHELL, Sheffield, November 6, 1848.

MUSIC AND THE NEWS.—A novel and not uninteresting addition to the promenade at Drury Lane Theatre has been made by Mr. Frederick Gye, in the shape of a *reading-room* profusely supplied, not merely with the London and provincial papers, but with those of many foreign parts, and wherein scores of people may be seen, during the performance of some of the fine music which M. Jullien has taught the multitude to enjoy, at the same time gathering the news. The enthusiasm with which the National Anthem is received here nightly, wonderfully played as it is,—an enthusiasm which allows no hat to be seen on,—an enthusiasm which is positively almost delirium, and perhaps almost too hot to last,—is a fact to be noted and enjoyed too, whether by THE BUILDER or the *Morning Post*. It would do a red-republican good to see the uproarious rogues.

THE TRIANGULATION OF LONDON.—The "crow's nest," built on the top of St. Paul's to enable the sappers and miners to survey the metropolis, has been taken down. We find the following notes in several of our contemporaries, and cannot, therefore, give them the right parentage:—"Although the scaffold was only up three months, the observations taken were between three and four thousand, in which were included every division in the degree. In many instances the same object was gone over as many as six times, none less than three or four. The utmost distance obtained was 26 miles in the circle, with the exception of the north-west point; here Highgate-hill impeded the observations, the crown of the hill being higher than the level from which the observations were taken. With this single exception no difficulties presented themselves, and the survey, and the various altitudes obtained, are of the most satisfactory description. In the language of the parties engaged, the metropolis and the surrounding counties may be considered nearly a level plain. The extreme height of the scaffolding, from the base to the crown upon which the observatory was built, was 91 feet, and took between a fortnight and three weeks in raising. As the whole was bound together with ropes, about one and a half ton was used for the purpose. It may be gratifying to know that in this perilous undertaking not the slightest accident, not even to the breaking of a single pane of glass, occurred, while only some of the corners of the planks were chipped off during the removal. The most dangerous part of the work was the fixing of the poles which supported the cradle, immediately beneath the principal dome. These extend beyond the gallery 35 feet, and great skill and caution were requisite in fixing, as well as in removing them, for had the slightest slip occurred no power could have prevented them falling through into the church. The number of persons employed was ten. It may be interesting to know that the time which they occupied in going up was about seven minutes, while from four to five minutes were occupied in the descent. Some of the persons had to go up and down three or four times a day. During the period the scaffold was up the lead-work of the upper dome was repaired. The expense of the survey" [the *structure*, we suppose, is meant] is very small, as the materials were supplied by the Commissioners of Woods and Forests." Our readers are aware that we do not look for a very satisfactory result from this survey,—a feeling which is participated in, we believe, by those engaged in the work.

ELECTRO-TELEGRAPHIC PROGRESS.—A signal or announcement whistle, of a simple construction, has been invented in place of the old clock-work alarum, by Mr. N. Holmes, of the General Telegraph Company. The *Mining Journal* describes it as consisting of an air-tight box, containing a lever, acted on by the voltaic magnet, and opening a valve on the extremity of the whistle, which is sounded by air introduced through a gutta percha pipe from an iron reservoir, drawing out, or chargeable, by mere hand, on the telescope principle. ——A letter from New York says that the scientific world there is much engaged in the contest among telegraph inventors. "The great merit of the discovery," it observes, "lies with Mr. Morse, his plan being everywhere successful. This gentleman is by profession a historical and portrait painter, and

has attained great eminence in his art, and been honoured with medals in Paris. Some years ago, when crossing the Atlantic, he invented his telegraphic system, and ever since has thought of little else. He had scarcely succeeded, before there were attempts to vary his principle, and change the form of its application. The most serious opposition has been on the part of an American of the name of Horn. His telegraph prints the communication on slips of paper. The letters are stamped by electricity, and the connection is closed or opened by means of a keyboard. The cylinder on which the types are set revolves, however, by mechanical power. The words of Mr. Morse's patent cover every design for printing letters as well as making arbitrary characters, and it remains to be seen how far the courts will follow its intention. Mr. Bain has also his plans before the public, but as yet he has obtained no patent in this country, in consequence of Mr. Morse having entered a caveat at the patent-office."

VENTILATION OF ROOMS.—Touching a letter thus headed in our last number but one, we have received four or five communications, recommending the use of Arnott's chimney valve. We have so often mentioned this excellent arrangement for getting rid of the vitiated air, and urged its more general adoption, especially where gas is burnt, that it ought to be unnecessary for us again to allude to it. Modifications of the Buildings Act are required to admit in London of more extensive measures for ventilation on the same principle, and will, we have little doubt, force their way as public opinion on the subject gets stronger.

LEICESTER CEMETERY COMPETITION.—The selected plan is by Messrs. Hamilton and Medland. The decision was not arrived at without sundry assertions of unfairness on the part of members of the council.

TO CORRESPONDENTS.

"*Publication of Electro-Telegraphic News.*"—By the inadvertency of a correspondent in whose accuracy of intelligence we have reason to confide, the subject of a disagreement which occurred at *Manchester*, was made to apply to *Liverpool* in a late number of THE BUILDER. The object of the paragraph referring to that disagreement, remains untouched, but we deem it an act of justice to Mr. Warburton, superintendant of the Liverpool Exchange, at once to insert his denial of any such occurrence at Liverpool.

"*I. A. I.*"—Oxalic acid, or rot-stone and oil, has been recommended for cleaning brass.

"*A Householder.*"—If injury can be proved, the projection of building may be prevented.

Received.—"B. B.," "J. G.," "L. T." (we will try and call), "T. M. R." (thanks), "Sir T. D.," "Secretary, Builth," "Zero" (we do not remember who laid down the glacinarum; ask at the Coliseum), "W. B.," "J. C.," Liverpool (will find our views on the subject in present number), "J. L.," Lille (may depend on our silence), "J. M.," Bolton (the patent in question has been mentioned by us), "J. B.," (we will wait and see the view about to appear), "J. R.," "A. H." (the suggestion has been made before), "G. O." "W. B." (too long ago for us to remember), "Constant Subscriber," "Museum Disneianum;" Description of Collection of Specimens of Ancient Art in possession of John Disney, Esq., F.R.S., Part II.: Rodwell, Bond-street; "History of Architecture, its present Condition in Europe and the United States," by Mrs. L. C. Tuthill: London, John Chapman, 142, Strand; "A Letter to the Right Hon. Lord John Russell, on Indian Railways," by an East-Indian Merchant, 1848: London, Smith and Elder: "A Treatise on Public Slaughter-Houses, in Connection with the Sanitary Question," by R. B. Grantham, C.E.: Weale, Holborn—Renshaw, Strand; "The Architect, Builder, and Contractor's Pocket-book of Prices, &c.," 1849, Weale; "Osmonde's Christian Memorials" (last part): Masters, Aldersgate-street, 1848: "Milner's Descriptive Atlas of Astronomy (parts VII. and VIII.): Orr and Co.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

PATENT TOUGHENED CAST-IRON.

Messrs. GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Iron-founders, &c., to the above description of IRON Mr Morries Stirling's patent, which, after numerous trials, experimental and practical, is found greatly to exceed all other castiron in tensile and transverse strength, as well as in resistance to crushing forces. Several of the most extensive iron masters have been licensed, and from them, or the Brokers, the patent iron can be procured. Messrs. GARDEN and MACANDREW have always a stock of this iron in pigs, and are ready to execute orders to any extent on the shortest notice.

27, Queen-street, Cheapside, November, 1848.

TO BUILDERS, &c.

REDUCED PRICES.—COTTAM and HALLEN, Cornwall-road, Lambeth, Ironfounders, Smiths, and Manufacturers of every description of Ironwork for building purposes. Kitchen Ranges, with Circular Oven, Boiler, wrought bars, and bright fittings, 3 feet, 3l. 3s.; 3 feet 6 inches, 3l. 12s. 6d.; 4 feet, 4l. Cottage Ranges, with Oven and Boiler, 3 feet, 2 inches 2l.; 3 feet 4 inches, 2l. 8s.; 3 feet 6 inches, 2l. 4s.; Registers, 7d. 8d., and 9½. per inch. Ellipties, 3d. to 4d. per inch. Pipes, Gutters, Columns, Railing, Verandahs, Sash-weights, Gratings, &c., at reduced prices. A discount for cash.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ½ inch to 1 inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade an l Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lined to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.—T. ADAMS late S. DARLE, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms, SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.
N B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 23, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

The Company's Agents are—Mr. WM. LANE, Irwell-buildings, Manchester (late of Stockport); Messrs. RANDOLPH, ELLIOT, and Co., Glasgow; Messrs. CLIFFORD and BROWN, Hull.

TIMBER-PRESERVING COMPANY.—(PAYNE'S PATENTS for the PRESERVATION of TIMBER AGAINST DRY ROT, FIRE, RAVAGES of WORMS, &c.) The above Company are ready to enter into arrangements for the Preparation of Timber at any of their undermentioned stations, viz.:

Whitehall Wharf, Westminster,	Lynn,
Fleetwood on Wyre,	Stanes,
Wisbech,	Guildford,
Gateshead,	Southampton,
Barnstaple,	Hartlepool,
Leicester.	Darlington;

and they will erect the necessary apparatus wherever there is a considerable quantity of timber to be prepared.—Further particulars, with prices, may be obtained at the London Works, Whitehall Wharf, Cannon-row, Westminster.

PLATE GLASS.—THE BIRMINGHAM PLATE GLASS COMPANY, Smethwick, near Birmingham, and 141, Fleet-street, London, supply silvered, polished, picture, and rough plate glass, of first-rate quality, and at the lowest remunerative terms. ESTIMATES for SHOP FRONTS, &c., with samples of the glass, forwarded on application, to any part of the kingdom.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quantity required. To encourage the use of Plate Glass for glazing purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 3-8ths, ½, ⅝, and 1 inch thick.

London Warehouse, 82, Hatton-garden, Holborn.

H. CHRISTIE, Agent.

SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:

Thirds	Crown, per crate 18 tables		£3 8 6
Fourths	"	"	2 17 0
C C	"	"	2 1 0
C C C	"	"	1 18 0
Horticultural, 13 oz. sheet, per crate, 2½d. per foot.			
Fourths,	ditto	ditto	2½d. "
Horticultural, 16 oz. ditto,	ditto	2½d.	"
Fourths,	ditto	ditto	3d. "
Horticultural, 21 oz. ditto,	ditto	4d.	"
Fourths,	ditto	ditto	5d. "
Ditto,	26 oz. ditto,	ditto	6½d. "
Ditto,	32 oz. ditto,	ditto	8d. "

Ornamental Glass of very superior patterns, from 1s. 3d. per super. foot, cut to order; or 1s. in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate ¼, ⅜, ½, and ⅝ inch thick.

WINDOW GLASS. — THOMAS MILLINGTON solicits an inspection of the different GLASSES he has now in stock, the qualities of which will be found to be very superior.—87, Bishopsgate-street, Without.

NEW TARIFF.—Sheet in various large dimensions delivered free in London.

Common in 100 feet cases			20s 0d.
Do.	200	do.	36s. 0d.
Thirds	200	do.	43s. 6d.
Seconds	200	do.	66s. 8d.
Best very superior	do.	do.	100s. 0d.

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 3 feet superficial.

¼ thick	1s. 0d.	½ inch	2s. 0d.
3-8th inch	1s. 2d.	¾ inch	3s. 0d. per foot.
⅜ inch	1s. 6d.		

PATENT ROUGH PLATE TILES.

¼ thick	0s. 11d.	3-8th inch	1s. 7d.
½ inch	1s. 3d.	¾ inch	2s. 0d. each.

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

C C C Crown per crate 18 tables		£1 16 0
C C C do.	do.	2 0 0
Fourths do.	do.	2 7 0
Thirds do.	do.	3 2 6
Large Crown Squares in 100 feet boxes		2½d. per foot.
8 by 6 — 10 by 8	do	3d. do.

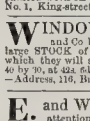
Very superior Plate for Pictures and Windows, averaging 26oz. from 1s. 6d. per foot upwards.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

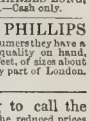
WINDOW GLASS.—JAMES PHILLIPS and Co beg to inform the trade and consumers they have a large STOCK of SHEET GLASS of superior quality on hand, which they will supply in cases containing 200 feet, of sizes about 40 by 30, at 42s. 6d. per case,—delivered free in any part of London.—Address, 116, Bishopsgate street Without.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

CHAS. WM. WATERLOW, MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

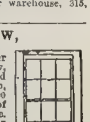


SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK,
1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.



ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire. Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Mail-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

ANSTONE STONE WHARF, STANGATE—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at the Marble and Stone Wharf, Horsfall-basin, Marden-lane, King's-cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 37, Burton-crescent.

CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf; he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse

P. FOUCARD, quai des Abattoirs Caen (propriétaire des Carrières de Allemagne), begs leave to inform Builders, Architects, and others, that he has on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr. BASUHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.—LUARD, REEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the above. Caen Stone is too well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. R. and Co. have for many years supplied large quantities to various parts of the continent for public works, light-houses, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, Rotherhithe, where samples and information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, 3, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 3l. upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-bat Chimney-pieces, from		12s.
Vein-Marble	"	40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

IRON ROOFING WORKS, SOUTHWARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings, Iron Hurdles, and other fences, and iron work generally. Lists of prices and estimates furnished upon application.—Office, 2, Adelaide-place, London-bridge, City.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Pemberton-street, Birmingham. Lists of prices for warded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Conservatories, Ornamental Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

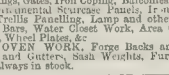
Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Iron work, complete for erection, and the work executed with every attention to quality and dispatch.

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LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

GALVANIZED IRON FOR ROOFING, &c. The Galvanized Iron Company beg to direct the attention of Architects, Builders, and others, to their Patent Galvanized Iron, which is exclusively adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper than the durable thin zinc, lead, tin, or any other metal, of existing weight and strength. This fire-proof material has been used for roofing the Gas Houses of Indian ships, and has also been adopted by the Government authorities at Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, &c. &c. This material is also peculiarly adapted for the construction of conservatories, fire-proof casings, flues, and store orders, corrugated for roofing purposes, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 5, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Colman's Hall, near Dudley.

TO BUILDERS and CARPENTERS.—Elaine Stoves, double backs, 31 per inch. Registers, 6½ 7d., 8d per inch
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 43s.; 3 ft. 6 in., 44s.
Self-acting Ranges, with Circular Oven and Back Boiler.
Iron Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6, £4. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4d.	5d.	7d.	10d.	1s.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 13s. per cwt.
Best Town Glue 33s. Do. Scotch, 22s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s 6d	7s 6d	9s	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.
Lists of Prices had on application at the Warehouse, or by letter pre paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO ARCHITECTS, BUILDERS, &c.

REDUCED LIST OF PRICES.—R. HUNT and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 186, Blackfriars-road, and 117, Union-street, Borough.
Sizes of Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic ditto, at 4d., 5d., and 6d.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the country, accompanied with a remittance or reference, will meet with prompt attention.

OLD ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen range, and Stove grate Manufactory 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
2l. 18s.	3l. 7s.	3l. 15s.

Elliptic Stoves, 3d. per in.
All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRON MONGERY at TODD'S, 141, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.
Cast Butts	11s.	16s.	24s. per gross.
Cut	4d.	6d.	10d. 20d. } per
Clasp	6d.	8d.	1s. 4d. 1s. 10d. } 1,000.

Nos.	4	6	
Patent Line	6s. 6d.	7s. 3d.	9s. 10d 12s. per gross.

	2	2½	3 Inches.
Rain Pipe	1s. 1d.	1s. 3d.	1s. 8d. per yard.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up CURING ARRANGEMENTS for the Manufacture with patent apparatus on the principles, which ensure greater economy and efficiency than hitherto attained. WARM WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.
They fit up Laundries with Hot Water Apparatus, for Drying in a speedy, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

PIERCE'S ECONOMICAL RADIATING STOVE GRATES.—Families furnishing are solicited to examine the large and extensive assortment of Drawing-room and other GRATES, recently completed from the most *recherché* designs in the Louis Quatorze, Elizabethan, Gothic, and other styles, with FENDERS AND FIRE-IRONS to suit, always on show at the manufactory.
These Grates combine the decorative and useful, blending economy with comfort, and are guaranteed as a PERFECT CURE FOR SMOKY CHIMNEYS
In BED-ROOMS and NURSERIES they are found invaluable, retaining the heat for many hours after the fire is out
KITCHENS and LAUNDRIES fitted up in the most complete manner with Ranges, Ovens, Boilers, Hot-plates, Broiling-plates, Patent Smoke-jacks, &c., with the latest improvements.
HEATING by HOT-WATER, combining Warmth with Ventilation, on PIERCE'S improved method, adapted for every description of building, and so arranged as to warm the entire of a large mansion from one moderate fire.
PIERCE, 5, JERMYN-STREET, REGENT-STREET.

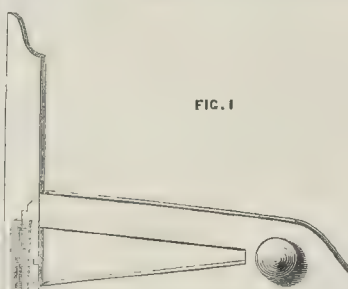


FIG. 1

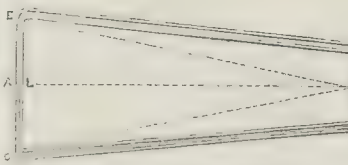


FIG. 2

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c
70, York-road, Lambeth; and 98, Cross-street, Blackfriars-road

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and Ogee Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Cucumber Frames, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron. HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

FLEXIBLE INDIA RUBBER PIPES AND TUBING.
For Railway Companies, Breweries, Distillers, Dye Earths, Gas Companies, Gas fitting and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acts well at any level not become hard or stiff in any temperature that are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanic India-rubber made, those fitted with brass tubes capped, hung and ready to be attached to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, also vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

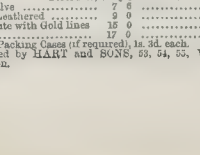
DR. ARNOTT'S CHIMNEY VENTILATOR.



P. EDWARDS, Stove Maker to her Majesty, 42, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.
Twenty five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies P. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.



For carrying off Heated and Impure Air from Bed-rooms, Sitting-rooms, Counting houses and Apartments generally.

LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 9.
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	15 0	21 0
Brass Front	17 0	24 0

Packing Cases (if required), 1s. 3d. each.
Manufactured by HART and SONS, 83, 84, 85, Wych-street, Strand, London.

BLUNDELL'S BUILDERS' SQUARE.

THIS is an instrument of very simple construction, and intended to supersede the Square and Plumb-rule used by builders and others; and also for the architect and surveyor to ascertain readily and correctly the angles of sloping lines, such as roofs, columns, gutters, &c.

It consists of a spirit-tube of peculiar form set in a frame having two straight sides, the one at right angles to the other, and an index affixed dividing the angle into degrees and half degrees.

Fig. 1 represents the square complete; it may be observed that the spirit-tube is imbedded, and no part left visible except a portion at the index.

Fig. 2 is a longitudinal section of the spirit-tube; the side EK is that against which the index is placed; the line AB is parallel to the bottom of the square, and intersects the index at the point marked "level." When this line is horizontal, the spirit in the tube remains at "level;" but when it is at an angle with the horizontal line, equal to AGC, the spirit remains at C, indicating the angle of deviation, the line CD then representing the surface of the spirit.

Consequently, if the lower side of the square be placed on any given surface, the spirit will shew immediately, and without any calculation, if it be truly level and if not, what the angle of slope is.

The chief advantages this instrument possesses over the Square and Plumb-bob are, that it is not rendered inaccurate by wind, and can be used in the open air in any weather, or about the works of unfinished buildings, &c., and that it is more accurate and more portable.

The accuracy is not affected by changes of temperature, which can be very easily proved.

Size, 27 in. by 20 in. in mahogany, price 1l. 10s.

SOLD BY
WM. BISHOP AND CO.,
66, CHEAPSIDE, LONDON.
SOLE AGENTS TO THE INVENTOR.

TO DRAUGHTSMEN AND CIVIL ENGINEERS
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shades.

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium	B D B B ditto ditto

Sold by all the principal Stationers in town or country.

TO ARCHITECTS, BUILDERS, &c.
GEORGE JENNINGS, Patentee of the SHOP-SHUTTER SHOE and FASTENER, INDIA-RUBBER TUBE COCK, &c. &c., 29, Great Charlotte-street, Blackfriars road.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one third less room than any other shutters made. Harcourt Queen's Patentee
CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL BOARD PLATES, &c. &c., in brass, copper, and zinc. WROUGHT-IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description connected with building, steam engines, millwork, and machinery. CLARK and Co., Engineers, 338, Wapping. Models can be seen and every information obtained at 455, Oxford street, and 4, Moorgate street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS,
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.
Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stall-boards, iron bench, enamel letters, and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.
B. and C. challenge competition as to either quality or price.
Designs furnished and estimates given.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.
SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.
Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

PATENT METALLIC WIRE CORDAGE.—R. S. NEWALL and Co., Patentees, GATESHEAD-UPON-TYNE; 103, FENCHURCH-STREET; and 130, STRAND, LONDON.
Iron Wire Ropes of any length, without splicing; Round Ropes for Inclined Planes and Mines, &c.; Girders for Pits; Signal Cord and Fencing, &c., Ships' Standing Rigging; Stays for Cranes, Shears, &c.; Cables for Suspension-bridges; Flat Ropes for Pits, Railway Hoists, &c.
Copper and Mixed Metal Cords; Lightning Conductors; Hot-house and Window sash Line; Picture Hanging, and Clock Cord, &c.
R. S. NEWALL and Co.'s PATENT SPRINGS and SCREW LANYARDS, for Ships' Rigging, Shackles, Thimbles, &c. PITCH ROPE PULLIES, Window-sash Pullies, Fastenings for Picture-cord, supplied. Agent—W. T. ALLEN, 130, Strand, and 103, Fenchurch-street, London.

The Builder.

No. CCCII.

SATURDAY, NOVEMBER 18, 1848.

LIFE is being lengthened,—not alone by sanitary measures, but by those applications of science which shorten distances, spread intelligence, and collect and condense knowledge; so that a man may now see, acquire, and do, as much in *one* year as his great-grandfather could in *five*. So much the more shame to him if he use not his opportunities well.

May we give a personal illustration of the truth of the first assertion? Our late visit to Scotland, when we were invited to lecture on ARCHITECTURE in places where, as we were afterwards informed (much to our astonishment), no person had ever publicly discoursed on architecture before, and the subject was altogether a novelty, occupied twelve working days and two Sundays. In that time we travelled nearly fourteen hundred miles; gave *ten* lectures—namely, four in Glasgow, under the title of "History in Brick and Stone;"* three in Kilmarnock, two in Paisley, and one in Dundee; were occupied flatteringly, as already mentioned, one whole evening, by the Glasgow authorities; and wrote for and edited, as satisfactorily as if at home, thanks to the perfection of postal arrangements, one number of our journal. This would not simply have been a *feat* on the part of the great-grandfather aforesaid, but a sheer impossibility; yet, in the present case, it was accomplished with little personal effort, and is not spoken of as a matter of wonderment, or as warranting the slightest approach to self-gratulation, but just because it is what any who chose might do, and, therefore, affords an apt illustration of the remark, that life is being lengthened.

The intelligence and ability displayed by all classes in Scotland are very considerable, and can scarcely fail to be observed: such inscriptions as that over a door in Paisley serve to explain the state of things,—"The Grāmar Scuil, 1586." It is gratifying to learn that scruples and prejudices are giving way before the strength of common sense, and that our northern neighbours are beginning to apply themselves in a road up to this time little trodden, namely,—the study and preservation of their antiquities. All their local guides for some years past have contained lamentations for previous neglect and injuries, and have urged the importance of investigation and care in future. "Architectural antiquities," writes one, after pointing out how much careful accounts of their ancient buildings are needed, "however dilapidated and time-worn, are objects of incalculable value and interest. They are indexes of the most memorable events in history—the lives of monarchs, statesmen, patriots, and philosophers,—and point out, with the palsied finger of antiquity, the progress of refinement, from the barbarous ages in which they flourished, to the present happy and [comparatively] enlightened period."*

The Abbey of Paisley, which gave the first of the Stuarts to the throne of Scotland,† was a building of large extent, and still displays considerable remains. It was founded in 1160, and is attributed to John Morrow, by some authors called Murdo, who, according to an inscription in Melrose Abbey, "had in keping al mason werk of Santandrays (St. Andrew's), ye hye Kirk of Glasgu, Melros, and Paslay." The nave of the ancient church is used for service; and, though coarse in details, is remarkable for a considerable degree of grandeur. It is peculiar in having a series of large stone brackets (half a hexagon of 9 feet in the longest diameter, and projecting 3 feet 6 inches) in the spandrels of the triforium, under the clerestory windows, and which assist to form a passage-way from one end of the church to the other. The transepts and chancel of the old church lie open, and are used as a burial-place. The west front of the nave is of good Early English character, but the greater part of the church internally can scarcely be earlier than the end of the fifteenth century. The demolition of the abbey took place under such an order as this:—"Traist Friends,—After maist hartey commendation, we pray you faill not till pass incontinent to ye kyrk of Paisley, and tak doun ye haill images yrof, & bryng furth till ye kirkyard & birn thym oppingly, & syklyk cast doun ye altris & picturis, & purge ye sayd kyrk o' a' kynds o' monuments of idolatrie; and this ye fail not till doe, as ye will doe us singular empleasance, and sae committis you till ye protection of God. From Edinburgh, 12 August, MDLX.

Signed ARGYLE,
JAMES STEWART,
RUTHVEN."

The interior of the church is now filled with pews and a large gallery, which, according to the local historian before quoted, are most judicious, and "render the *tout ensemble* most complete," but are, in truth, perfectly abominable.

They have an excellent cemetery at Paisley, occupying 23 acres, which forms, at the same time, public walking-grounds. It contains many neat monuments, and commands a fine view.

In the same town a school of design has been established, and a new building of considerable extent, not yet opened, has been erected for the purpose, by Mr. J. T. Lamb, a local architect. The late master of the Norwich school has been transferred here, but not without a controversy. Alas! poor school of design! It might as properly be called a school of *plots*.

Moving on a little further, *apropos* of design, Kilmarnock boasts the production of a self-taught artist, John K. Hunter, whose works as a portrait painter merit commendation. He is known in that part of Scotland as the "Kilmarnock Cobbler," from having been bred to that trade. In 1831 a number of amateur artists, natives of this town, formed themselves into a society, under the name of the "Kilmarnock Drawing Academy," the object of which was mutual improvement in painting. Mr. Hunter was one of these; and out of forty-five pictures, the largest number ever exhibited by the members at one time, sixteen were by him. These he executed in time stolen from the toil at his trade, which eight children required from him. In the day he was seen in the Academy a devoted student; at night he would be found beating out the sole of a pair of shoes with his hammer, labouring for the support of his family. For some years past, however, he has pursued the profession of portrait painting. The story is not without a lesson.

Mr. Fillans' statue of Sir James Shaw, Bart., which was set up at the cross in Kilmarnock in August last, is for the most part a very satisfactory production, and a great ornament to the town. It is of Carrara marble, rather larger than life, and stands on a pedestal of Aberdeen granite. He is attired in his robes as Lord Mayor, and rests on his left leg with the right knee a little advanced: in his right hand he holds a roll, and with the left his robe: the hands, by the way, are too large. The pose is agreeable, and the likeness is said to be good.

At Mauchline, about nine miles from Kilmarnock, there is a railway viaduct of very large size, which has become one of the lions of the place: we were unable, however, to visit it. The span of the main arch is 184 feet, and the height of the crown of it from the water 182 feet.

It is some distance from Kilmarnock to Dundee, 130 miles perhaps, but the "Iron-horse" makes nothing of this. The road is charming too: hills, glens, trees, streams, and cots succeed each other in quick and beautiful succession. The *Carron* river (suggestive of cheap stoves!); the Bannockburn; Stirling, with its castle finely placed, and two bridges over the Forth; Allan-water; Dunblane (to say nothing of "Jessie"), Perth,—all are full of tradition and poetry, and keep the mind, as well as the eye, occupied during the journey.

Dundee is an extensive and interesting town. The railway from Perth, which passes through the glorious Firth of Tay, parallel with the town, and so cuts it off from the sea, enclosing, moreover, an expanse of stagnant water between the line and the houses, has much injured it, and calls for alteration.

Amongst the modern buildings in Dundee may be enumerated the Public Seminary, by Mr. Angus, architect, having a Grecian Doric portico of six columns; Ward Chapel, a Gothic edifice, erected about fifteen years ago, by Mr. Brewster, since dead, and better in character than some even more recent Gothic buildings in Scotland, although it would not bear trial by present English canons. We may also mention the "Watt Institution," a commodious and well-designed building, erected in 1838, under Mr. Paterson, architect, also since dead.

Among the ancient buildings, the east

* A pregnant and continuous history it is; as the following brief heads of the discourses will suffice to suggest. No. 1. Introduction—Interesting nature of the study of Architecture—Its History, the History of Society—Origin—Biblical Architecture—Stones of Memorial—Stonehenge—Rocking Stones—Babylon—Babel—Solomon's Temple—Mexican Monuments—Egypt—Gigantic Nature of the Buildings—Circumstances which influenced Egyptian Architecture—Importance of Egypt—The Pyramids, their Construction and Purpose, Recent Theory—Tombs—Reflections induced. —No. 2. Egypt continued—The Labyrinth—Thebes—Luxor and Carnak—General Appearance of an Egyptian Temple—Characteristics of Egyptian Architecture—Rock-cut Temples—Obelisks—Transport of the Luxor Obelisk to Paris, means adopted to raise it—Effect of early Forms on Architecture—India—Greece—Cyclopean and Pelasgic Construction—Connection of Egypt and Greece—Earliest Buildings—The Age of Pericles—Temples—Characteristics of Grecian Architecture—Theories of its origin—The "Orders"—Modern Examples—Art in Athens—The Parthenon.—No. 3. Polychromy—Etruria—Italy—Rome—Connection with Etruria and Greece—The Augustan period—Pantheon—Coliseum—Baths, importance of the present movement—The Forum—Appearance of Rome—Effect of the introduction of the Arch—Its History—Characteristics of Roman Architecture—Pompeii—Domestic Architecture—Fall of Rome—Constantine—Byzantium—Christian Churches—Mosaics and other Decorations—Growth of a new style of Architecture—The Goths and Lombards—Architecture in Britain—Importance of preserving Ancient Remains—The Saxons—The Normans—Village Churches—The value of the Fine Arts.—No. 4. Invention of the Pointed Arch—Various Theories—Milner's Intersecting Arches—Rise and Progress of the Pointed Style—Examples—The Freemasons—Their singular Skill—Masons' Marks—The Cathedrals of England, Germany, and France—Castles—Decay of Gothic Architecture—Revival of the Classic style—Elizabethan Architecture—Inigo Jones—Wren—Fire of London—St. Paul's—Alteration in the residences of the People—State of Public feeling at the present moment relative to Ecclesiastical Architecture—Evils to be guarded against—The Sanitary Question—Conclusion.

* "Historical Description of the Abbey and Town of Paisley," by Charles Mackie. Sold by Mr. Stewart, an intelligent publisher of the town.

† Spelled in the Records of Paisley, *Stewart*. Mary, Queen of Scots, appears to have been the first who changed it to Stuart.

church holds the first place. The body of the church was restored by Messrs. Burn and Brice, about eight years ago, but the tower, of early date, is in a miserable state of ruin. It is understood to be waiting the paternal care of the Woods and Forests, who have the maintenance of it; but it cannot afford to wait much longer.*

THE FALL OF THE SUGAR-HOUSE AT GLASGOW.

The cause of the recent accident in Alston-street, Glasgow—the fall of the sugar-house—will probably remain for ever in obscurity. The building was some seven stories high; and the whole of it fell, excepting the two end or gable walls. The whole interior had been renewed some five or six years ago, but not the walls, although they seem not to have been considered of a perfectly substantial kind. Perhaps an approximate to the truth is, that, in point of strength, the building had never been well calculated for the duty it had to perform; that its equipoise had been all but destroyed by the clearance made in some parts, and more close stowage in others, for the reception of a large addition to its heavy contents, which was immediately expected; and that the commencement of operations on the Monday morning, with the vibration caused by the machinery, were all that were wanted to completely destroy the balance, already tottering. It is said to have borne greater loads than that at the time of the accident; but the distribution of the load is important, as well as its weight.

This accident is full of suggestive interest, as regards the construction of buildings intended for the reception of weighty commodities: in particular, it directs attention to four things:—

1st. That rubble stone building is altogether unsuitable for such purposes; seeing that it only occupies an intermediate position, as regards strength, between building with boulders and building with stones wholly flat-bedded; and must, therefore, *in some measure*, be dependent for its stability on the cohesive property of the mortar.

2nd. That the walls of lofty storehouses should not be—as they usually are, in Glasgow—built of one uniform thickness from the ground to the summit; for the higher they go they have the less to sustain; and at the same time the upper becomes the greater load upon the lower portions, which may frequently, where the goods stored and machinery employed are of a very heavy description, be nigh *crushing* under the pressure.

3rd. That the well-known most active agents for producing decomposition in timber—heat and moisture combined — render vigilance essential in such buildings as the one referred to, where the floors are at once subject to these injurious influences, and loaded sufficiently to test their strength in their best condition. The impossibility of getting timbers "thoroughly seasoned and perfectly dry" is conclusive against the practice here of inserting the ends of all beams and joists into the solid walls, where their internal moisture is prevented escaping by the pores, and must, therefore, engender incipient decay.

4th. That care should be taken to ascertain that the hollow in the cast-iron pillars employed is perfectly concentric with the exterior; for it frequently happens that it is far from being so, and the greatest danger may impend where there seems perfect security. The new invention of casting pillars and pipes in a vertical instead of oblique mould seems well worthy of attention, both on this account and the more uniform density of the metal all round which it is likely to afford.

James Wylson.

* Making some inquiry concerning the stone of the district, Mr. James Mac-Laren, a young architect of the town, to whom, by the way, the Soane medallion is to be presented at the Institute on Monday, for the best design for public baths, informed us that the Mylnefield or Kingoodie quarry, 4½ miles west from Dundee, close on the Tay (which facilitates shipment), produces excellent liver rock of a greyish colour,—price in the quarry about 1s. per cube foot. The Lochee quarries, 3 miles N. W. from Dundee, produce rock of reddish and bluish colours,—price about 9d.—All the Forfarshire stones are hard in comparison with Fifeshire and Glasgow stones.

ANOTHER LANCE FOR THE OLD MASTERS.

Sir,—I regret that, owing to a temporary absence from home, I did not sooner see the remarks of "An Artist," in your number of the 4th inst. I should have certainly replied to them in your next publication, which I am now unable to do. This, however, may be counterbalanced by the opportunity, with which, I trust, your kindness will indulge me, of a full rejoinder. I am unwilling to have the character of pertinacity assigned to me, but I feel it impossible to submit, unanswering, to the misrepresentation of your correspondent—a misrepresentation, I must add, not the less real because, I am sure, from the tone that the gentleman adopts, it must on his part be entirely unintentional.

I am assumed to be the opponent of Mr. Cave Thomas, and the decrier of modern art. I should be truly sorry to appear in either character. I admire the philosophical spirit of the lectures; and esteem any individual who argues upon art, in the spirit of enlightened criticism, with the view of probing its first principles, and eliciting its power as a moral agent—a true public benefactor. I fully acknowledge also, that, in regard to many branches of the arts, we have men who not only equal but excel the ancients. I have ventured, however, to assume that the results of experience may be at least of some value, and that it is unwise to neglect them. As a proof of the estimation in which we ought to hold them, I have quoted the dicta of Reynolds,—an antiquated authority, perhaps, in the eyes of your correspondent, but one whose works, as I heard Sir Martin Shee pronounce at a dinner within the walls of the Royal Academy, hold, *upon the whole*, in the English school, a proud and unqualified pre-eminence. And when I speak of the National Gallery as superior to the Royal Academy, I do so in no depreciatory spirit, but merely as arguing from an acknowledged fact, which I do not understand "An Artist" himself to dispute, that the moderns have in their predecessors' works a fund of useful knowledge, from which they may gather both valuable hints and bright examples. The better, however, to make my position understood, I will state *the two points* in which I think Mr. Cave Thomas has departed from that safe line of moderation,—that *viâ media*, which is alone likely to create public respect for his authority.

1. From his inculcation of the study of "nature," without qualification or reserve, resting upon a supposed "dictum" of Mr. Burke's, that "art cannot give rules to or be founded on art," but which I have endeavoured to shew that Mr. Burke used in a very qualified sense, he would lead the reader to imagine that he values at a very low estimate the results of experience, and considers the study of antiquity more likely to cramp than to develop true genius. These broad assertions, and sweeping conclusions, I have endeavoured rather to qualify than to contradict, by observing that the study of antiquity, properly undertaken, does not preclude, but rather assists, the study of nature; and that it is to this *double* course of training—this reliance upon a *twofold* course of education, rather than to a cold and intellectual study of nature's laws alone,—that the accomplished artist—be he architect, sculptor, or painter—is likely to owe the happiest results. Just as literature and classical taste have ever been held to go hand in hand with knowledge and the sterner investigation of truth, in forming and moulding the ideal of a perfectly well-educated mind,—so in any attempt to sketch the qualifications of the artist, we ought not to confine ourselves to *one* branch of his profession alone—to tell him, for instance, that it is his duty to give us nature, simple truth. No; he should give us nature in her most *agreeable* garb, and truth in such a manner as may *powerfully influence both our hearts and minds*;—not a mere copy of any indifferent sample, but a noble attempt to attain to the highest perfection. I am extremely happy to add, that this appears to me the line you inculcate in your journal; where I see brought forward, not only examples from the book of nature, but enlightened criticisms upon the best works both of modern and ancient art.

In natural accordance with this one-sided view of the question, Mr. Cave Thomas seemed to me to imagine that the study of antiquity was a waste of time, and the sums laid out upon ancient pictures a waste of cash. He broached in no measured terms the maxim of the political economist, that a supply would ever meet the demand, and advocated the withdrawal of those sums which have hitherto been expended on ancient classical works of art, for the purpose of encouraging the artists of our own day. To this I ventured to make reply, that in accordance with him I would willingly see the sums expended upon art increase, but that I held the love of antiquity, *per se*, to be so important, and the Italian school of painting in particular, to contain so much worthy of imitation, that I should most unwillingly see the public taste withdrawn from these "old paths," and that if it were so modern art itself would, I thought, be the first to suffer. I pointed out that in some particulars, as I conceived, the public taste for antiquity might take a higher direction. In this Mr. Cave Thomas and myself are, I fancy, agreed; but I must repeat it again and again, that my simple position has been directed to this object alone, "to vindicate the claims of an enlightened experience." Those who think that antiquity can afford no examples either of enlightenment or skill, are persons who can afford me a satisfactory and intelligible reply. Others can scarcely do so without being inconsistent.

And here I must retort, upon those who accuse me of inconsistency, the same charge. I am told by "An Artist" that Overbeck was one who, to attain a like perfection with Raffaelle, reverted to the works of his predecessors, because in their less sophisticated designs he found a powerful antidote to the false taste and pseudo-classical style everywhere prevalent. This being accomplished, he went to nature. What, I ask, is this but an appeal to antiquity? Oh, it may be replied, he now relies solely on nature. Well, sir, have I ever advocated a neglect of nature? far from it, indeed. But I would ask any candid critic whether the seal and impress of his earlier studies does not remain indelibly stamped upon the works of Overbeck himself, and bear its fruit in a close, and to me, I own, somewhat servile and painful imitation of the works of the very early masters. The early masters, I am told again, are not to be admired, unless I choose to forswear all love for the great names which have illustrated the history of the sixteenth and seventeenth centuries; but I have yet to learn by what iron despotism of taste I am to be prevented from admiring different masters for qualities totally different. May I not go as a pilgrim to Pisa, and meditate in the campo santo on the profound feeling and deep pathos of the early schools, without disqualifying myself for a visit to the Sistina Cappella and the glorious treasures of Venice. Does not art contain two great divisions?—the execution and the spirit. May not the execution, as in the case of the Flemish schools (those followers of *nature!*), be exquisite and almost faultless, and the spirit be mean and ignoble; while, in the early schools of Italy, we find the exact *contradictory* (to use a logical term) of this—a spirit of fervid piety and holiness, which nothing at the present day can approach, but an execution in a thousand particulars faulty and imperfect. On looking to execution, may not execution again be divided into three main divisions,—to wit: form, or drawing, a knowledge of light or shadow, or effect, and colour? Now, it is scarcely to be expected that the same artist should excel in these three departments. May I not, then, without an imputation of inconsistency, praise Raffaelle and Michelangelo for their grand forms and noble composition? may I not admire Tintoretto and Rubens for their knowledge of light and shadow; and Titian or Guercino, or Rubens (here also truly great), or Paolo Veronese, for their gorgeous and effective colouring. May I not, or rather ought I not, to admire, follow, and imitate every mind which, by its originality, greatness, and masculine vigour of thought, shews itself one of those intellects which the Creator has destined to be truly leading stars in that multitude of beings with whom he has adorned the civilized world. I can conceive, indeed, that if I were, from a false notion of consistency, to limit myself to one school alone, I might incur many of those dangers

with which Mr. Thomas threatens the followers of the old masters; but it is in a great measure because I would, if possible, glean from each those qualities and those alone in which they were decidedly pre-eminent, that I trust those who follow this advice may be free from that narrow spirit which all exclusiveness engenders.

I admit fully that among many of our connoisseurs there is a narrow and unenquiring spirit, which seeks for the works of ancient schools on account of their reputation rather than their real merit, but I would also urge that there is in the modern school a lamentable ignorance of the scientific principles and practice of former times, and a straining after originality without either the knowledge or the feeling to stamp their productions with the seal of genius. To select examples of this would be invidious; but I must, in passing, justify my former remark on Edwin Landseer. He is an animal painter; it is, therefore, no reproach to him to paint "the dog," but rather his highest glory to invest that noble beast with the spirit which truly fits him to be the companion of man—almost "admitted," to use the words of the poet, "to an equal sky." My reproach to that eminent artist was, that in obedience to the taste of wealthy patrons (not, I am sure, to his own) he had sometimes deviated from that high tone always observable in his earlier works, and made "the dog" no longer the faithful friend, but the uninteresting, or idle plaything.

To conclude: I am not so sanguine as Mr. Thomas of our surpassing the ancients. We may be greater than they were in our own way; they will probably remain greater than us in their own. Our grand difficulty is, that we live in an age when civilization and refinement have been so far extended, that we no longer produce the same vigour in individuals, though the masses are daily advancing in knowledge, and in all the constituents of true power. The world is no longer in its youth—the age of poetry has gone by. Accurate descriptive writing has succeeded the natural vigour of thought to be found in our ancestors. A knowledge of details has superseded the grasp of first principles. We do not live in an age of great men. Not that I would deny the unspeakable blessings with which we are surrounded, but we have inherited from our ancestors a store-house of treasures, to which, in many respects, it is impossible to add. The edifice has been planned by them—nay, built,—ours is the lighter labour of adding the graceful ornament, or finishing the glittering pinnacle. We find modern students daily adding to the treasures and to the beauty of our dwelling place. A Herschel, an Owen, an Airey, and many, many more, are amongst us, to prove the vitality of our body-politic, and the incessant activity of thought and action, which is the very mainspring and soul of modern society. But they have entered into the labours of a Newton, a Cuvier, or a Halley. So it is in the arts. We are in the "latter days," when caution and prudence have succeeded to vigour and masculine energy. It is, perhaps, by not attempting too much that we are likely to succeed best; by patient observation, diligent research, and by each selecting that particular branch in which he is best able to excel, and adhering to that; lastly, by inculcating, in all classes of the people, a love of what is beautiful for its own sake, and by placing before them the best examples of the best times. He is a fortunate man, who, as a mere connoisseur, loves "art" for its own sake; but he is even more so who cannot merely do this, but who can look upon art as the hand-maid of religion, of history, and of science, and can perceive in her works both the faithful exposition of past ages, and the means of instructing future generations in the history of their kind, and the mysterious beauties of the works of God.

An Amateur.

P.S. Since writing the above, I have seen Mr. Cave Thomas's last letter, but am not aware that it calls for any special remark.

The Architectural Publication Society is making satisfactory progress. There are now 305 subscribers, and local secretaries have been appointed in various places, including two in Arabia and one in Jamaica!

DECORATION OF THE ORIENTAL CLUB, HANOVER-SQUARE, LONDON.

Mr. Leonard Collmann, of whose works as a decorator at St. Robert Peel's and elsewhere we have had occasion to speak before this, has just now completed the decoration of the drawing-room and two libraries of the Oriental Club.

The club intending to spend o nly limited sum of money on the repainting and embellishing of these rooms, a style of decoration has been adopted, in which, by simple means, and without the aid of superior artistic talent in the execution, considerable effect can be produced; moreover, it is one very suitable for public buildings, and more particularly so in this instance, the architecture being in style Greek-ish, if not Greek. That is, the ornament is all painted perfectly flat, and mosaic-like. The effect produced solely relying on the merits of the general design, and on the arrangement of colour, the execution requires no more than great nicety in the workmen. The general design and the ornamental details are of a strictly architectural character, and the only painting in light and shade introduced is in two figures, Europe and Asia, in the niches of the drawing-room. Strong colours were chosen for the walls, in order to add to the rooms a degree of comfort and richness which lighter colours could not have produced, and which was the more desirable, as curtains to the windows are entirely dispensed with. The general tone of the drawing-room is red, and that of the libraries green. Some full-length portraits, formerly in large and clumsy gilt frames, projecting nearly a foot, have been fixed to the walls, and enclosed with suitable gold panel mouldings, so that they now form as it were a part of the room, and do not obtrude by any overpowering quantity of gold. The door and window architraves, as also the dados, are painted in imitation of marbles (and exceedingly well done), and the doors and shutters in imitation of woods, suiting the arrangement of colour in the various rooms. The result of the whole is very satisfactory.

PROPOSAL FOR ESTABLISHING AN ARCHITECTS', ENGINEERS', AND ARTISTS' CLUB.

We have received the following proposal for the establishment of a club for architects, engineers, and artists, and willingly give it place, with the view of eliciting the opinion of the professions upon it. Letters addressed to us on the subject shall be seen by the projectors of the association.

At the present day, when the utility and attractions of clubs are so universally admitted, it is a subject of surprise that so large and important a body as the architects, engineers, and artists generally, can boast of no institution of that nature.

Whilst nearly every other body of men, every other vocation and calling, from the Church to the Stock Exchange, have their respective places of re-union, those who contribute so largely to the fame and honour of our country are unrepresented and disunited. It were greatly to be desired for the interests of those professions, and for the equally important purpose of promoting a spirit of good fellowship and unanimity amongst the members, that some institution could be created, possessing not only the recommendation of acting as a social nucleus for those members resident in the metropolis, but of serving also as a home to those who reside in the country, and who, when summoned to London by business or other causes, are in the generality of instances subjected to the comparative discomforts and expense of hotels and lodging-houses. In the full assurance, therefore, that the want of such an institution as is now contemplated, must be sensibly felt by nearly every individual connected with the profession of engineers, architects, and the fine arts, and that a proposal for the formation of a club will meet with the hearty co-operation of each one interested in the measure, the following outline is submitted for their consideration.

It is proposed to establish a club in London, under the title of the ——, to which members of the architectural profession, professors of the fine arts, civil engineers, and contractors shall be admissible, the last mentioned under certain *limitations*. The entrance fee to be five guineas, and the yearly subscription three guineas. Foreign artists and members of the above professions, as well as those belonging to the British Colonies, to be admitted as honorary members of the club without entrance fee, and on payment, merely during residence in England, of such amount of subscription as may hereafter be determined on. Members to be elected by ballot. A committee of general management to be elected, in whom will be vested the necessary powers for the formation of the club, the appointment and salaries of the secretary, treasurer, and other officers. In order to obviate some of the disadvantages under which non-resident members are described as labouring, and which it is one of the objects of the proposed club to remedy, it is suggested that a *limited* number of non-resident members, not belonging to foreign countries or the British colonies, should be allowed the privilege of sleeping apartments at the club-house, on such conditions as the committee may specify. Such are a few of the leading features of the club which it is in contemplation to establish. The details of arrangement, &c., must necessarily be intrusted to a committee, which will be nominated as soon as a sufficient number of members have enrolled themselves to authorise the appointment of such committee, and furnish some guarantee for the vitality of the club in question.

It is believed practicable to obtain the co-operation of at least 1,000 members from the several professions to which this club has reference. This, at the proposed entrance fee of five guineas, would give 5,250*l.*, and the first year's subscription 3,150*l.*, making a sum of 8,400*l.*, a capital amply sufficient for all expenses; and it is confidently hoped, that in addition to the ordinary advantages of reading and writing-rooms which this club will possess in common with similar institutions, the funds will, in process of time, allow the formation of a valuable library of reference on all subjects relating to the arts and sciences.

This calculation, there is every reason to believe, is not based on any exaggerated expectations with respect to the success of the proposed scheme. There is no inconsiderable amount of wealth amongst the leaders of the different professions, and no want of that *esprit de corps*, without which no club or society can prosper or long exist. At the same time, the economical principles on which the club will be established and regulated will enable the junior members—those struggling onwards in pursuit of fame or fortune—to participate in an equal degree with their more fortunate brethren in all the social and professional advantages which the institution may afford.

NECESSITY FOR ATTENTION TO FORMS PRESCRIBED BY THE BUILDINGS ACT.

AWARD OF REFEREES.

In the matter of a party wall between a house in Castle-street, Long Acre, and vacant ground at the corner of Endell-street, the owner of the house, Mr. Andrews, gave notice to the referees that it had been rendered ruinous and dangerous by the injudicious underpinning thereof, and by the operations of the building owner (of adjoining ground), Mr. Duncan, who, without the notice prescribed by the Act, "partly in mortar and partly in cement, in long and dangerous lengths, without proper care or shoring, had underpinned the said wall, and so far endangered the house as to cause a notice to be served from the overseers, under the 40th section of the said Act;" and he called for a survey of it, for the purpose of certifying the condition of such wall, and whether the whole or any part thereof ought to be repaired or pulled down and rebuilt, and that at the costs and charges of the building owner, Mr. Duncan.

The district surveyor reported that the said wall was ruinous and dangerous, and that it had been recently underpinned with brickwork throughout its whole length, and that such underpinning had not been done in a workmanlike and substantial manner, and had caused its ruinous and dangerous condition. Further, that it ought to be pulled down and rebuilt on its present site.

In reply, Mr. Duncan urged that the work had been done in a careful manner; secondly, that the wall had been in a ruinous and dangerous condition for a considerable time previous to the commencement of the underpinning; thirdly, that no injury, beyond such as could not be avoided by the exercise of any amount of skill, was occasioned by the underpinning; and, fourthly, that the said wall ought not to be rebuilt, inasmuch as Mr. Andrew's house has been condemned to be pulled down, and that any expense attending the pulling down or rebuilding of the said wall ought to be borne by the owner of the house; and that any injury to the premises, or inconvenience, would be amply compensated for by the payment of a sum not exceeding 10*l.*, regard being had to the large sum already expended in underpinning the wall, and to the circumstance that he waved any claim to any portion of the materials of such wall.

The referees awarded,—that Duncan had cut away and underpinned contrary to the Act, and for want of care had caused the ruinous condition of the wall; that the wall had been previously defective, but that, not having availed himself of the proceedings directed by the Act, he was not relieved from his liability; and they called upon him, at his own cost and charges, forthwith to pull down and rebuild the wall.

Expenses of office (5*l.* 13s. 11d.), and 2*l.* 2s. to district surveyor, to be paid by Duncan.

THE MANUFACTURE OF IRON IN SOUTH WALES.*

The iron trade of South Wales very much surpasses in magnitude that of any other district of the United Kingdom. From the mineral district of Monmouth and Glamorgan alone a supply of some four hundred thousand tons is annually conveyed to the sea. The whole district has been estimated to include an area of about 1,000 square miles. The Glamorganshire ore is almost entirely argillaceous, in balls or nodules; or in bands or strata, both enveloped in beds of indurated clay shale, or 'bind.' The Welsh ore contains about 33 per cent. of metal, and is probably about 3 per cent. richer than that of Staffordshire.

The materials employed in the reduction of iron are principally three. Firstly, the *iron-stone*; secondly, the *fuel*; and thirdly, the *flux*. The iron-stone, technically called 'mine,' is found in numerous thin bands dispersed among the coal measures. With it a considerable quantity of the slate clay or 'bind' is brought to the surface. Here it forms round the mouths of the working heaps termed 'spoil banks,' which disfigure the iron country. The 'mine' is carefully stacked, and after some months the 'bind' scales off, and a tribe of women and children, hammer in hand, complete this process. It is then roasted with coke in a kiln, and its weight reduced 20 to 40 per cent., when it is ready for the blast furnace.

Since the ore is a metallic oxide, it is necessary to expose it to some influence that will remove the oxygen, and thus liberate the metal. This is effected by the use of a fuel as near to pure carbon as is practicable. Formerly, in England, as now in Sweden, charcoal was the fuel employed, and it is still considered to be superior to any other. Small quantities of charcoal iron are indeed still prepared at Backbarrow and elsewhere in Westmoreland, for the manufacture of wire and other fabrics requiring great ductility; but much of the Backbarrow iron of commerce is innocent of any connection with the place whence it derives its name. Most of the iron of this country, which has been manufactured above a century, is charcoal iron, and the area bars and railings of the older parts of London are well known to and sought after by the dealers in old iron.

The importance of the subject of fuel to an iron-work may be conceived from the following statement:—Taking the annual domestic consumption of coal in Great Britain at 33,500,000 tons, and that consumed in the manufacture of pig and bar iron at an average of about 6 tons to the ton of metal, the consumption in this manufacture will be 8,750,000, or towards 9,000,000 of tons per annum, or nearly one quarter of the whole consumption. The consumption round Merthyr, for the year 1839, was nearly equal to that of an ordinary city of 1,450,000 inhabitants.

The flux combines with the earthy matter of the ore, as the fuel with its oxygen. The calcareous ores of Forest of Dean require an argillaceous flux, the argillaceous ores of Glamorgan a calcareous. In either case the lime and clay enter into combination, and leave the metal free.

The blast furnace, in which all the ingredients are to be combined, constitutes the prominent feature of the establishment. In Wales it is a gigantic kiln, in form of a truncated pyramid, measuring at base 30 to 50 feet each way, and at summit 25 to 30. It stands about 45 or 50 feet high, and within its top is placed a large cylindrical chimney, or tunnel head, rising about 12 feet more. Each face contains a large arched recess, gradually diminishing towards the centre of the structure, and intended for the entrance of the blast and the removal of the melted metal. The effect of a range of these huge black furnace towers looming through the smoke, and capped each by its flickering pyramid of flame, is very imposing. They confer upon the rest of the works that sort of character that castles, such as those of Dover, London, or Richmond, derive from their Norman keeps. The interior of the furnace is a double cone, in shape very much resembling an old fashioned decanter placed upon a funnel. The materials are put in at the top, and the products collected and removed by means of the pit at the bottom.

Where practicable, a blast-furnace is commonly built against the side of a hill, scarped down for that purpose, and the minerals are all arranged upon a platform at the summit, requiring only to be loaded, measured, and wheeled in. Below, in front of the furnace, are the cast-house, refinery, and other buildings intended for the immediate reception of the metal. Speaking generally, a charge is composed of about 6 cwt. of coke, the same quantity of mine, and rather above a third of that quantity of limestone. The furnace receives about fifty such charges in a 'turn' of twelve hours.

To carry forward so rapid a combustion a copious blast must be forced into the furnace. To effect this, a steam-engine pumps air into an iron globe or reservoir, 18 to 25 feet in diameter. Here the air, condensed under a pressure of about 2½ pounds on the square inch, exerts an expansive force, and is led away in tubes to the several furnaces, which are thus blown with a blast of uniform and known force. The blast-pipes are kept cool by introducing them through a double funnel or 'tuyere,' filled with water. Of such great consequence is the regularity of the blast, that upon its stoppage for any length of time, the contents of a furnace have been known to become solid. Under such circumstances the steam-engine is a most valuable auxiliary. It was first applied to the blast-furnace in 1770, and the 'make' of iron was speedily doubled.

A blowing engine has been calculated to pour into its receiver about 137 cubic feet of air per horse power per minute, so that, allowing 30-horse power to each furnace, we shall have a supply per minute of about 4,000 cubic feet. From this let one-eighth be deducted for waste and the service of the 'finery,' and 3,500 cubic feet will remain to pass into each blast furnace, being at the rate per turn of twelve hours of 2½ millions of cubic feet, or about 88 to 90 tons weight of air.

A blast-furnace should never be suffered to go out. The supply at the top should be perpetual, and the tapping at the bottom be performed at regular intervals. In this way furnaces will remain in blast for many years. At Dowlais, the largest iron-work in the kingdom, it was found, however, that the blast might be stopped on Sundays for eight hours, and this has since, in these works, been regularly practised. This necessity for keeping the blast-furnaces in general action causes a serious financial difficulty in the trade, since the iron master cannot readily reduce his 'make' to meet his orders.

In some works the supply of water is sufficiently copious to admit of its general use as a power in the place of steam. This is the case to a certain extent about Merthyr, where the Cyfarthfa water-wheels have long been celebrated for their size and excellent construction. The cost of a Welsh blast-furnace complete, with its share of the blast-engine and appendages, is estimated at about 6,500*l.*

The general theory of the changes effected in the blast-furnace is simple. In the upper part of the furnace the heat is sufficiently great to drive off any volatile substances that may have escaped the kiln or the coke-field, so that the materials reach the centre free from any extraneous matter, at a high temperature, and ready to form new combinations. The carbon of the fuel unites with the oxygen of the ore, and passes off as carbonic oxide gas. The limestone, reduced to its quick or caustic state, combines with the argillaceous part of the iron-stone to form a dense semi-vitreous slag or cinder. The metal, thus set free, melts and descends to the bottom of the furnace, to be from time to time let off. The slag rests upon the fluid metal and preserves it from the wasting action of the blast. The excess of slag flows over through a proper opening, and by its condition the workman judges of what is going forward within.

Furnaces generally work better in winter than in summer. Under favourable circumstances, the weekly 'make' or 'yield' of a Welsh furnace is from 60 to 100, or even 120 tons.

The furnaces are tapped twice in the twenty-four hours, when six tons is considered to be a good yield. The evening casting is a most beautiful spectacle. The furnace keeper, standing in the deep shade of the arch, breaks up, by the aid of a long bar, the clay with which the orifice is stopped, the blast is for a moment cut off, the full depth of the arch becomes lighted up, and the metal, foaming and sparkling with a light not endurable by the unpractised eye, gushes forth in a single stream.

The flow of the metal in the main trench or 'sow' is so regulated, that each of the side trenches or 'pigs' shall receive a full trough, or about one hundred weight of metal. Whilst this is going forward the furnace shoots up a vast volume of flame, accompanied by a brilliant shower of sparks, so that the act of casting is proclaimed for many miles around. When the iron has been run out, the "sow and pigs" are covered up with sand to cool, and the works are restored to comparative tranquillity for the next twelve hours.

The loss by this process is estimated at about 40 per cent., being 60 to 70 per cent. upon this and the preceding operations, so that three tons of raw 'mine' may be taken as producing one ton of pig iron.

Carbon seems to bestow a certain degree of softness, toughness, and fusibility upon the metal, and, therefore, pig iron moderately carbonised is more valuable for conversion into bar-iron than the metal in a purer state.

Castings direct from the blast-furnace are of an inferior description. The quality of the metal is uncertain, and the arrangements of the place and the habits of the people are unfavourable for delicate operations. Heavy castings, however, as fly-wheels and shafts, and the ordinary castings for the use of the works, are always 'run' on the spot, and commonly direct from the blast-furnace. Pig-iron, as an article of export, is purchased by founders and machinists, who, by melting down pigs of different qualities in their smaller furnaces, are able to produce a homogeneous metal of almost any quality, and of equable powers of contraction throughout the mass. The principal quantity, however, of Welsh pig-iron is converted on the spot into malleable-iron by a series of processes, of which refining is the first.

The *refinery* is a broad shallow hearth, closed permanently at the two sides, open in front, and capable of being closed behind by means of a pair of iron folding doors. Above is a low chimney. In this furnace a proper charge of coke and pig-iron is placed. Two blasts, one on each side, are set in action, and a strong heat is kept up for two or three hours. The fused metal falls upon the hearth, and there receives the full force of the blast under circumstances highly favourable to the combination of its oxygen with the carbon of the metal. The refinery is fed from time to time with coke (or coal), but the supply of iron is given only at the commencement of the process.

As the iron fuses, the refuse or cinder is

* Condensed from *Westminster Review*.

suffered to flow away. When the appearance of the metal informs the 'finer' that it has reached a certain stage of decarbonisation, he suffers it to escape into a broad shallow trough, exposing a large surface to the air, and he further aids the decarbonisation by the direction of a copious jet of water upon the fluid metal. Whatever the scientific results of this affusion may be, the apparent effect is a most active fume and splutter. Clouds of dense steam are thrown up, a horrible hissing is heard, and the stranger only stands still because he feels that in the mist he is just as likely to run into the furnace as to run away from it. This dreadful broil is by no means the least striking part of iron making. The loss during this process is about 10 per cent.

The iron, now called "finers' metal," has reached its first stage towards malleability, though apparently far less tractable than before. It has become highly infusible, hard, and brittle, even when hot. Its fracture is as white as silver, its lower surface dense, its upper full of flaws and air bubbles. The cakes are removed from the trough, broken up with sledge-hammers, and carried off to undergo the next process, that of *puddling*.

A *puddling-furnace* is of the reverberatory kind, and so constructed as to expose the almost fluid metal to a strong current of air. Here the requisite draught is obtained by a chimney and dampers. The metal is not in contact with the fuel, though exposed to its full heat. The metal here becomes viscid. The temperature is then lowered, the mass begins to bubble up, inflame, and give out a gaseous compound of carbon and oxygen. Its powers of cohesion become suspended, and it falls almost like powder. A vapour arises from it, the temperature is again raised, and the puddler, by the aid of a long bar, kneads up the metal into a ball of from 80 to 90 lbs. weight. This ball is then seized upon by the helper and dragged along the iron floor as a 'puddle-ball,' a glowing mass of impure iron, next to be subjected to the discipline of the *hammer*, weighing 4 to 5 tons, tilted by the engine, and striking 100 to 120 blows per minute. Under this process the cinder, oxide, and other impurities connected with the iron, are violently jerked out, and the ball is beat into a dense angular bar or ingot, called a 'bloom.' In some works a 'pressure' is substituted for the hammer. The loss upon the processes of puddling, tilting, and the first rolling, is estimated at about 10 or 12 per cent.

With the hammer commences that division of the works called the *forge*, the more interesting because the processes are carried on under the eye of the spectator, and not, as before, in a close furnace. From the hammer the bloom is conveyed, still in a red-hot state, to

The *rolling-mill*, composed of two strong heavy parallel rollers of cast iron, cast with great care under a weight that ensures solidity, case-hardened, and turned truly cylindrical in a lathe. These, placed at a certain distance apart, are made by machinery to revolve each upon its own axis, but in opposite directions, so that their tendency, when in motion, is to draw in any body presented to them on the one side, and having compressed it, to force it out again upon the other. A rolling-mill is, in fact, a kind of press, and one mill differs from another in the size and strength of its 'rolls,' and in the pattern of certain grooves cut upon their circumference, by means of which the bar is reduced to the required figure.

The 'bloom' leaves the mill as a bar about 15 feet long, and three inches broad by one thick. This bar is immediately placed under a pair of shears, and cut up into short lengths, which being stacked upon a wheelbarrow are trundled off, still in a hot state, to the 'balling-furnace,' as 'puddle-bars,' or 'No. 1 bar iron.'

The *balling-furnace* is of the reverberatory order, and very much resembles that used in puddling. In it the metal is raised to a second heat preparatory to a second rolling. Five or six of the short 'puddle bars' are piled flat upon each other upon a sort of long shovel. The 'baller' then slides them into the furnace as a baker his bread into the oven; and, finally, as each pile attains a cohering or welding heat, he withdraws it and passes it off to the mill, where it is converted into a smooth, well-compressed bar, of the required dimensions. The bar is next carried to the circular saw to have the rough, or 'scollop' ends cut off, and then laid upon an iron floor to be straightened, which, in the case of railway bars, is a delicate process. The bar is then weighed, and having received from a punch the maker's mark, it is ready to pass into the market as 'No. 2 bar iron,' or 'merchant bars.' The loss upon this second heating and rolling is estimated at about 10 per cent.

No. 2 bar, though sufficiently good for general purposes, is yet capable of being improved in the prime qualities of strength and malleability, by a repetition of the processes of cutting up, heating, and rolling, as No. 3, or 'best bar,' this being the best quality of iron usually manufactured in South Wales. Cable-iron, nail and wire rod, boiler-plate, and iron for similar purposes, is thus repeatedly heated and drawn out. What is called 'scrap-iron' is composed of old nails, saucepans, and 'scraps,' and odds and ends of metal. It is for this reason that scrap iron is of the very best quality, and is much employed for axles and the more important parts of locomotive engines. Scrap iron is not manufactured in Wales.

From the manner in which the parts composing a bar of rolled iron have been arranged, its structure somewhat resembles that of the grain of wood, and a good smith, like a good joiner, will always work up his material with reference to this grain, or, in the phrase of the smithy, 'according to the way of the pile.'

The waste incurred during the several stages of the manufacture has already been stated. In round numbers, 100 parts of raw mine yield about 33 parts of pig iron, and 20 to 25 of best bar iron.

The quantity of water used in an iron-work is very considerable. Upon one occasion near Merthyr, a number of work-people were employed to ascend the furnace by ladders and to perform the office of the water, by descending in the balance bucket as a counterpoise to the ascending materials.

It has been said that the quantity of air forced into a blast furnace by the cold blast is about 88 tons in the twelve hours. Now, it is a well-known fact, that atmospheric air, below the temperature of 1,000 degrees Fahrenheit, does not support combustion.

It is said that an accident suggested to Mr. Neilson, the manager of the Clyde Works, the idea of obviating this inconvenience, by the injection into the furnace of a blast of air previously heated to a temperature as high as could economically be obtained.

In the Clyde Works, according to M. Dufresnoy's report, one ton of metal was reduced by the cold blast from 7 tons 17 cwt. of fuel, whereas the same fuel, under a blast heated to 612 degrees Fahrenheit, produced 2 tons 10 cwt. of metal, including the metal necessary to heat the air; or, in other words, gave a saving of nearly 70 per cent. upon fuel. The introduction of the hot blast was in fact the salvation of the Scotch iron trade, which it immediately raised from a most depressed to a flourishing condition.

The hot blast was first introduced into Wales at the Dowlais Works. But though successful in Scotland, it is said that recent experience has shown the saving upon the smelting of the Welsh ores to be much less considerable; and the hot blast has not been received into general use in Wales.

Recently, at the Ystalafera works above Swansea, an attempt has been made by Mr. Budd to economise fuel, by conducting the heated air and gaseous products from the upper part of the blast-furnace to the steam-boilers of the blowing-engine, and so as to heat the air forming the blast. It appeared that upon one furnace, and with one boiler alone a saving was effected of 350*l.* per annum.

A Thumper.—One solid block of Anglesea stone, weighing before dressing, twenty-seven tons, has just been placed in work as part of the coping of the arch over the western entrance of the tunnel, by the Bangor station of the Chester and Holyhead Railway, The arch is extremely massive, and must have cost an immensity of money.—*Welshman.*

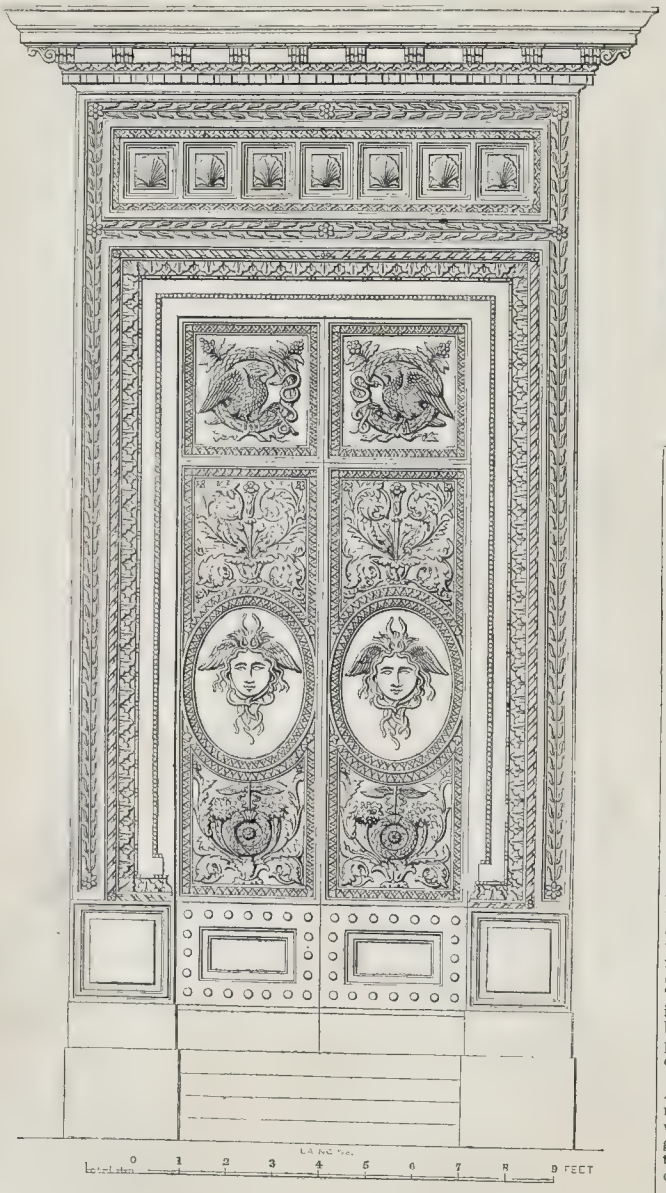
RAILWAY JOTTINGS.

The Railway Commissioners have begun to exercise their new power to extend the time for making railways. The *Gazette* of Tuesday week contains their formal certificate in favour of the Cornwall Railway and of the Delabole and York railways for an extension of time in carrying out their works. Railway companies are thus put in possession of a more expeditious and less expensive mode of proceeding than is involved in an application to Parliament. A large number have availed themselves of the relief. 125 applications have been received and considered: of these 121 have been entertained, and in most of the applications the extension of time asked for has been for the full additional term of two years allowed by the Act. The greater number include the whole of the railway and also of the lands to be taken. Four applications were refused on the ground that there were special provisions in the Act making the completion of the railway compulsory.—— The multitude of ever-recurring falsehoods, and contradictions of falsehoods, begotten by the want of confidence, alarm, and, it is to be hoped, groundless despondency in the world of railway news, almost prevents us from stating that among a number of similar reports it is said that 600 labourers have been discharged from that portion of the Manchester, Sheffield, and Lincolnshire line which is in course of construction near Sheffield. The extensive viaduct across the Wicker, however, is to be proceeded with; and operations are commenced for the re-erection of the 22 arches of the Rother viaduct, which recently fell.—— The works of the South Yorkshire line are said to be proceeding very rapidly and satisfactorily, especially in the neighbourhood of Conisbrough and Levitt Hagg. At the latter place, the work is heavy and tedious, the rock being to blast and cut to a depth of upwards of 70 ft. Near to Warmsworth church, where this line crosses a valley parallel with the river Don, at a distance of nearly 100 yards, an embankment is raised 30 or 40 feet high. The weight of this material is so great, that the land has given way, and pressed the river bank two or three yards further into the water, somewhat obstructing the river traffic.—— "It is a pretty generally received opinion," says *Herepath*, "that no other property has been so much depreciated as railway property. If parties will take the trouble to look about them, they will find themselves mistaken. How is it the buildings which were going on so rapidly a couple of years ago are so generally stopped? Where ten houses were building in 1845, we will venture to say there is not more than one, if so many, now. Why is this? People perhaps may answer, it is because there are too many built, that the supply is greater than the demand. There may be something in that, for that particular kind of property; but that is not admitted by builders to be an answer. They say it is a reluctance to lend money, that that money is not to be obtained, and that when they have built houses they can find no purchasers. A similar observation we heard an eminent solicitor make the other day. If they apply to their clients to lend money on the best of freehold security on mortgage, it is not to be had. They shrug their shoulders and say, 'Under the present state of things we cannot venture to lend our money. We must have it where we can get it back at a very short notice, though it be at a less rate of interest.' That is the cry everywhere. *It is an utter prostration of confidence which is afflicting the world.* It is not a want of money, for perhaps it has rarely been in so great an abundance, but a want of confidence from day to day in the stability of our affairs." Have we not here something very like a secular phase of that desolate and universal *want of faith* predicted in the holy book of books, while wailing over all the agonies of travail through which the world, affrighted more than hurt, must enter on that new and glorious birth of power and goodness faith and truth, predicted by the apostles and their Lord and master?

Competition.—Architects have been called upon to compete for the construction of a new training school for schoolmasters at Chichester, at a cost not exceeding 3,500*l.* Plans and specifications to be lodged before 7th Dec. next.

METAL DOORS FOR MUSEUM OF ECONOMIC GEOLOGY.

Mr. PENNETHORNE, Architect.



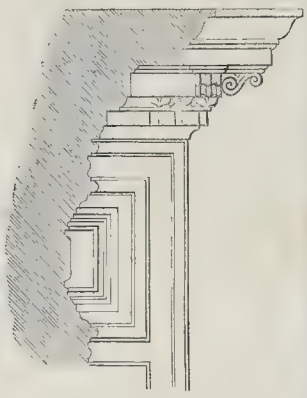


Fig. 2.

METAL DOORS AND IRON ROOF OF THE MUSEUM OF ECONOMIC GEOLOGY.

Continuing our notice of the Museum of Economic Geology, in Piccadilly, we now give a representation of the entrance doorway in Jermyn-street, with proposed metal doors, and diagrams illustrating the iron ribs which form the roof.

The doors, 16 feet high by 6 feet 3 inches wide, are proposed to be of bronze, and (as may be seen) to be very elaborately and elegantly ornamented, including, in oval panels, the heads of two of the Gorgons, probably because of the myth which ascribed to them the power of transforming into *stones* all who looked at them. It was at one time proposed to employ the electrotype process in the production of these doors, but this is at present not decided on. Fig. 2 is a section of the door-head, to shew the profile of the mouldings.

The elevation of half of one of the iron ribs forming the roof, shewn on the opposite page, with cross sections at various points, will explain itself when compared with the general view of the roof before given.* The span from support to support, in the shape of iron cores to the pilasters which are seen in our general view, dividing the recesses for cases (and which go down to the floor), is about 55 feet, but the foot of the rib extends to the wall, which is 6 feet further on each side. The roof, where not of glass, is covered with ¾ inch slate slabs.

* See p. 522, *ante*.

LIVERPOOL ARCHITECTURAL AND ARCHÆOLOGICAL SOCIETY.

The third meeting of this society for the present session was held on Wednesday evening, the 8th inst., at the Royal Institution, the Rev. D. James, F.S.A., one of the vice-presidents, in the chair.

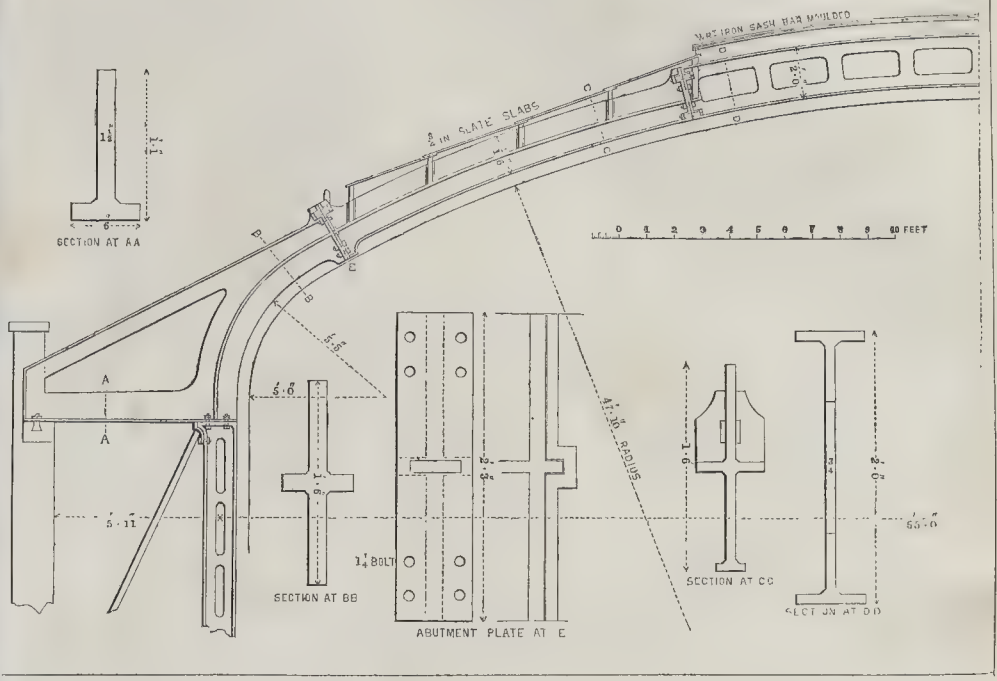
Mr. Picton called the attention of the members to a volume of the works of Robert Adam, lying on the table, containing, amongst other buildings, the plans, &c., of the Registry Office, Edinburgh, and the magnificent mansion at Luton Park, Bedfordshire, erected for the Earl of Bute (tutor to George the Third), which has recently been purchased, together with the estate, by a Liverpool gentleman, Mr. John Shaw Leigh. The speaker remarked on the careful study and the excellent arrangement of the plans of Adam, and made a few observations on the peculiarities of his style. The secretary, Mr. Reed, made some interesting remarks on the restoration, or rather rebuilding of the parish church of Wigan, now proceeding under the direction of Mr. E. Sharpe, of Lancaster.

A letter was read from the secretary of the Archæological Society now forming at Chester, requesting advice and co-operation, when it was resolved that every encouragement be given to the Chester society, which is invited to co-operate and correspond with the society of Liverpool.

The paper of the evening was by Mr. Frank Howard, "On Decoration applied to Architecture as distinguished from Decorative Art," which elucidated the principles that should govern architects in the application of ornament and decoration, particularly in regard to painted ornament. A paper "On Sculptured Ornament" was promised at a future period.

Public Baths and Washhouses.—The Manchester yielded, in 1848, a surplus of 30*l.*, after payment of rent, water, soap, gas, salaries, and other expenses.——The Newcastle have not yet redeemed their whole cost, but no permanent burden will be entailed upon the corporation funds.——It appears, by the report of the East Smithfield, that during the last twelve months 33,655 had bathed, 34,843 had washed and dried, and 12,610 had ironed.

DETAILS OF IRON ROOF, MUSEUM OF ECONOMIC GEOLOGY.



POYNTINGTON SCHOOL-HOUSE, SOMERSET.

THE village of "Poyntington" is situated on the borders of Somerset, and about two miles from the town of Sherborne, in Dorsetshire, and contains a church of Decorated character, though in a very dilapidated condition. Until the above school was built, it was without any place of learning for the children of the poor inhabitants.

The school-house, represented by the annexed engraving, consists of one large room, 27 feet by 13 feet 6 inches, with a projection at the south-west corner, containing a raised platform or gallery for the infant children, a cloak room on north side, and spacious court and appurtenances: the walls are built of rubble stone in random courses, and all the dressings are of Ham Hill stone, properly tooled. All the wood, except the floor, which is of elm, is of red pine, and no paint is used throughout the building, all the woodwork being exposed to view, and stained with church varnish, prepared by Stephens.

POYNTINGTON SCHOOL-HOUSE.

MR. WITHERS, ARCHITECT.



The east elevation presents a gable, with three-light window of flowing tracery, and terminating in a cross; a floriated cross surmounts the gable, and an angle buttress flanks the south side: the door in wall is the entrance to the cloak room.

The south side consists of a gable to the infants' platform, in which is a two-light flowing window; on the top is a bell turret and bell. The door is covered with wrought iron scroll hinges and appropriate appendages, and around it is cut "Poyntington School, built A.D. MDCCCXLVIII.," and underneath on another member, "Holiness unto the Lord."

Internally the roof is open and boarded, and consists of rafter, collar, ties, hammer-pieces, and drop-rafters resting on plates: the windows are all hooded and splayed, and filled with diamond glass; the doors covered with wrought-iron scroll hinges, and scriptural sentences painted on walls. The roof is covered with old tiles, and surmounted by a crested ridge.

The cost of erection, including all the fittings, was within 250*l.*: the site was given, and most of the sculpture. The architect was Mr. R. J. Withers, of Sherborne, and the builder, Mr. Harris, of the same place.

This part of the county has for many years been in a wretchedly ignorant state as regards architectural knowledge, if we may judge from the various buildings erected; and it was only by a late movement as respects the beautiful Abbey Church, that a turn may fairly be said to have been effected. During the last year a better spirit seems to have sprung up, and is daily gaining rapid strides. The various clergy around seem to have wakened from their slumbers, and are one and all endeavouring to atone in some slight degree for former negligence. Churches, especially the chancels, are being restored, and village schools erected, in a very laudable manner.

THE FOUR O'CLOCK MOVEMENT.

Sir,—As on any subject of dispute you are always willing to hear both sides of the question, I trust, as you have found room for the letter of "A Young Builder," you will insert this communication from a Young Carpenter; as I fear lest the contents of the former may tend to disturb the present amicable and satisfactory arrangements. The privilege would at first cause some inconvenience to employers; but this was from the suddenness of the change, and not the principle of it. Employers had only to make their arrangements one hour and a half earlier, and then it was as easy to pay at four as half-past five. The bankers of the City (calculating men) find suspending their business at four o'clock on Saturdays to answer, why not builders? As regards the profit and loss in the matter, I believe the general adoption of the privilege, by allowing more time for the mental and moral improvement of workmen, and by diffusing a better feeling between employers and employed, is calculated in itself to amply repay employers.

"Y. B." calls the privilege "a gross imposition on the part of mechanics." Now, Sir, I appeal to all those liberal and respectable builders who granted it, and all those sober and intelligent workmen who asked for it, against this expression. He either does not remember, or is not aware of the day in September, 1847, when above 600 carpenters assembled in public, to pay a tribute of respect, by a vote of thanks, to their worthy employers who had granted the privilege. There never was a movement of the building trades conducted in a more conciliatory spirit, or a privilege granted with a better grace; it was lauded on all sides by the most influential portion of the press. The *Times*, THE BUILDER, the *Morning Advertiser*, and weekly journals sent their representatives, and several builders honoured the meeting with their presence. The privilege was asked for and granted on the principle that the "interests of employers and employed are identical," and that, therefore, a good understanding ought to exist between them. And of this I do not yet despair. Were the privilege withdrawn, it would create a spirit of retaliation, injurious to employers and employed, and open a breach which would take many years to close. Your correspondent thinks it is not beneficial to workmen; but we have not had time to develop its benefits,—the privilege is little more than a twelvemonth old; give us time—give us encouragement. Many intelligent carpenters are labouring hard to regenerate the members of our trade—to diffuse a taste for drawing—to extinguish a taste for the pot-house, and repay with interest the paltry 9d. per week your correspondent complains of. In the face of the sinister wish that the privilege may be withdrawn, I have faith in the good sense of our Cubitts, our Bakers, our Pipers, and our Kelks. These gentlemen understand the interests of employers and employed; and though sometimes a part of our trade may err, let not their sins be visited on the majority.

ONE OF THE DELEGATES IN THE FOUR O'CLOCK MOVEMENT.

Sir,—Your journal of the 11th inst. contains a letter from "A Young Builder," on the four o'clock movement, a subject of considerable importance, and one which has lately engrossed much attention among the building trades. When the subject was first broached, you earned the lasting gratitude of the working man by your praiseworthy endeavours in his favour, and I am sure it must now be very disheartening to you, to hear that the object which you assisted in gaining has been an injustice to both master and man. But though as such the "Young Builder" who last week addressed you would have you understand it, I think, if you will allow me, I can soon prove to the contrary.

I am in the employment of a competing builder, perhaps the largest in London, who readily and without hesitation gave his men the desired boon, and I really cannot see in what manner the system has worked badly for me as a workman. I must confess I do not, and cannot, understand how it is detrimental to my interests to be able to dress myself, and walk out comfortably on Saturday evening without being tired and disheartened by a hard day's labour. As to my employer, he knows his own interests, and I very much doubt that the system can be more disadvantageous to him than it is to me, or it would scarcely have been so readily adopted by one notable for his prudence and foresight.

The "Young Builder" observes that, "if quitting work at 4 o'clock on Saturdays was in the least degree beneficial to the workman, or at all consistent with common sense or justice, he would be the first to promote its general adoption, but a glance at the public-houses in the neighbourhood of the pay-tables of builders who allow it, will soon convince an observer to the contrary." This is the old jargon about the working classes not knowing how to take care of themselves. Were not public-houses as thronged on Saturdays under the old system as they are now? nay, were they not more so? I will tell the "Young Builder" where this evil has a fruitful source, and clearly show him that it is wholly independent of the 4 o'clock movement. Not long since I was for some time employed at a house in Marylebone, by a master who lived in Westminster. I myself resided in the city. On Saturdays I left work as usual at half-past five, and went to Westminster to be paid: when I arrived it was past six, and there were always many men before me. For an hour have I had to loiter about waiting the arrival of the clerk, and when he came, for nearly another hour have I had to wait my turn. Now, where could I go all this time? It was impossible to go home. I had been at work all day, and was hungry. It was winter time, and I was cold; consequently I was *forced* into the public-house, and many were like me. If all did not keep within the bounds of temperance and moderation, I think it was hardly a matter of wonder. This evil still exists, and to a large extent among "young builders," so let it not be a matter of surprise if, whether the men strike work at four or half-past five *on Saturdays*, the public-houses in the neighbourhood of such pay-tables should be more than usually thronged.

As to the system being beneficial, or at all consistent with common sense or justice, I will offer just a few words for the "Young Builder's" edification. Let the "Young Builder" put his hand to the mallet some fine Monday morning at six o'clock, after having walked for some half-hour previously to his place of employment, and continue at the work till half-past five in the evening; again on Tuesday, and every day till Saturday. Let him do this for some weeks, through rain and wind, through heat and cold, and then let him say how he likes it. Let him explain what desire, what heart he has for improvement or amusement: if, before, he was full of eager desire for mental culture, he will find himself, under the circumstances, benumbed, as it were, inwardly and outwardly: one feeling alone will pervade his mind, and that will be desire for rest. I will appeal to the secretary of the new (so-called) "Protection Society," or any other mason, whether this be not the case; and I will ask, is it too much to demand one day in the week on which the mind may soar a little above its grovelling and brute-like every-day existence? And what a day is Saturday to the working man! The precursor of his only holiday,—that only day which he can spend in the bosom of his family. Why, to make that holiday sweet, there are a thousand little preparations to be made, which none but working men can understand. And who will grudge him this short release from toil which he asks, that he may be enabled now and then to remember that he has a soul? Who can say he does not think it beneficial to let the workman have time to prepare himself for such a day. If the "Young Builder" means what he says, I am persuaded it only requires a little thought to make him adopt the system himself, and promote it as something highly beneficial.

AN OLD MASON.

PROTECTION OF PILES IN SEA-WATER.

Sir,—In your last number I observed a letter from Mr. Jackson, relative to the protection of piles in sea-water and of timber from ants. The letter contains some important particulars, but also *opinions* which, from the attention I have paid to the subject, I consider calculated to create an erroneous impression.

I quite agree with Mr. Jackson as to the *difficulty* of proving that any process for preserving timber had effectually withstood the "teredo navales" (I say nothing of the *white ant*). It would take a *long series of years* before any decisive *facts* could be obtained as to its efficacy in resisting that "calamitas navium."

My *own* opinion is that *no chemical* means will *effectually* prevent the ravages of the teredo, and I found this statement on what I know of the nature, character, and manner of its operations—facts which I have taken considerable pains to investigate.

Mr. Jackson questions the use of broad-headed nails as a means of protection: he states, "they lose their heads when rusted," and mentions the fact of his having seen timber which had been covered with such, but when taken up was quite destroyed. It is a dangerous thing to generalize from a simple fact like this; but whether the nails lose their heads *when rusted* is of small consequence (the only fear is they may lose them before); for that very rust hardens upon the pile and becomes a solid mass impenetrable to the worm. I can shew your correspondent specimens of scupper-nailed piles which have been under water from ten to fifteen years, and the wood quite sound, while both above and below the nailing on the pile the wood is perforated by myriads of the teredo and also the lymnoria. I have also many other proofs of the efficacy of scupper-nails in preserving timber; I do *not say* it is *always* successful, but it is the most perfect plan for preserving piles in sea-water, and one subject to fewer contingencies: whatever may have been the cause of the *decapitation* of the nails, it is evidently the exception and not the rule. The facts mentioned by Mr. Jackson relative to the effect produced on wood by the white ant prepared by several chemical processes are of the highest value, and would apparently shew that it is quite as destructive on the land as the teredo on the sea, and as doubtful if any but *mechanical* means will preserve from destruction the timber it inhabits.

Fulham. JOHN PATON.

NOTES IN THE PROVINCES.

To the restorations in Waterbeach Church, a new window, the gift of Mr. E. Mason, and containing four panes of painted glass, the work of Miss Burbage, of Cambridge, has been put up, and it has been proposed in the parish, as the most acceptable acknowledgment of the liberality of Mr. Mason in rebuilding the chancel, to raise a subscription to repair the remainder of the edifice, in a corresponding style. We are sorry to say, however, adds our authority, the *Cambridge Chronicle*, that impediments have been started, likely to nullify the intentions of the projectors.——A church lately erected at Skirbeck, near Boston, Lincolnshire, at the expense of Dr. Roy, rector of the parish church, was consecrated last week.——The Rev. C. A. St. John Mildmay, as rector of Chelmsford, says the local *Chronicle*, has wisely decided on preventing any further interments taking place in the body of the church,—a resolution the more honourable to the rev. gentleman, because it is carried out at the sacrifice of his own private interests.——It is said to be the intention of the Woods and Forests to apply next session for an Act to vest the Pavilion in her Majesty in fee-simple, to dispose of it as she may please. It applies further for power to purchase lands, houses, &c. intermixed with or contiguous to the premises.——A memorial window, in the decorated style, was last week fixed at Portswood Church, near Southampton: Mr. Brandon, architect; Mr. Baker, mason; and the stained glass by Messrs. Ward and Nixon.——The new dining-hall, erected in Pembroke College, Oxford, from designs by Mr. Hayward, architect, of Exeter, has been opened: Mr. Arding (London) was the builder.—— The Royal Old Wells and Baths at Cheltenham have, according to the *Journal*, been purchased by Messrs. Rowe and S. Onley, jun., with a view to restore or rebuild the pumproom on a more extensive scale for general purposes; also to preserve the old walk, with its noble avenue of time-honoured elms. A plan, too, is said to have been submitted to the town commissioners for running a main public sewer down the whole length of the Chelt, at a cost of between one and two thousand pounds, while its sanitary value would be incalculable. The river Chelt would then become again a trout stream. An anonymous "friend" has contributed 1,000*l.* towards rebuilding St. Peter's Church, Cheltenham. The same "friend" who has behaved so generously towards St. Peter's Church has given a donation of 100*l.* for the Church of England training schools at Cheltenham.—— The old church at Buckenhall, six miles from Taunton, is undergoing entire demolition; the old Gothic windows being broken up to mend a wall! A cross and other parts were taken to Taunton, to be kept as a memento of what appears to be a very strange proceeding. A new church has been erected nearer the clergyman's residence.——The foundation-stone of the new bridge at the eastern approach into Truro, was laid on 4th inst.——A map, shewing the entire range of the Liverpool docks, existing and intended, has just been published. The extreme length of the river wall, which fronts the line of the docks, is within a few yards of 4 miles. The total water area now available amounts to upwards of 195 acres, and the total quay space to more than 14 miles. There are in all twenty-one docks in operation, exclusive of graving docks, half-tide docks, and basins. Of these, five, comprising about 33 acres of water area, and nearly 2 miles of quay space, have been opened within the last few weeks. Two others, and a half-tide dock, which will yield together 21 acres of water area and one mile of quay space, are in a state of great forwardness, and when all are brought into play, together with the contemplated increase in the neighbourhood of Wapping, Liverpool will be possessed of a vast extent of dock accommodation.——Steps, says the *Leeds Intelligencer*, are being taken for the erection of a new church in St. Matthew's district, Little London. The designs approved for the structure are by Mr. Burleigh, architect. The church will consist of a nave of five bays, with clerestory and aisles; and a chancel with two lights on each side. The style is decorated. The original design shews a tower at the south-west angle, forming the porch, and surmounted by a spire; but to save expense, a gable belfry is substituted, and a porch is attached to the centre compartment of the south aisle. The clerestory windows are each a circle enclosing a trefoil. ——The inhabitants of Doncaster have presented a memorial to the town council on the supply of water. In some parts of the town they have not had water for three or four days and sometimes a week together! Water companies do indeed require a little salutary correction, and in more places, too, than Doncaster. ——The Hull Dock Company have resolved to go to Parliament for a short Bill to enable them to raise 150,000*l.* on loan, in addition to the 400,000*l.* which they are, by their existing Acts, authorised to borrow for the completion of their works.——The foundation stone of a new Roman Catholic Church was lately laid at Morpeth.——A monument in memory of the late Rev. Dr. Chalmers has just been erected over his grave, in the Southern Cemetery, Grange Loan, Edinburgh, by his family. The design is said to be extremely simple, consisting of three massive slabs of granite, projecting from the northern wall of the cemetery, the one in the centre having the inscription, "Thomas Chalmers, D.D., LL.D., born in 1780, died 1847." The grave is enclosed with a railing in the Gothic style.

Miscellanea.

Ill-Restoration of Churches. — At the first meeting of the Archæological Institute on the 3rd inst., Mr. Westmacott took occasion to invite the attention of the members resident in remote parts of England, to the injuries caused by injudicious restoration of churches. He alluded to various architectural remains of value which he had visited during a recent tour for the purpose of examining the church architecture of some of the counties least visited by antiquaries; and said, he had witnessed with regret the still prevalent deficiency of care and judgment in the repair or rebuilding of many parochial churches deserving of preservation. These remarks were followed up by several members present, stating recent instances of the destruction of ancient works of architecture or other art. Mr. Lamb alluded to the total ruin of a church at Quarendon in Buckinghamshire, rebuilt by Sir Henry Lee in the reign of Elizabeth, and in which some fine family memorials existed within memory, now wholly destroyed. The fabric had been in a perfect state at the close of the last century. Mr. Westwood complained of the destruction of a curious inscription at Sunning-hill, given in Camden's 'Britannia,' and now lost. Mr. Richardson remarked that the alabaster tombs and effigies of the Minors family in Staffordshire had been removed, and their fate was not known. Lord Northampton recommended to the society to encourage a more active interest in the preservation of ancient remains,—and suggested that much might be effected through the influence of members resident in various remote parts. He called attention to the frequent discoveries of mural paintings during restoration of churches, and to their interest as examples of art; the valuable decorations just discovered at Wells,—the curious designs lately found by Mr. Blore in restoring the Church of Caistor, Northamptonshire,—and the design exhibited by Mr. Giles on the present occasion, from the Church of Wellington, Somersetshire, the finest example of painted sculpture, perhaps, yet discovered. Works of this nature could rarely be fully preserved, and it became desirable to obtain careful drawings of them.

Smoky Chimnies.—Sir: I have tried all sorts of things to remedy this evil in a house which I built for a gentleman in Oxfordshire last year. All that I had hitherto tried has been in vain. I one day arranged a pot, which I suppose may be called a self-acting pot, and I am glad to say this answers, and has remedied the evil. It is set diagonally (where there are more than one they would be set point to point); there are four doors, one on each side, with a connecting-rod attached to each pair, so that when the wind is blowing strongly from any quarter, two doors will be immediately shut, and the two opposite opened by those that are shut: the top is quite closed.

H. C. T.

The Art-Union of London and the Board of Trade.—We are positively informed that a petition to the Board of Trade, professedly emanating from artists, and urging the necessity of preventing the selection of the prizes by the prizeholders themselves, has been got up by parties *connected with that Board*, and is now being sent round to the leading artists to obtain, if possible, their signatures! Surely their lordships cannot be aware of such an unscrupulous proceeding—a proceeding at once undignified, hazardous, and tyrannic. To *out* minds it involves so much more than the mere question at issue that we can scarcely credit the statement. It comes to us, however, from a member of the Academy, to whom the petition was sent, and who at once refused to sign it,—because, as he said, he honestly believed that the Art-Union was doing much for art and artists in this country, and that the alteration in its constitution which some few individuals desired to make, and which the petition sought, would greatly cripple if not altogether destroy it.

Deaths through insufficiency of Machinery.—We learn from the local press that the erection of a court-house at Tain, Ross-shire, upon the site of the old prison, has already been signalised by a disaster almost as melancholy as that which attended the destruction of the former building by fire in the year 1825. For the purpose of raising the stones employed in the building, a crane was erected some time since, and appeared to be quite sufficient for the duty required, but the ratchet-catch was left out of its place, and the stone then being raised, descended and killed one of the workmen. Two other lives were afterwards sacrificed by a part of the machinery giving way. The overseer, after the first accident, substituted a new jib, much longer and heavier than the one formerly used, with a view to the more convenient execution of the work. This new jib was a fir log, about 48 feet long, and throughout its whole length about 8½ inches square. In raising a heavy stone the catch of the ratchet-wheel became bent, and therefore shortened. The jib got a start downwards, and the extremities of the ratchet-teeth gave way, one after another, by the action of the catch against them. In its descent the jib struck against a platform near the front wall, and a portion of it, about 37 feet long, turning round the point of fracture, the extreme end fell into the middle of the street and killed two boys, one of whom was engaged at the work, the other a mere passer-by. Want of care on the part of those engaged in such operations is a *crime*.

Lecture at the London School of Design.—On Friday, in last week, Mr. R. N. Wornum delivered a lecture on Asiatic art, at the Government School of Design, Somerset House. The state of art among the Israelites at the period of their exodus out of Egypt was first considered, and their works—the Golden Calf and the Tabernacle—minutely described. As artists the Israelites of that period were in every respect Egyptian. The works of art of a later date—Solomon's Temple and the Golden Candlestick—were described in detail. The state of Assyrian art and the ruins at Persepolis afforded the lecturer an opportunity of stating a great number of facts connected with these ruins. A description of the excavated temples of the Hindoos concluded the lecture.

Exhibitions for the Working-Classes, Manchester.—The Exhibition of the Works of Modern Artists at Manchester has closed for the season. Following the plan commenced last year, the rooms were thrown open to the working-classes at the charge of twopence each. During the twenty-four nights when so opened, they were visited by about 17,000 persons, consisting, in a great measure, of the class for whom this evening exhibition was more particularly intended. They evidently both valued the privilege and derived from it an enjoyment which it was highly gratifying to observe: and *in no one instance did the slightest damage to any work occur*.

Incrustation in Steam-Boilers.—M. Cavè, the eminent French engineer, announces that he has ascertained that a number of small oak blocks, thrown into steam-boilers, has the effect of completely preventing incrustation, and that it is sufficient to renew them about twice a fortnight.

PROJECTED WORKS.—Advertisements have been issued for tenders—by 6th December for completion of the unfinished works on the London and North-Western Railway, in two contracts, one for about 4 miles 12 chains, the other for about 3 miles 49 chains, with earthwork, masonry, rails, &c.; by 4th December, for the erection of a block of ten coke-ovens at New-cross Station, on the Brighton Railway; by a date not specified, for various gas fittings for Birmingham Gaol; by 21st inst., for alterations, additions, and repairs of Houghton Mill-bridge, Lancashire; by 15th, for laying down drains at Addenbrooke's Hospital, Cambridge; and by 29th, for lighting part of Tottenham with gas or naphtha, or partly both, till April, 1849.

SANITARY PROGRESS.—The Ely correspondent of the *Cambridge Chronicle*, after summing up a goodly display of facts of the strongest description with regard to the "nuisances of a dangerous character which abound from one end of the city to the other," and have increased the mortality of Ely above other places,—adds that, notwithstanding, "one of our surveyors has the effrontery to say the Health of Towns Bill is not wanted here." The Government inspectors have been requested to investigate evidence highly favourable it is said, for the possibility of carrying out a proper system of drainage.——The guardians of the North Witchford Union have resolved to carry out the provisions of the Removal of Nuisances Act, and have been soliciting reports of nuisances.——The West Ham guardians are also astir, and so are the inhabitants of Stratford ward in reference to nuisances.——In Islington, Clerkenwell, and other crowded districts of the metropolis, a great many summonses have been taken out under the Sanitary Act against house owners, for insufficient water-closets, &c., for tenants. ——The Brecknock guardians and street trust are carrying out the Nuisances Act, and requesting co-operation.——So are the parochial authorities of Cockermouth, the guardians of Workington, and the Carlisle council. At Carlisle steps are also being taken by the council for the application of the Health Act to the city.

PROPOSED IMPROVEMENT IN GRACECHURCH-STREET, CITY.—It is proposed to lessen the danger arising to foot-passengers from the great pressure of vehicles at the corner of Fenchurch-street and Gracechurch-street, where stands St. Benet's Church, by opening the lower part of the tower and allowing passengers to pass through it, by which means the present foot-pavement may be added to the road. The project has been mooted some time, but stood still for want of money. The Common Council had voted 300*l.* towards it, but the remainder could not be obtained. The City Sewers Commission have now voted 100*l.* for the same object, and the work will probably be commenced shortly.

NAVY TIMBER CONTRACTS.—A correspondent of the *Times* calls the attention of the timber trade seriously to the following questions:—1. Whether there are no merchants of sufficient spirit and capital to compete with the present contractors? 2. Whether the connections of the present firm are absolutely necessary to the obtaining of the required supply, and that no others have equal connections? 3. Whether the words at the bottom of the Government advertisement, "the Commissioners are not bound to accept the lowest tender," have not often prevented many large firms from sending in tenders, knowing it to be a waste of time? He also asks the difference in price between the tenders made and those accepted.

BLIND BUILDERS.—The following is a list of the tenders delivered for the proposed Odd Fellows' Institution, at Birmingham; Mr. Alexander, architect. The quantities *were supplied.*

Orchard	£2,900	0	0
Walker and Wilkins	2,695	0	0
Brooks	2,619	0	0
Bradshaw	2,484	6	10
Henfield	2,483	5	0
Turner	2,476	0	0
Branson and Gwither	2,460	0	0
Webb	2,458	0	0
Upton	2,393	18	10½
Jackaman	2,292	7	6
Mountford	2,056	14	4

INTERESTING TO UPHOLSTERERS AND BUILDERS.—Mr. Lydiard, a builder, became bankrupt after having given an acceptance for 40*l.* to Mr. Acutt, an upholsterer, in part payment of five coffee-room tables, made to order of Lydiard, for Mr. Cooke, the proprietor of the Three Cups Tavern, who pursued Mr. Acutt for the tables, which had been delivered to Mr. Cooke, but returned to Mr. Acutt for alterations, arranged with Mr. Lydiard to cost 2*l.* 10*s.* Mr. Baron Platt gave a verdict for the plaintiff, Mr. Cooke, on the ground that as there had clearly been a delivery of the tables to the plaintiff, there was not any property in them in Lydiard, and therefore they could not constitute a set off against the defendant's claim upon the bankrupt.

POISON FROM LEADEN WATER PIPES, &c. The family of Louis Philippe are said to have narrowly escaped being poisoned by the impregnation of water from leaden conduit pipes and reservoirs at Claremont. The mischief was first reported to have arisen from copper, an equally poisonous metal. The family have been obliged to remove to Richmond. The metropolitan correspondent of the *Liverpool Albion*, gossipping on things in general, expresses his belief that the right reason of the removal has been alleged, inasmuch as Claremont "is in the hands of the Woods and Forests, and that is quite sufficient to ensure its being in the worst possible state, at the largest possible expense."

THE DECORATIVE ART SOCIETY.—On the 25th ult. a paper was read by Mr. Laugher, which embraced a review of the transactions of the society during the last session. It stated that twelve important topics had been treated at length during that period, and these had reference to the occurrences of the time at which they had been produced. They were described as remarkable for freedom from merely retrospective views and historic data, and as being distinguished by a great proportion of inductive reasoning upon palpable every-day experiences. It was affirmed that the instructive remarks on discussions had been generally so well-timed and so practical in their nature, that the society had been enabled to promulgate ideas which would stimulate in their echoes and reverberations the progressive enlightenment and advance in appreciation of the decorative arts. Each paper was referred to, and the details—for the most part recorded by us—afforded matter for several useful comments as they were passed under review. Mr. Laugher also read a paper "On the study of design from vegetal growth," illustrated by drawings on a large scale, recently made by members of the society in the Botanic Gardens at Kew.

BOILER EXPLOSIONS.—It gives us great pleasure to notice the praiseworthy exertions now being made by the ironmasters in South Staffordshire to prevent accidents by steam boilers, which unhappily of late years have been of so frequent and disastrous occurrence in this neighbourhood both to life and property. We learn, that in addition to the many precautions already adopted, the ironmasters are entering into a union generally to employ an inspecting engineer, to examine and report monthly to them upon the working condition of all their boilers and engines. This plan is carried out to a great extent, and with perfect success, we believe, in Cornwall, and although the low price of coals may be considered a reason, in a pecuniary point of view at least, why it need not be followed out to the same extent in this district, we are sure that great improvements may be made, and that in a commercial point of view it would be found of much value. It must also prove very satisfactory to the foremen and engineers employed in the different establishments, since, by the adoption of the proposed plan, much responsibility will be taken from them in cases of accident, and the rumoured interference on the part of the Legislature would also be rendered unnecessary.—*Birmingham Journal.*

INSTITUTE OF ARCHITECTS.—On Monday, the 20th, the opening meeting, Earl de Grey will take the chair, and will present the Royal and other medals awarded during last session. A paper will be read on the cathedral church of St. Isaac, recently erected at St. Petersburgh.

THE MASTERSHIP OF THE GLASGOW SCHOOL OF DESIGN.—We mentioned a short time ago that, on the report of Mr. Wilson, the late director of the Somerset House School of Design, made without any previous conference with Mr. M'Manus, to give him the opportunity of rebutting any prejudicial statements which might have been offered to Mr. Wilson, Mr. M'Manus had been dismissed, after five years' services and the annual eulogiums of the leading members of his committee. Our readers will be astonished to hear now, that Mr. Wilson has himself been appointed to fill the vacancy thus created!

ELECTRICAL EXPLOSION OF BOILERS.—A writer in the *New York Tribune*, who attributes the explosion of steam boilers to the same force which issues from the atmospheric vapours as lightning and with identical effects, suggests the adaptation of proper conductors, especially copper tubes, to the nozzle or valve chamber of the boiler. The explosive principle is disengaged from the steam, he adds, as it is let into the cavity of the nozzle on the opening of the steam valve, when the pressure that kept it combined with the steam is in great part taken off. The suggestion appears to be a really feasible, as well as new one, though it has long been known or believed that the explosive principle is not steam itself, but rather its constituent gases decomposed by the electrical forces, and especially when the *safety*-valve is opened. That the electrical forces *are* generated in the escape of steam from the opened valve was sometime since remarkably proved by Mr. Armstrong, who thence invented his hydro-electrical machine, a battery which appeared to possess all the intensity of the electrical charge with all the sustainment or continuity of the galvanic circle, and the powers and merits of which we do believe are not yet half developed. In connection with these discoveries, this new suggestion may lead to important results.

SELF-EDUCATION.—The learning that we acquire at school is but the beginning of education, and because we have left school our education is not complete, but only begun, for what we have there learned, we have yet to learn the application and practice of, in all the requirements and duties of life; and now it is that we must commence the most important part of education, self-education, the applying what others have taught us to the teaching ourselves, the carrying on what others have begun for us to our own self-improvement. Now, in reality, begins true education, for whatever a man learns himself, he always knows better than what he learns from others. Not that, therefore, the help and the advice of others is to be disregarded at any time, for we must use all the aids of men or books that we can. But we must set ourselves to work upon ourselves, and we must no longer be children dependent upon others to teach us, but striving to teach ourselves. When we were young our food was provided for us, but even then we ate and digested it for ourselves: now we must not only do this, but we must earn it also, acquire it for ourselves, and so in understanding and in knowledge become men.—*The Working Man's Charter.*

FOOT SUSPENSION-BRIDGE, SUN TAVERN FIELDS, SHADWELL.—A foot suspension-bridge has just been erected, under the direction of Mr. Wm. Dredge, C.E., across the Ropery-grounds, in the Sun Tavern Fields, parish of Shadwell, to form a communication between the Commercial-road and the London Docks. The bridge is built of iron, with the exception of the roadway, which is planked with 2½-inch yellow battens. The clear span of the bridge is 91 feet, the width of the roadway 7 feet 6 inches. Each chain, as it rests upon the tower of support, is composed of 8⅜-inch round bars of iron, and four bars, each ½-inch in diameter; this gives an aggregate section at each end of 6·52 square inches of iron in the chains, the breaking strain of which is 195 tons, being equivalent to 132 tons placed upon the platform. The weight, however, which the bridge will bear in safety is only one-third of this, or 44 tons. The holdfasts to the retaining chains are held in their places by being securely imbedded, each in about 10 tons of concrete. The platform, when extremely loaded, will hold about 150 persons.—*Mechanics' Magazine.*

IMPROVEMENT OF NAIL-MAKING MACHINES.—Mr. Charles Lambert, of Bristol, has patented a new arrangement, by which heated iron-rods, by eccentric rollers, or rotary cams, are formed into wedges, or a series of connected wedges, ready to be cut into separate nails.

TO CORRESPONDENTS.

"*Royal Academy.*"—In reply to several, probationary drawings must be sent in by December 28th, or June 28th.

"*S.*" (Liverpool).—We are unable to answer the question, and cannot make a charge on anonymous authority.

Received.—"W. H. J. W." (we shall be glad to see the drawings and will return them whether used or not). "Mr. S." (forwarded). "Subscriber A." (write for prospectus of British Mutual Loan Classes, 17, New Bridge-street, Blackfriars). "W. H. J. W." (will appear). "Quondam" (will appear). "J. W." (the plan seems similar to one proposed by Mr. Martin long ago). "T. E. R." (declined with thanks; the window is apparently perpendicular, not Early English). "G. H. W.," "*Aretæus,*" "W. T." (Norwich).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

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MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the minutiæ essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

MR. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be intrusted with will be promptly attended to. It answers admirably for multiplying Tracings.—Lithographic Printing Office, 15, Cheapside, London.

COOZE'S IMPROVED MARBLE PAPERS.—The Trade are supplied with these beautiful Papers, which are the exact imitation of W. W. Cooze, Decorator to her Majesty. They will be found fully equal, in effect, to painting, at a considerable saving of expense. W. W. C. invites an inspection at his Manufactory, 20, Frith-street, Soho-square, who also may be seen designs of every style of decoration, which are executed on the most economic terms. Contracts taken and workmen sent to any part of the United Kingdom.—20, Frith-street, Soho-square.

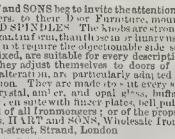
PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in models on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above —451, Oxford street.

GALVANIZED IRON FOR ROOFING, &c. The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is much preferred for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, combining lightness and strength. This fire-proof material has been used for roofing the new Houses of Parliament, shipbuilding and timber sheds in her Majesty's dock yards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated arches, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 3, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

By Her Majesty's — Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.



HART and SONS beg to invite the attention of architects, builders, and others, to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are stronger, in are durable, and more elegant, and run, than the ordinary ones, as the spindles, being loose, do not require the objectionable side screw. They are more readily fixed, are suitable for every description of look now in use, and, as they adjust themselves to doors of different thicknesses, without alteration, are particularly adapted for the country or for speculation. They are made to suit every style of decoration in China, crystal, amber, and opal glass, buffalo, horn, ivory, oak ivy, brass, &c., en suite with finger plates, bell pulls, levers, &c. May be obtained of all Ironmongers; or of the proprietors and sole manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, and 55, Wych-street, Strand, London

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any lock furniture without such side screws would be an infringement of the patent.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Steam factory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¾ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, laned to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.—T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Weatherglid Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

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SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Canal Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to ANGUS J. JENNINGS, Secretary.

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T., W., and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large saving, both of time and money, is effected,—so great indeed, that in many cases they can deliver a well-finished article in Caen stone for less money than it can be obtained in cement, while their work, in all such cases, is found to come into closer competition with the best kinds of composition ornament. For prices and estimates apply at 154, Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"Gentlemen.—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the production of the wood carvings of the House of Peers, and other apartments of the New Palace, at Westminster, that I am enabled to make the most favourable report concerning it, and to add that it has more than justified the favourable terms in which I recommended it in 1845 to her Majesty's Commissioners of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

TO ARCHITECTS, BUILDERS, &c.

GEORGE JENNINGS, Patentee of the SHOP-SHUTTER SHOE and FASTENER, INDIA-RUBBER TUBE COCK, &c. &c., 29, Great Charlotte-street, Blackfriars road.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one-third less room than any other shutters made. Harcourt Quincey, Patentee.

CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL BOARD PLATES, &c. &c., in brass, copper, and zinc. WROUGHT-IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description cented with buildings. Steam engines, millwork, and smiths' work. CLARK and Co., Engineers, 238, Wapping. Models can be seen and every information obtained at 45, Oxford-street, and 4, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

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Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B and C. challenge competition as to either quality or price.

Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS

SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS

Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET, LAMBETH. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Rousing and Lowering Shutters, without Machinery, and Two for Housing and Sheathing the Edges of Wood Laths with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is superseding crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

PLATE GLASS.—THE BIRMINGHAM PLATE GLASS COMPANY, Smethwick, near Birmingham, and 141, Fleet-street, London, supply silvered, polished, picture, and rough plate glass, of first-rate quality, and on the most advantageous terms. ESTIMATES for SHOP FRONTS, &c., with samples of the glass, forwarded on application, to any part of the kingdom.

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Common in 100 feet cases			20s. 0d.
Do.	200	do.	38s. 0d.
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3-8th inch	1s. 2d.	1 inch	3s. 0d. per foot.
¾ inch	1s. 6d.		

PATENT ROUGH PLATE TILES.

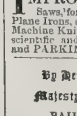
¼ thick	0s. 11d.	3-8th inch	1s. 7d.
½ inch	1s. 3d.	¾ inch	2s. 0d. each.

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IMPROVED CIRCULAR SAWS, Upright Saws, for timber and deal frames; Patent Tempered Machine Plane Irons, saw files, improved engineers' files; Patent Tempered Machine Knives, and cutters of all descriptions, made on the most scientific and economical principles, with despatch, by BLAKE and PARKIN, the Meadow Steel Works, Sheffield.

By Her Majesty's — Royal Letters Patent.

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THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN PARKER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money Order Office.

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CHUBBS' PATENT DETECTOR LOCKS give perfect security from false keys and picklocks, and also detect any attempt to open them. They are made of all sizes, and for every purpose to which locks are applied, and are the most secure, simple, and portable.

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CHUBBS' CASH and DEED BOXES, fitted with the Detector Locks.

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CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubbs.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes. STRONG WROUGHT IRON FIRE PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent under any other house in London.

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ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Wakefield Dock Wharf, Commercial-road, Lambeth, No. 1, Irongate Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster of Paris, Tarras, Bricks, Tiles, &c.

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It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it should be used instead of the stucco of Vermon.

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PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 319 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cement. These indicate that for the principal purpose of building, the concreting part of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesive and other sorts of stone as well as bricks, combined with its equal value for Dock or Pier purposes, show it to be unsurpassed in the building, concreting, and wharf cells, and the lining of reservoirs, cisterns, &c. Manufactures, J. B WHITE and SONS, Millbank-street, Westminster.

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JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attending the use of these Materials, which, for their appearance, durability, imperviousness, utter resistance to heat, and general economy, distinguish them far above all other cements and paints; and fully justify the confidence reposed in them, as shewn by the numerous testimonials received from noblemen and private individuals of the first respectability. Detailed particulars may be had free of charge on application at the Works, or of the Agents for the sale of the same. PHILIP HARE, at the Warehouse, 23, Steel-yard, Upper Thames-street.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT.–REDUCTION of PRICE.—The Patentees have to inform their friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been fully proved that its many excellent qualities obtained a high standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, an immense small amount of labour required in working it, a saving of 25 to 30 per cent. is effected in comparison with other cements for internal use. Specimens shewing its beauty, hardness, and applicability for plain and ornamental purposes may be seen, and the Cement in any quantity had at the Patentees' Works, Mess. STEVENS and SON, at their Plaster and Cement Works, 166, Drury-lane, London

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WE have pleasure in calling your attention to our REGISTERED CUPBOARD TURN, the novelty and simplicity of which has caused it to be adopted. It possesses the important advantages of a stop rose, a fast tongue, and resulting itself to any thickness of door: the cost being scarcely if any more, than the ordinary turn, added to its utility, it will be found to be a most valuable improvement.

WILKINSON and LAWTON, Manufacturers and Wholesale Ironmongers, York-street, Birmingham.

PROTECTION of LIFE and PROPERTY from FIRE.—"Again and again, we protest against the almost criminal practice of constructing buildings as if for the express purpose of readily burning and free, on the other hand, the importance of adopting every possible precaution to render them fire proof, and the sin against society which the neglect of these precautions implies."—Extract from a Leading Article of "The Builder."

The Patentee of the present invention has especially directed to a new method of constructing the floors, ceilings, and roofs of dwelling-houses and other buildings, whereby he is enabled to render them fire proof, and at the same time to effect a considerable saving in the cost of the same. The method consists in the employment of iron bars or plates, which are bent into an extensive variety of forms, and by the patentee in the county of Gloucester, and unites greatly increased strength and stability with a considerable saving in the cost of construction as so perfectly simple and effective, to preclude all liability to failure. For public buildings of all kinds; for warehouses, where valuable goods are deposited for manufactories, where hazardous business is carried on; and for all buildings which are subject to heavy rates of fire-insurance, as well as for private residences and dwelling-houses generally, this system is most valuable, and will, it is hoped, receive the support of the public. The saving in the cost of the floors is considerably less than any other system of fire-proof construction, and does not exceed that of the ordinary and destructive timber floors. For further particulars, and for the application to be made to the proper office, which is at present in the hands of the solicitors, reference is permitted to the architects, Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

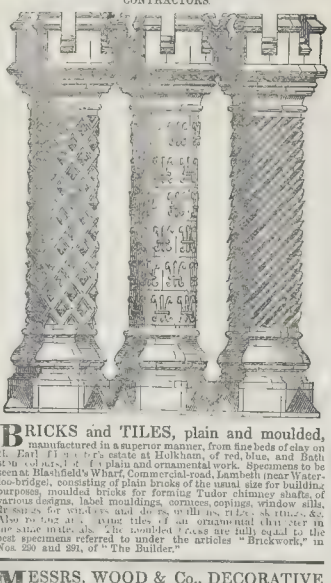
WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate for Ornamental Paving, Hearths, &c. Specimens at 12 Stamps for 1 Pound, "Seconds," at 9d. N.B. These Tiles being manufactured on exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required. Specimens may be seen in London, at Messrs. GREIVE and CHEELLER'S, Maiden Wharf, Belvidere-road, Waterloo Bridge; and in the country, at the Works, Palace-row, Worcester.

NEW BRICKS.—TO BE SOLD, 300,000 PRIME NEW STOCK BRICKS, of good colour and quality, made at Grays. To be delivered there or in London.—Apply to Mr. BARNES, 33, Fenchurch-street.

BRICKS.—Superior White and Red Facing Bricks, Hard Stable, Paviours, &c. &c., may be had at WARD'S WHARVES Brick and Tile Works, Hemwell, Middlesex. Moulded Bricks and Tiles to any pattern on liberal terms. These works adjoin the Grand Junction Canal and Great Western Railway, from whence goods may be conveyed to town and country at a trifling expense. Where large quantities are wanted for public works, mansions, &c. W. and S. W. will contract to make them on the spot.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Ship-pers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Window Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving tiles, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting purposes, &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with despatch. Country Builders will find this the cheapest market for the above.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS



BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Dartmouth's estate at Beckton, near Romford, Essex, and Bath and red rubbed and plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth (near Waterloo-bridge), consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, &c. Designs for working any of the above bricks, tiles, &c. &c. Also to be seen paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 290 and 291, of "The Builder."

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c.

70, York-road, Lambeth; and 28, Cross-street, Hatton Garden, Holborn.

PATENT TOUGHENED CAST-IRON. Messrs GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Ironmongers, &c., to the above description of IRON (Mr. Morries Stirlings patent), which, after numerous trials, experiments, and practical tests, found greatly to exceed all other cast-iron in tensile and transverse strength, as well as in resistance to crushing forces. Several of the most extensive Iron manufacturers have licensed and from them, or their Agents, the genuine article can be procured. Messrs. GARDEN and MACANDREW have always a stock of this iron in pigs, and are ready to execute orders for castings at the shortest notice.

27, Queen-street, Cheapside, November, 1848

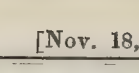
COMPOSITIONS for WRITING with STEEL PENS. STEPHENS'S WRITING FLUIDS compose the most splendid and durable colours, and the most indelible composition which art can produce; they consist of a BLUE FLUID changing into an intense black colour PATENT UNCHANGEABLE BLUE FLUIDS, remaining a deep blue colour. Two sorts are prepared, a light and dark blue. A superior CARMINE RED, for the common character, but more fluid. A superior CARMINE, for artists and contrast writing, in glass bottles. A carb. ammonia RECORD INK, which writes instantly quick, and being free from acid and corrosive matter, will not injure the finest pen. A light MECHANICAL and ARCHITECTURAL DRAWING INK, superior to Indian Ink. Marking inks, for linen, wood, &c. &c. Sold wholesale and for exportation by the inventor HENRY STEPHENS, 58, Strand-street, Blackfriars-road; and retail by booksellers and stationers everywhere, in bottles, at 1d., 2d., 4d., 8d., 1s. and 3s.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low prices, and by guaranteed. Apply to JOHN PRICE KINGTON, PORTUGAL'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

YORK STONE.—Buy your York Paving Slabs and Landings, near Bramley Fall, Parlour Flags, Spring, and Harrold Blue Stones, at the VICTORIA STONE WHARF, Isle of Dogs, opposite the Greenwich Hospital.

THE CHEAPEST WHARF IN LONDON FOR COALS.

Stone delivered to any wharf in the river in large or small quantities.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, &c. &c. &c. Manufactured only by Messrs ORSI and ARNANI.—Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall-street, City; and at the office of "The Builder."

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, good, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at the Marble and Stone Wharf, Horsfall basin, Maiden-lane, Kings Builders, and further to the Stock of CAEN STONE in his Wharf, he is prepared by constant arrivals to execute orders to any extent on the most advantageous terms.—Shipments made to any part direct from his quarries at Caen.

N.B. Orders received at the Wharf, as above; also at the Offices of Mr. R. A. WITHALL, Surveyor, 30, Cheapside, where further information and samples may be obtained.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Pore-street, Limehouse

P. RICHARD, quai des Abattoirs Caen (propriétaire des Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has on the above mentioned wharf, 900 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr. BASCHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.—LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to make attention of Architects, Architects, Engineers, Surveyors, Builders, and others to the above Caen Stone is well known to need special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, resists smoke, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. We have for many years supplied large quantities to various parts of the continent for public works, lighthouses, &c., under the patronage of the Royal Engineers. Orders executed for all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Sufferance Wharf, authorising, and every information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the requisite accuracy and truthfulness.

FONTS from M. upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone for Chimney-pieces, from . . . . . 18s.

Ditto for Mantels . . . . . 40s.

RESTORATIONS Estimated for, in which Branch S. C. has had considerable practice. Dairies fitted up, &c. &c.

Goods Landed, Housed, and Delivered.

ENAMELLED SLATE.—Messrs. JONES having had many years' experience in manufacturing Slate, and invented improved machinery for the purpose, can offer ENAMELLED SLATE, in all its branches, of superior workmanship and finish, and at reduced prices, warranted in every respect equal to any manufactured in London.—Bangor Wharf, Pimlico, and 18 Wharf, Macclesfield-street, City-road Basin.

ENAMELLED SLATE.—CAUTION!— Some dissatisfied workmen of Mr. Magnus's, having pirated his invention of marbling slabs and painting upon the polished surface, which our manufactory are frequently enabled with MAGNUS'S ENAMEL SLATE, until a few months' wear has shown them in their true light. Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles of utility, which have won for him the patronage of the highest personages in the realm, and the approbation and support of the first architects, and the medal of the Royal Society of Arts, hems it incumbent upon him to have his own protected, and that of the public, and for the just fame of his invention, to caution the unsuspecting against these imitations. The public are, therefore, requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and that specimens of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Gratton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Wicklow, the Earl of Ellesmere, Viscount Canterbury, Lord Robert Grosvenor, the Bishop of London, the Bishop of Bath and Wells, the Bishop of Ripon, Pennant, Mr Assheton Smith, Colonel Challoner, Sir J. Easthope, Sir Francis Crawley, Sir Ralph Howard, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous others of the nobility and gentry of this and other countries, the Royal Academicians and sculptors, the engineers and directors of the principal lines of railway, the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some of the hardest of materials, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Parties ordering large quantities will be allowed a considerable discount on the recently reduced price list. Address, MAGNUS, Pimlico Slate Works.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster road, London. —M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has established a manufactory of that material which has been successfully adopted by eminent architects and others, in the adornment of our noblest buildings, nearly the whole of which prove the unperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, pan lings, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

The Builder.

No. CCCIII.

SATURDAY, NOVEMBER 25, 1848.

WE are enabled to-day to place before our readers the plan of Osborne House, the marine residence of our gracious Queen, together with a perspective view of the garden front as completed.* Osborne is situated, as most of our readers know, at the northern point of the lozenge-formed Isle of Wight, in the immediate neighbourhood of East and West Cowes; about twelve miles from Southampton, across the Solent, and perhaps eight from Portsmouth. Its privacy, which is extreme, fitted it exactly for the quiet retreat that her Majesty and the Prince Consort desired; while it is delightfully open, commands a most beautiful country, and is readily accessible from town. In addition to Osborne House, as it then stood (formerly the residence of Mr. Fitzroy Blachford), and the surrounding grounds, the Barton estate, which adjoined these, was purchased by her Majesty, and taken into the inclosure. Other land was afterwards bought, and the whole now constitutes one estate of about 1,800 acres, or nearly three square miles, extending from East Cowes as far as King's Key, and is the private property of the Queen and Prince Albert.

At Barton, where an oratory was founded about the close of Henry the Third's reign, or at the commencement of that of Edward the First, there was a curious old building, known as Barton Court-house, with projecting wings, mullioned windows, gables, and large chimneys, probably not earlier, however, than the sixteenth century. To fit the place for its present purpose much of this old house was taken down, which led to remonstrances on the part of some who view with proper jealousy the removal of any of our ancient structures. It seems clear, however, that in this case it was absolutely necessary, and further that there was very little to interest in the parts removed. The eastern front, with its wings and porch of two stories, and the south front, the principal parts of the building, were kept up and restored; and the rest of the house was reconstructed in an accordant manner.

It now forms a residence for the bailiff, with the reservation of apartments to serve as a resting place for the Royal Family. The rooms are low and unpretending, but of most pleasant aspect; a few pictures and cabinets, judiciously placed, aiding this result.

According to the Domesday Survey, the manor of Barton was held in King Edward the Confessor's time by Bolla,—and seems to have been then in the possession of William Fitzturr, with whose descendants it remained till the reign of Henry III., when, by the marriage of Walter de Insula with the heiress of the De Esturs, it passed into the hands of that family. By John De Insula it was granted to the oratory of Barton (or Byrton), and in the reign of Henry VI. was given to the College of St. Mary, at Winchester, by whom it was transferred to her Majesty.†

* See p. 570.

† Prefixed to "A Descriptive Account of the late Convent or Oratory of Barton, in the Isle of Wight," by John Adkins Barton, published in the *Winchester* volume of the British Archæological Association, whence we take this outline of the descent of the manor, are two sketches of the old house.

Returning to Osborne: it was proposed, at first, to keep up the old house there, adding merely the outlying wing to the west, shewn, on our plan, to contain the principal apartments for the residence of the family. The first stone of this was laid under the direction of Mr. Thomas Cubitt, to whom the works were wholly entrusted, in June, 1845; and in September, 1846, if we are not mistaken, the wing was occupied. This is a square pile of building, about 65 feet each way, and comprises the drawing-room, dining-room, and billiard-room (referred to in the plan), and some smaller apartments. Projecting from the front of the main building is a lofty campanile, 20 feet square with vestibule, and an apartment one story in height. The drawing-room extends the whole length of the water front, and being open to the billiard-room (separated only by a screen of columns), forms a fine apartment.

Scattered about the residence are some statues and a few nice pictures by Stanfield, Uwins, Cope, and other of our artists. The whole of the building is fire-proof, the floors being formed of iron girders and brick arches, and the construction throughout is of the soundest character. The chimneys are cleverly brought together in the centre of the building, and made to form an architectural feature. The roof around them is flat, to afford a promenade, and consists of double brick arches, with a space between. The outer surface of the upper arches was made level with asphalte, and then paved. The upper part of the tower is fitted up as an observatory, and in the centre of it there is a circular staircase of teak opening on to the flat roof which covers it. The height of this tower is 100 feet, and its foundation is 160 feet above the sea. The views it commands are most extensive and beautiful. A stormy night spent here would be full of sublimity.

The whole of the building externally is formed in cement (a matter of regret). The style is Italian; the ground story and the angles above are rusticated; a large cornice, with consoles, runs all round the edifice, and is crowned by a balustrade.

This, then, was the extent of the building as first proposed, but a very short time probably sufficed to shew that more room was necessary. The circumstances which surround a monarch, even in retirement, are such as to enforce an extent of retinue and consequent amount of accommodation, beyond, perhaps, the desire of the individual. Without attempting, therefore, to trace the progress, suffice it to say that the old house has been taken down, and a pile of buildings, similar in character to that we have briefly described, has been erected in its place, including a second tower, for a clock, at the eastern extremity. Part of it is still unfinished.

Our illustrations shew the position and general arrangement of the building, but as we are most anxious not to present even the appearance of an attempt to invade a privacy which the illustrious owners have a right to claim, we have not sought to learn the appropriation of the various rooms, contenting ourselves simply with the indication of the principal apartments already given.* A corridor, the upper story of it open, connects the outlying wing with the new building. This corridor continues along the whole of one side of the latter, and forms a striking feature of the composition.

* Our plan is drawn to scale, but, by accident, the two internal corridors, into which the rooms open, are represented of less width than they really are.

On the side towards the water, which occupies an extent of 280 feet, the ground is much lower, and a series of balustraded terraces with flights of steps from one to the other, concur to increase greatly the effect of the building. The gardens filled with fine shrubs and trees, some of them planted by the infant princes, have made rapid progress, and now present a most luxuriant aspect.

Far be it from us to pretend to a knowledge of what passes in the *home* of our Sovereign: but we shall be deceived if Osborne do not become hallowed in the eyes of Englishmen as the seat of such quiet virtues, affectionate solicitudes, and intellectual enjoyments, as are not usually the characteristics of the occupants of thrones.

Recent proceedings in respect of a discreditable attempt to publish some etchings made by the Queen and the Prince, have served to give to the world a transient glance into the palace in hours of retirement. The view that was opened, annoying as the circumstances have doubtless been, is not to be regretted, and can scarcely fail to increase the respect and attachment with which the people of this kingdom regard their Sovereign and Her husband:—truly, "one touch of nature makes the whole world kind." We only give expression to the unanimous voice of the nation when we cry, with respectful sincerity—

Long Life to the Queen and the Prince.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

PRESENTATION OF MEDALS.

On Monday the 20th the first ordinary general meeting of the session was held. The president, Earl de Grey, was in the chair, and the rooms were crowded. More than 200 persons were present, including the greater number of the leading members of the profession.

Mr. Henry Currey having been elected an associate, and a long list of donations announced, the president said that was perhaps the best moment to state, respecting the announcement made by the council last session that they hoped to arrange to print all the papers read at the meetings,—that on consideration, and with reference to the state of the funds, it was considered desirable to postpone the intention. He hoped this would not have the effect of preventing members from contributing their items of information. The certainty of having a paper printed was doubtless a stimulus to its production, and he hoped that before long the desired arrangement would be made. The president then proceeded with some well-chosen words of commendation to present the medals and premiums awarded during the last session, namely:—To Mr. James MacLaren, of Edinburgh, for a design for a building to contain public baths, the Soane Medallion; to Mr. Henry Bayly Garling, associate, for the best Essay on the Application of Sculpture and Sculptured Ornament to Architecture (printed in the Builder), the Silver Medal of the Institute; to Mr. Thos. Hill, student, for a design for a garden pavilion, &c., Sir Wm. Chambers' "Treatise on the Decorative Part of Civil Architecture;" and to Mr. Bright Smith, student, for the best Series of Sketches from Subjects given monthly by the council during the session, "Gwilt's Encyclopædia of Architecture."

His lordship then said the next presentation he had to make was the Royal Gold Medal to Mr. Charles Robert Cockerell, R.A., in testimony of his distinguished merit as an architect; and he had much pride and gratification in being the instrument of conveying to him that mark of the Sovereign's favour. He was proud of having been the first to apply for the medal, and Mr. Cockerell might well be proud of being the first to receive it. The medal was granted by the Queen without a moment's hesitation; and instead of directing one to be given which had been applied or might be applied to other bodies, her Majesty had ordered the preparation of a die expressly for

the purpose. In the first instance, the council had proposed applying the medal to the encouragement of the younger members of the profession, and it was so advertised; but the response was not such as was desired, and therefore no award was made. Ultimately, the council determined on making it a prize for the senior members of the profession. There were difficulties in the way, but they were overcome; and he could bear testimony to the impartiality and anxiety with which the council had made the award. He did not doubt that Mr. Cockerell felt this as an important compliment, paid as it was by his professional brethren without solicitation or influence, and he congratulated himself on being present on the occasion.

Mr. Cockerell said it would be indecorous if he received this high favour silently. He deeply felt the honour which her Majesty, aided by the advice of the council, had conferred; he looked upon it as the highest honour that could be attained,—the triumph of the profession. Other academies divided their honours between the three arts, but the Institute confined hers to one, and so gave to architecture her ancient preeminence: under the Freemasons, till the beginning of the last century, she was the great centre, and was now again taking her proper place. It was impossible for him to express his feelings; he received the medal with humility, at once as the highest reward and the greatest encouragement. He congratulated the originators of the Institute and the president, to whom so much was owing, on the position to which this act of the Queen had raised the Institute.

The hearty cheers with which Mr. Cockerell was received by the large body of his professional brethren present must have been as gratifying to his feelings, as it was creditable to theirs.

A description of the cathedral church of St. Isaac, recently erected at St. Petersburgh, by the Chevalier De Montferrand, hon. member, was then read by Mr. T. L. Donaldson, and will be given by us in full as soon as the necessary illustrations can be engraved.

ON THE NATURE AND PROPERTIES OF THE METALS USED IN THE BUILDING TRADES.

ZINC.

One of the most remarkable properties of zinc is its combustibility. In covering with it roofs of houses, staircase-steps, &c., to the builder or architect unacquainted with this peculiar, and indeed, properly speaking, quite unparalleled property in a fully-metallic nature, it might be readily, and in certain cases where fire-proof construction was essentially requisite, even fatally, regarded and confided in as a preventive or check to the progress of the "devouring element;" while, on the contrary, it would be but too likely to aid and abet the conflagration with the utmost zest, being in fact so combustible that a slip of it will burn and blaze, almost as a piece of rather touchy wood will, if exposed to the flame of a mere common taper. And the combustion is even a far more splendid one, with a beautiful, brilliant, greenish white flame (in oxygen, or pure *burning* air, as vivid as that from phosphorus), yielding a smoke which, in place of being black, like that from an ordinary burning taper or stick, is of the most perfect snow-white colour, and, though not naturally volatile, floats and spreads through the air for a long time, like that celebrated classical network woven by the blacksmith of the gods, Vulcan—the Tubal Cain, doubtless, of the heathen,—a web which vied with the aerial gossamer tissue of the spider's loom. And, indeed, some of our modern chemists themselves, struck with the resemblance of the smoke of zinc to that very tissue, have compared it to the cobweb, while the ancient chemists, in a kindred spirit, called it 'nihil album,' and were therefore well acquainted with the metal, no less than with its smoke or oxide, which latter, moreover, when it did settle in flakes or flocculi from combustion of the metal, they called 'philosophical wool.'

The nature and properties of this abundant, cheap, and yet valuable metal, we may here remark, have been well known to that most wonderful people, the Chinese, from time immemorial; and it has even been called the Chinese iron. These quaint old antediluvian petrifactions of human nature are, and probably ever have been, quite versant with the difficult and skill-requisite process of its perfect purification; and besides coins with holes in the centre for stringing them in 'long chalks,' they have been in the habit of turning zinc to account in the formation of a long line of articles, useful and ornamental. The Hindoos, too,—another curious old stereotyped race,—have a complete knowledge of the nature and properties of zinc. And these facts are the more remarkable, since the metal can only be got from the usual ore, calamine or spelter, the carbonate of zinc oxide, by a process peculiar to itself, and called distillation by descent, a process the knowledge of which the modern Europeans, and of these of course first and foremost the English, had actually to derive from the Chinese (from whom they have derived so many other useful arts and inventions), ere they could produce the metal zinc from its ore.*

When pure, zinc has considerable brilliancy, of a bluish white lustre, and though tough, may be hammered into thin leaves at the usual temperature. That commercial zinc which is brittle at a low temperature, is impure; but between 210 deg. and 300 deg. Fahrenheit, it acquires the like malleability, and may then be rolled or hammered, and laminated; and what is most remarkable of all in this is, that after such treatment, it retains its malleability even when cold. Good zinc is ductile as well as malleable, that is, it may be drawn into wire as well as hammered into sheets. It has been regarded, however, as a sort of limit or medium between the brittle metals and those that are tough and malleable, and has even been called a semi-metal. Nevertheless, even in wire its tenacity was found to be such in experiments by Muschenbroeek, that a thread or wire one-tenth of an inch in diameter would support a weight of about 26lbs., a rod of 1 inch in diameter, a weight of 2,600lbs., so that thus far at least the cohesion increased as the square of the diameter. Carefully annealed zinc not only retains its tenacity so as to be easily bent, but is also readily turned on a lathe. Laminated zinc is valuable from its comparatively slight tendency to become oxidized. We need not inform our readers how largely this useful metal, when prepared in sheets, has been employed in roofing, lining cisterns, &c., or in pipes for water, and for chimney tops, for knobs and plates for doors, and various other purposes in the building trades. Its oxide has even been used in painting as a substitute for white lead; but differences of opinion still prevail on this point. Certainly the oxide is beautifully white, but we question whether it has that *body* which the white oxide of antimony appears to have. The latter, indeed, has been regarded as an antimoniate of antimony, and therefore a fixed salt, more than a mere uncovered or single and alterable oxide such as the former is, and its powerful fixture in the fire, in circumstances where both the protoxide and the peroxide succumb, favours the idea that zinc oxide will not form so *pure white* a paint, notwithstanding its snow-white colour when pure in powder. Indeed, Mr. Parkes, the well known practical chemist and author, tells us that "this pigment is not so perfect a white as may be obtained from pure lead; "but I have found," he adds, "by experience, that it preserves a *good* colour (once qualified from its pure whiteness) much longer than white lead." The carbonate of zinc, too, or the combination of this oxide with carbonic acid gas, probably also incidentally formed in the oxide paint, has been used as a substitute for white lead, one main object in both cases, besides cheapness, being to avoid the more poisonous use of the latter. Zinc oxide, however, must not be regarded as altogether safe or innoxious. Christison, Paris, and other authorities appear to have considerable doubts even of the safety of vessels and cisterns of zinc, from the formation of oxide, although substituted for lead and copper for the very purpose of preventing injury to the stomach and bowels or the vital system at large. In the form of sulphate, so liable to be generated in water-cisterns in certain circumstances, oxide of zinc has been known to have proved fatal; but then it must have been taken in considerable quantity, and in that case, being an emetic, and used medicinally as such, it is much more likely to expel itself, and to do good in some cases rather than injury. On the whole, though very easily acted on by water, weak vegetable acids, and some saline substances, zinc is far preferable, in this respect, to copper, for pipes, vessels, &c., or to lead, for cisterns, gutters, roofing, pipes, &c.* And even its wasting properties, from the strong tendency which it has to unite with oxygen, are by no means such as might be naturally expected, for a grey scurf is formed which very much aids in the preservation of the surface and interior, unless, indeed, the mass be nailed, or otherwise in contact, with copper, or perhaps other of the more negative metals; for then, by a law of electrical induction, though the more negative metal be rendered still more negative, or accordant with oxygen as it were, and not in that antithetical or positive state with which the negative oxygen loves to unite, yet, on the other hand, the more positive metal, in this case the zinc, will be rendered still more positive, and therefore still more determinedly bent on union with oxygen—which, plentifully derived from air, or water, especially with air, rapidly corrodes or eats it away. It is this electrical activity, in fact, which renders zinc so useful in the construction of voltaic or galvanic batteries. One of its ores indeed, electric calamine, a hydrous silicate in globular and other forms, and found in Derbyshire and elsewhere, becomes electrical when merely heated.

In a notice such as this we omit many curious particulars not of immediate interest to the building trades, such as the blazing of zinc spontaneously in the metal-burning gas chlorine into "butter," the glowing luminosity of new flakes of oxide in a dark room, the phosphorescence of some of its sulphurets or ores by friction, the difficulty of uniting sulphur with the metal till, apparently, its hydrogen be be neutralized by oxygen with the metal as oxide, &c., &c.; but it would be too informa not to state that the melting point of zinc is 773° Fahrenheit; that though malleable at 250 it is actually powderable at 400, and will therefore in large or heavy masses be apt to crumble to pieces by its own weight when exposed to that heat; that at a bright red heat it boils and volatilizes like mercury, in close vessels that the density of cast zinc is 6·862, but may be increased by forging to 7·21; that its specific heat is 0·09555 Regnault; and that its equivalent, or the quantity or proportion in which it unites with other elements, whatever their equivalent may be, is 32: for instance, the equivalent of oxygen being 8 (hydrogen being a 1), 32 parts of zinc will unite with 8 of oxygen but never with 7, or 5, &c. It *may* unite with 16, however, or a double equivalent of oxygen and it has even been supposed by some chemists to form more than one oxide by such union.

Considering the great importance of some of the alloys of zinc with other metals, and especially with copper in brass, and other circumstances regarding it worthy of note, these merit notice also in a collected form, rather than scattered through the separate accounts of those other metals with which this singularly useful and important metal is made to unite.

* It is stated by Grignon, that something like zinc was found in the ruins of an ancient Roman city in Champagne. —*Bulletin de Fouilles, &c.*, p. 11.

* It must be noted, however, that impure zinc contains arsenic and other deleterious ingredients, while even pure zinc will give water a metallic taste.

Gas in the City.—Sir: The City Commissioners of Sewers have determined to apply to Parliament for powers to purchase the gas pipes, and if necessary, to erect gas works, in order to supply the inhabitants with the necessary article at a reasonable rate. When they have purchased the pipes, they will then be in a position to say to the surrounding gas companies, "At what price will you deliver gas into these pipes?" and I believe they will *by this means* obtain the advantages without the disadvantages of competition. My object in writing to you is, to suggest the feasibility of applying the same principle to the supply of water, in which I think the monopoly is greater than even in the article of gas.

A Londoner.

THE ACQUIREMENT AND DIFFUSION OF KNOWLEDGE.

THE MANCHESTER ATHENÆUM SOIREE.

The sixth annual *soirée* of the Manchester Athenæum was held in the Town Hall, on Thursday in last week, under the presidency of Lord Mahon, and although, from a variety of causes, the pressure of the times in particular, the number of persons present (700) was less than on former occasions, it may be considered as one of the most successful meetings which they have had. The speeches delivered were for the most part admirable. We have not space for half of what was said, but will give some portion, premising that the relative length of our reports is not by any means to be viewed as marking our opinion of the merits of the speakers: we simply give preference to those subjects which relate more particularly to our *speciality*.

Lord Mahon's address, an eloquent and scholarly production, occupied more than an hour. Pointing out the amazing progress which has been made in Manchester, chiefly through discoveries in science, and therefore that it could not be necessary to recommend there the study of science, his lordship pointed out that this study was not too difficult for hours of leisure. Then, urging the value of the study of astronomy and geology, he shewed how public opinion in respect of the latter science had changed, and what important results it had led to. Passing then to historical literature, the speaker spoke eloquently of Athens. It has been the lot, said he, of few amongst us to explore for themselves the remains of that renowned city; yet who is there that has cared or thought for literature at all, who has neglected to explore it in story? Who is there that has not sought to familiarise his mind with those scenes,—to see, as it were, with his mind's eye, the remains of that majestic temple which crowns the Acropolis, and which, even in its present state,—despoiled as it has been by man, scathed as it has been by time,—is yet, perhaps, superior to any other structure in the zenith of its splendour, and fresh from the sculptor's hands? Who is there that does not love to trace in description, and to see with mental eye, the prospect which presents itself from that citadel and temple of ancient Athens? Those marble columns, still standing around those sunny heights of Hymettus; that plain, divided by a scanty stream, and gray with its scattered groves of olives; and beyond, in the distance, the azure expanse of the Ægean sea. You will remember how the scene from that spot has been described by a great poet of the present day:—

> As thus, within the walls of Pallas' fane,
> I marked the wonders of the land and main;
> Alone and friendless, on that magic shore
> Whose arts and arms but live in poets' lore,
> Oft as the matchless dome I turned to scan,
> Sacred to gods, but not secure from man,
> The past returned; the present seemed to cease,
> And glory knew no clime beyond her Greece.

In some branches of science, in many other branches of human knowledge, we have far, indeed, outrun the early Athenians; but in some we have never yet been able to surpass, or even to rival, that great people, which, like its own emblem of Minerva, sprang full-grown and full-armed into life, and, at a time when society was in its infancy, produced works which even the ripest maturity of progress has never yet been able to exceed. For, ladies and gentlemen, you will remember that, great as have been the strides which we have made on other points, the world has yet to seek a sculptor greater than Phidias, or an orator greater than Demosthenes, or a philosopher greater than Plato. And there is one thing, allow me to remind you, which makes the study of Athenian history—(a study which many popular works have rendered easy and delightful of attainment)—come peculiarly home to you, and that is, that in ancient Athens the study of arts and the acquirements of literature were united with, and make to flourish by, the pursuits of commerce. For while these great speculations in philosophy were being pursued in the groves of the Academy, and while Phidias was raising the master-pieces of art,—at that very time, ships from every clime men known were crowding the wealthy port of the Piræus. And thus it was that with these people the pursuits of commerce were not only joined with, but formed a foundation to, the superstructure of art and literature which still continues to excite our wonder and admiration. Ladies and gentlemen, I imagine that there are few who would doubt that studies of this kind, when fully pursued, must be a great source of improvement and of pleasure; but I should wish to convince you of a fact not less certain, though I think less commonly acknowledged,—that an acquaintance with these scenes of history may advantageously mingle with many details of our common life; that it may lend fresh zest to every pleasure, and enable those who possess them to taste pleasure which those who are destitute of them can never know. Let me take so common and trivial an occurrence as a summer's holiday,—let me suppose a time when many amongst you, released for a time from your more active occupations, are able to enjoy a few weeks' or days' excursion; and let us see whether, in this case, some knowledge of history may not add greatly to the pleasure you would taste. The traveller who ascends the last hill above the lake of Derwentwater, and sees that fair prospect opened before him, will on the summit of that hill find himself amongst the circle of Druids' stones. Now, to those who have not attended to any of the details of the Druids, as Cæsar and Tacitus record them, and as so many modern writers may, if you will, make familiar to you; to those who therefore felt no interest in these Druids, the circle of those stones would seem nothing but a ring of moss-grown fragments of rock, and would be dismissed without a parting thought. But what pleasure would their contemplation afford to him who had embued his mind in some measure with some of the strange traditions which relate to the rude faith of our forefathers; and how much interest would he feel amongst those very stones, in recalling to his mind some traces of their bloody rites (?) or fantastic superstitions? Can you doubt for a moment which traveller, in this case, would enjoy the greater pleasure? Or, on the other hand, had the traveller gone to the right, along the foot of the Cheviots, he would, at nearly every step, encounter the remains of the majestic Roman wall. There, again, to any one who was indifferent to the history of Rome, these remains would seem only so many tufts of matted ivy, and so many heaps of cemented bricks. But he who knew something already, and might wish to know more, of the traces of that wonderful people, who fortified an island as we would a town,—who constructed works whose magnificence in ruins even now astonish us,—such a traveller would find ever fresh delight in every trace and vestige of antiquity which presented itself; and, while enjoying not less than his companion the other delights of the excursion, he would have this great additional source of interest, which the person destitute of that information would be compelled to forego. Dwelling on the pleasures of reading, his lordship said,—there is no man so high as to be enabled to dispense with them; and no man so humble who should be compelled to forego them. Rely upon it, that in the highest fortune and the highest station, hours of lassitude and weariness will intrude, unless they be cheered by intellectual occupation. Rely on it, also, that there is no life so toilsome, so devoted to the cares of this world, and to the necessity of providing the daily bread, but what it will afford intervals (if they be only sought out) in which intellectual pleasures may be cultivated and oblivion of other cares enjoyed.

The Right Hon. Thomas Milner Gibson, M.P., said there was one thing in connection with the Athenæum which rendered it more useful than many societies of a similar kind. There was, he understood, encouragement given to the composition of essays, and also to conferences and discussions by word of mouth. Lord Bacon had said, "Reading simply maketh a full man, but conference and writing make a ready and an exact man." Without we combined with reading the habit of discussion and conference, as well as of writing, we should not acquire that which was almost as important as having knowledge itself,—the readiness to impart it to others with exactness and truth. Such institutions as the Athenæum must have a vast influence in keeping men from the pursuit of purely sensual pleasures. In former times, intoxication in England was the rule, and sobriety pretty nearly the exception, in all classes of life. A century ago, Parliament was occupied in passing penal statutes to put down habitual intoxication, by endeavouring to raise the duties on spirituous liquors by laws known as the "Gin Acts." The pursuit of knowledge was in those days thought dangerous; it was not felt that manners depended upon intellect, and that morals had an intimate connection with literature and the refinements of the arts. They attempted, but signally failed, to restore a better habit in society by penal statutes. In the present age, however, education and the spread of a taste for intellectual pursuits were accomplishing what legislature was then unable to effect. Some time since, at a meeting of the Athenæum, he ventured to predict that such societies would produce beneficial results amongst other educational institutions in the kingdom; and he thought his prediction verified in the late movement in the University of Cambridge, the directors of which were now desirous not to be behind the age in their efforts to extend knowledge, but to make their institution as valuable as possible to society.

Mr. J. D. Morel, author of a work on the "Speculative Philosophy of the Nineteenth Century," made a long and argumentative speech on the importance of combining the theoretical with the practical, and also on the necessity of breaking down prejudices between man and man, and one party and another, and producing, by means of such institutions, and other modes, a free trade in human thoughts.

Mr. Robert Bell, author of the "Life of Canning," &c., in the course of a charming speech, which took with it the feelings of all present, spoke eloquently of the uses and value of books. He said he was almost afraid to use the trite expression, "knowledge is power," but he knew that it was only by repeated blows that truths, however small, were made to tell upon the public mind. If knowledge was power, the diffusion of knowledge must be the diffusion of power. The first great discovery by which this power was enabled to be generally diffused was printing: before that time books were very rare, and even the rich were obliged to resort to libraries, where they were contained. He thought that institutions like the Athenæum were a grand improvement upon the art of printing itself; they had unquestionably the effect of assisting, in the highest degree, this diffusion of power. Many fabulous stories had been written about the arts of sorcery—the sorcerers themselves probably being simply men who were a little in advance of their age. We had descriptions of the caves where these men exercised their mysterious avocations, and we might at times see, upon the stage, representations of the wizard's chamber, with stuffed birds, skeletons, fish, and other strange creatures, to give effect to the incantations to be performed. He might venture to say, however, that no sorcery was ever enacted in a wizard's chamber equal to the sorcery that might be every day witnessed in a reading-room. This was the wizard's chamber of the present age, in which all kinds of information were obtained, and from which they were diffused. Books might be well described as the apostles of mankind; they went abroad teaching the world; they were our best friends and companions—the only ones, indeed, with whom we could never quarrel. The book was always the same. In prosperity and in adversity, its calm philosophy, its pleasant wit and vivacity, with everything that could instruct and console, were still unaltered and unchanged. By books we might, without toil and expense, throw ourselves back into the history of the past, and make familiar friends of the greatest men of all times: we might sit in our arm chair, and make a voyage of circumnavigation, and visit all parts of the globe, without stirring from our own country; and, as Cowper says,—

> "Like the finger of the clock,
> Make the great circuit, and be still at home."

In this great city, which he now visited for the first time, he had, like all other visiters, been struck with the wondrous activity he had everywhere witnessed, and the great memorials of industry and power which every step developed. The people were all practical utilitarians, devoting their whole energies to the development of things that were useful in their progress through life. He might here

be permitted to observe, that intellectual pleasure was not that ideal thing which it was sometimes supposed to be, but it was one of the highest utilities: for what would become of us if our whole lives were devoted to toil and drudgery, and we were deprived of those graces and charms which were shed around us by those intellectual luxuries which we possessed? What would be all our hours of leisure, if we had no power to fill them up with something more charming than the haunts of the tavern or the race-course? Keats, the boy-poet of England, had said, "A thing of beauty is a joy for ever;" and the more things of beauty we acquired, and learned to understand and love, the more would our mental faculties be refined, and we should be placed in a better position to understand the feeling of joy in everything that contained joy,—and what was there in nature that did not?

Mr. George Godwin, in addressing the meeting, said he owed his position before them rather to the politeness of the committee than to any pretensions of his own; and he fancied that that politeness proceeded from the fact that he had travelled 200 miles to be present at the meeting, and intended to go 200 miles more in returning the next morning. Had the journey been one of difficulty, he should have been amply repaid by the gratification which the meeting had afforded him; but science had removed all difficulties. Manchester was London, and London was Manchester. Where the locomotive failed, we had brought controlled lightning to our aid, so that no sooner was an enactment passed, or a great fact in science discovered, or a high and noble thought expressed, than it thrilled through every nerve of the kingdom, and became at one instant the common property of all. When Shakspeare, the poet of all time and the friend of all men, made his fairy Puck able to "put a girdle round about the earth in forty minutes," he little thought that, within two centuries from that date, the grosser spirituality of man would have literally effected this result. We might hope that, in a very short time, there would not be a hole in the kingdom wherein ignorance could hide her dangerous and degraded head. Mr. Bell had said, "Knowledge is power," and seemed ashamed of having made use of the expression. He ventured to think it could not be too often repeated. It had now exhibited itself, too, in a new and most important form. Until it was known that bad air and bad drainage were stealthily killing thousands—until the facts collected became so numerous that to deny them was impossible, no nation was alive to this destructive agency, which did more harm annually than a Waterloo. But it was shown that, living in one part of the country, a man might hope to live fifty years, whereas in another he could only expect to live thirty; that draining a town would add ten years to a man's life; and that paving it would give him a chance of five years longer. Here, then, we saw most conclusively, indeed, that knowledge was power; and power of no ordinary character; for the power of prolonging life was surely only second to the power of giving life; and it was to be hoped that that movement, which had been so well begun, would be aided and assisted in every way possible. Thousands of lives had been lost unnecessarily, and thousands of pounds spent in alleviating distress thus caused, which might have been better employed in increasing enjoyment and advancing progress. A considerable improvement, in consequence of the extension of knowledge, had taken place in another department: he referred to the preservation of antiquities, and he mentioned this because of the position which the noble chairman occupied as president of the Society of Antiquaries. "Past and future," as Wordsworth said, "are the wings on whose support, harmoniously conjoined, moves the great spirit of human knowledge." We had recently appreciated the importance of these memorials of the past, regarding them as stepping-stones to the future, and as shewing what had been done, leading us to further advancement. It had been said, in the words of Keats, that "A thing of beauty is a joy for ever." That reminded him of a department of knowledge to which little reference had been made during the evening; he alluded to the study of art. A great and important change was taking place in respect of art. A few years ago, the pleasures which this department of knowledge opened were mainly confined to the galleries of the wealthy. Through the powers of association, a movement had taken place, by which the means of enjoyment and the power of appreciation in this respect were being opened up to all. If there was any point to justify him in standing before them at that meeting, it would be the part, however humble it might be, that he had played in connection with the Art-Union of London. Little more than eleven years ago, the four or five individuals who sat down to organize that association scarcely expected that, at this time, the number of members would amount to 18,000, or that they would have agents scattered over the globe, wherever English was spoken, including even Canton, in "the celestial empire." One important point effected by such institutions, was the opening, freely to the public, of exhibitions of works of art, and then recording the fact that this could be done safely. In London, as many as 150,000 or 200,000 persons had been admitted to the exhibitions, and without the occurrence of a single accident or disturbance. He had been gratified to learn that the same experiment had been tried in Manchester, and that 17,000 persons, chiefly from the working classes, had been admitted to the exhibition of paintings, at a nominal charge, and that no accident or wanton mischief had occurred,—thus contradicting the assertions which had been made, and which had had the effect of keeping the people from visiting the noble monuments of our country. Such circumstances could not fail to have an immense influence on society. Art as a teacher was but beginning to be understood. As one great means of advancing art, due consideration should be given to all artists. Every man, whether a sculptor, a poet, or a painter, who expressed a fine thought, and gave his genius in aid of virtue (for however much genius, when wandering, was entitled to our sorrow and our excuses, it was only when used in aid of virtue, and guided by right principles, that it should have our respect), was surely entitled to the best consideration of all.

Mr. John Bright, M.P., made a sound practical speech, expressive of regret that advantage was not taken of the means of improvement held out to persons of almost all classes by such institutions, to an extent commensurate with the expenditure of money, labour, and exertions, by which they were maintained. The speaker continued,—I judge, from my own experience, that our small progress arises from our small consciousness of the value of time, and of the value of those advantages which these institutions offer so widely to all the people. We are all infinitely—no, I will not say all, but the major portion of us, are infinitely more delighted with amusement,—many of us even with frivolity,—than we are with that hard study, and that laborious exertion, which is necessary to enable us to partake fully,—to participate fully,—in the advantages which are thus offered to us. We read,—and understand me, I am judging others as I have found myself,—we read often much more for amusement than for thought. I am not disposed in the slightest degree to undervalue that description of reading which is generally known by the name of light literature. Perhaps no man in this room is less disposed to undervalue the reading of our periodical literature, especially of the newspapers. Newspapers give us the history of our own times; and no man can know where he stands in the world unless he occasionally, nay, frequently, looks into the newspapers of the day. I will not undervalue, as I said, this light literature; but I think it is a mistake to consume time to a large extent in such reading, on the part of young men from the age of fifteen to twenty-five. An old proverb,—I think it may be classed among proverbs,—says, "A man is known by the companions he keeps;" and it may be added, that a man may be known also by the books with which he is acquainted. We have had from a preceding speaker a very beautiful description of the value of books, of their being not only a friend in need, but a friend indeed; and a friend under all circumstances, in all times, and in all countries, enhancing our prosperity,—lessening, it may be, our distress at times, and our adversity. We ought then, to apply the same principles and rules in choosing our books that we do, or rather, that we ought to do, in choosing our associates.

Of Mr. Mark Phillips's speech, in moving thanks to the president; the very elegant piece of diction with which Mr. James Crossley seconded it; and the reminder of Mr. Brotherton, M.P., in support of it,* that his lordship's grandfather was the inventor of the Stanhope press, and had introduced many other improvements, we will not speak (any more than of the social and *saltatory* entertainment that succeeded), further than to say, that thus was concluded a very instructive evening, which will, we hope, have the immediate effect of directing public attention to the Manchester Athenæum, and so increasing its prosperity, and the consequent one of stimulating many to the acquirement of knowledge.

DECEIT IN COMPETITIONS.

Sir,—I think you must admit that the architectural profession should stand high in integrity, and that every attempt at imposition on the part of any of its members, either against the public or against their professional brethren, should be exposed and destroyed. It is with this view I call your attention, and, through you, the attention of the Poor-Law Commissioners, to the rumoured statement (which I have every reason to believe), that a certain member of the profession is in the constant habit of submitting plans to the Poor-law Commissioners, purporting, and purporting truly, to contain accommodation for a certain number of lunatics, according to the scale required by them, but afterwards erecting a building to a smaller scale than such plans warrant! in fact, that plans examined, sealed, and approved by the Poor-law Commissioners, as capable of containing a certain number of lunatics, are altered to contain a *smaller number*, in contravention of the plans so sealed.

The object of this fraud (for fraud it really is) appears to be, that the party alluded to may seduce boards of guardians into selecting his plans, and fight off other competitors by the *lowness* of his estimate; and he is stated to retain his position by maintaining his estimate at the expense of the accommodation required. In order to obtain the seal and approval of the Poor-law Commissioners, it is necessary that the plans be figured or drawn to a certain scale of accommodation, which it is impossible to build for the estimate given in. To make all sure, therefore, our architect takes upon himself to reduce the size of his building in the contract drawings: and if the numbers are ever accommodated, they must be squeezed into much less space than the minimum space allowed by the Poor-law Commissioners. The fraud, you will perceive, is difficult of detection, as the Poor-law Commissioners, I believe, keep no copies of the plans they seal and approve, neither do they employ an architect, or other person, to compare the *building erected* with *the plans submitted*. It is, however, to be hoped that, now their attention is directed to the matter, the energetic members of the present Poor-law Board will see the necessity of remedying so flagrant an evil, if proved to exist, or will, at any rate, cease to be satisfied with the slovenly arrangements of their predecessors, which have given facilities for this fraud being perpetrated.

A Sufferer.

Blind Builders.—Tenders for Workhouse at Wokingham, Berks, under Messrs. Billing, of Reading.

Oris	£8,494
Carter	7,842
Glenn	7,788
Lawrence and Co.	7,600
Coberry and Co.	7,532
Wilson	7,394
Trego	7,145
T. Burton	6,986
Clarke, of Sheffield	6,515 ! !

* These, and the preceding speeches, are given at length in the *Manchester Guardian* and the *Manchester Examiner* of the 18th instant. More accurate reports than those of this meeting which appear in these papers we have never seen.

RESULTS *of* EXPERIMENTS *in Ground Lias Lime, Dudley Oolite Lime, Coarse and Fine Hammer-scale and Sand: the specimens had been set three Months.*

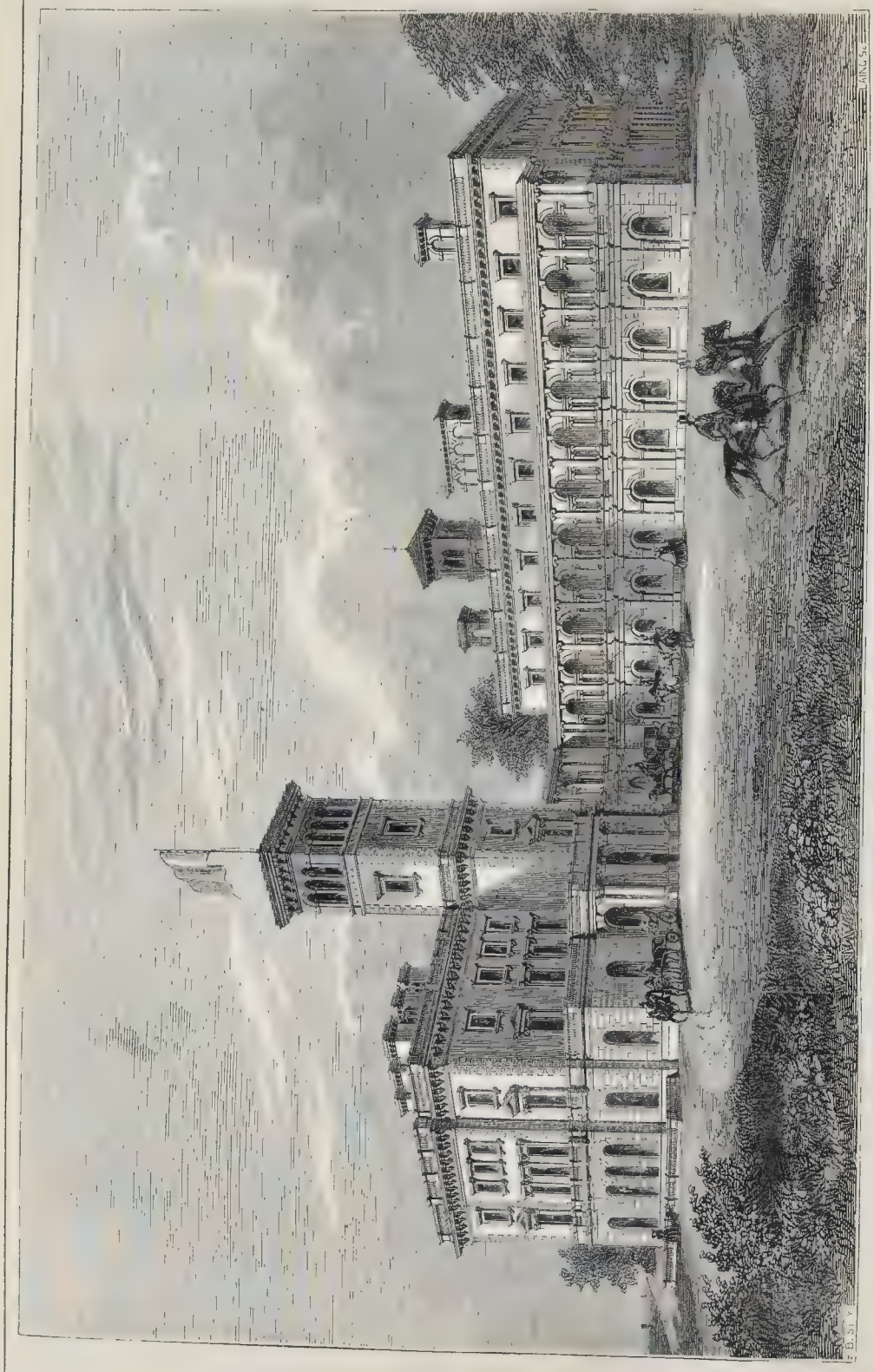
Proportions.	Broke at.	Broke at.	Broke at.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	230. 270. 160.	230. 190. 210.	320. 350. 340.
1½ to 1	270. 240. 170.	280. 185. 370.	170. 180. 150.
2 to 1	310. 160. 240.	490. 320. 200.	220. 100. 210.
2½ to 1	250. 280. 250.	240. 260. 420.	100. 80. 130.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	635. 808. 300.	560. 800. 750.	160. 210. 220.
1½ to 1	300. 540. 751.	751. 895. 693.	260. 260. 245.
2 to 1	180. 240. 200.	808. 895. 751.	400. 200. 395.
2½ to 1	220. 200. 200.	808. 635. 635.	560. 400. 540.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	170. Set under water.	200. 160. Set under water.	80. 110. Set under water.
1½ to 1	240.	195. 240.	170. 120.
2 to 1	70.	150. 175.	80. 90.
2½ to 1	90.	200. 195.	190. 190.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	140. 110. Set under water.	200. 210. Set under water.	100. 100. Set under water.
1½ to 1	120. 120.	200. 190.	105. 110.
2 to 1	80. 90.	170. 240.	130. 120.
2½ to 1	100. 109.	260. 310.	110. 120.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	480. 470.	900. 540. 1st not br.	808. 895.
1½ to 1	450. 440.	900. 900. not broken	200. 220.
2 to 1	470. 480.	560. 895.	460.
2½ to 1	500. 620.	895. 600.	600. 420.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	900. 900. not broken	900. 900. not broken	360. 540.
1½ to 1	808. 300.	900. 900. not broken	540. 360.
2 to 1	808. 590.	840. 750.	395. 470.
2½ to 1	664. 780.	750. 895.	435. 525.

B. BAYLIS.

RAILWAY JOTTINGS.

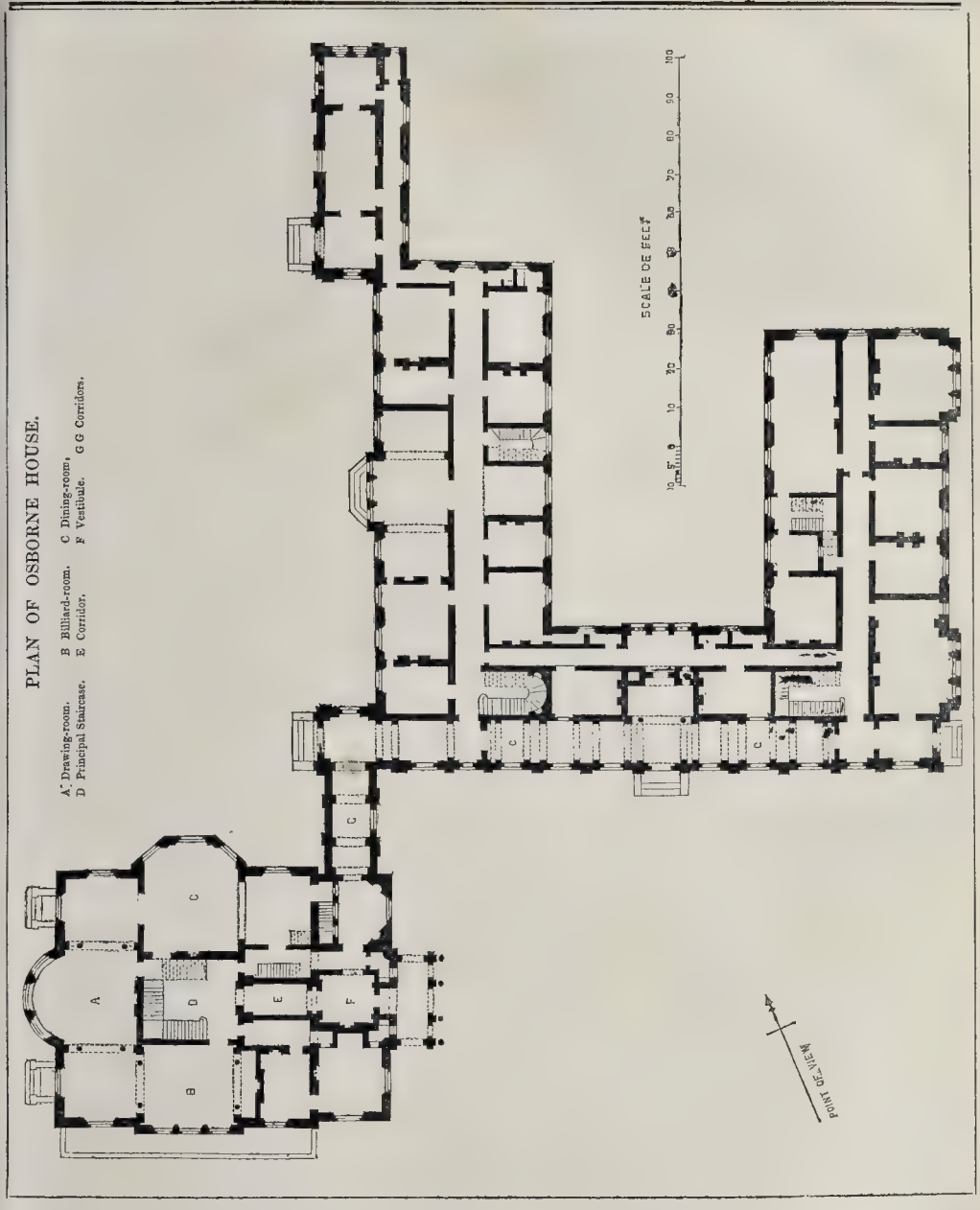
IN casualties occurring from trains running off the rail, the Railway Commissioners have found that out of twenty cases, in five only the carriages appear to have left the line, while in fifteen the engine left the rails. In the majority of cases on record, passengers have been killed, and seriously injured: but the case of the Caledonian express on Tuesday week is a remarkable exception. The commissioners report that in several the engines or carriages left the line in consequence of a previous accident, such as a faulty rail, or a broken axle or tire, but that in other cases the cause has not been satisfactorily accounted for. They call particular attention to the security or insecurity of different descriptions of engines, and the possible inefficiency of the permanent way to break the action of powerful engines at high speed, and direct their inspecting officers on the various lines to investigate the whole subject of engine speed, construction, and economy. ——A committee has been appointed by the directors of the London and North-Western, consisting of Mr. Dockray, the resident engineer; Mr. MacConnell, the locomotive superintendent; Mr. Madigan, the ballast-carrying contractor for the southern division of the line; and Mr. Crampton, C.E., for the purpose of discussing by what means the comparative deterioration of the permanent way, caused by heavy engines of different classes, may be ascertained.——A correspondent of the *Times*, "A Mechanic," suggests, as a preventive of engines running off a line, the fixing of a "spring bar to the carriage adjoining the engine, so as to separate from it immediately the pull became oblique, precisely in the same manner as a man is separated from his horse when dragged by the stirrup straps." For further security, he adds, "the carriage next the engine should be provided with a break, that the train may be stopped when separated; and, if required, a few of the leading carriages may also have the spring bar as an additional security." ——Dr. J. Murray, of Hull, who appears to be always reminded by every forthcoming invention that he had previously invented either the same, or something very like it, states, in the *Mining Journal*, that an alarum signal, with a whistle and air reservoir, &c., recently noticed in THE BUILDER, reminds him of a "very simple, effectual, and inexpensive telegraph alarum signal," with whistle and air reservoir, &c., to match, which has been for some time the object of *his* thoughts. It is to be worked with strings and pulleys of course, and an adaptation of the tavern waiters' dangling pendulum bell system for "detection" of the particular number of the carriage, and hence of the particular number of nervous old women of both sexes, or young children, who may sound the alarum "on false pretences." The doctor points particular attention to the fact, that *his* alarum is worked by "condensed air." How we long to see the anxiety displayed by each alarmed hysterical alarmist himself that the guards should "detect" his "false pretences!" and then, to be fairly within ear-shot of the volume of "condensed air," which would issue—simultaneously with the screech of "hell in harness"—from the "air reservoirs," not only of guards and drivers, but of every natural and original "alarum-signal" in the train, always saving and excepting the already exhausted vocal strings and pulleys of the still more *original* alarmist—when his 'call' had been promptly but uselessly responded to, to the annoyance and loss of all and sundry, and to the escape of no little steam as well as *heat!* It is really astonishing that an indefatigable, and we might almost say professional inventor, who knows all about every thing, should not have hit upon something more original, or more to the point and purpose, with an enlightened view to *all* possible contingencies and consequences.——Mr. L. D. B. Gordon has patented a rail with a lap joint, to prevent the loaded rail from sinking below the one directly in front of it on approach of a train.——A patent has also been taken out by Mr. E. Albon, for an apparatus for regulating and increasing the draught in locomotive chimneys. It consists of a pipe of copper, or other suitable material, affixed to the chimney, one end of which is bell-mouthed and open to the atmosphere, and the other turns upwards into the smoke-box in a perpendicular direction: the blast or steam-pipe passes up through the bend, and, by its exhausting action, it is stated, causes the air which passes in at the bell-mouth to rush rapidly through the same into the chimney. By this means, it is said, the current will be regular, though the steam is intermittent.—— Several trips have been made on the West London line with a little passenger-carriage engine, the *Fairfield*, which has been constructed for one of the branches of the Bristol and Exeter. The engine, tender, and carriage are on one frame, and weigh, with coke and water, about 10 tons.——The Great Western announces the indefinite suspension of nine branch lines, for which Acts have been obtained authorising shares and loans to the amount of 2,680,012*l.* On account of these lines, 350,000*l.* have already been spent. The total still required for the main line, unfinished branches, purchases, subsidiary undertakings, and lines not yet begun, including "plant" for all, is 4,137,844*l.*, to be levied within two or three years. As regards unfinished lines, however, the statement is only made up to 30th of June last, since which the line from Reading to Basingstoke has been opened for traffic.——The South-Western are suspending all works that it would require more than a year to complete, as the lines from Basingstoke to Salisbury, and from Farnham to Alton. In the former, great progress has been made. The extension from Waterloo to London-bridge is also suspended. The money required to complete engagements that cannot be postponed is estimated at 745,441*l.* The Directors state that they have a large amount of property in houses and land; 327 houses on the Richmond and Metropolitan Extension lines alone; a quantity of surplus rails, and 264 arches of the viaduct from Nine Elms to the Waterloo-road, property not easily estimated; but with expected traffic they calculate on a return of 4 to 6 per cent.—— The *Reading Mercury* states, that between Andover and Basingstoke the works on the Basingtoke and Salisbury line are suspended by order of Mr. Brassy, the contractor, this branch being to be carried no further than Andover for the present. Thus far the works are in a very forward state.——All the works on the Cornwall Railway, it is said, have ceased, and the contractors, Messrs. Findlater and Drew, have sold all their horses, &c., that were employed on it. About 200,000*l.* have already been expended by this Cornwall Company, but chiefly for mere preliminary expenses.—— The Portrack railway bridge across the Nith is of wood, in eight spans of 50 feet each; two ditto 13 feet; one of 5 feet; and pier work, 70 ditto. The timber used is of Memel, 26,000 feet, or 52 tons in all. The expense of the work is estimated at 7,000*l.* The contractor employed is Mr. Waddell, by appointment of the Messrs. Jeffs.

COMPENSATION CASE AT BIRMINGHAM.—The London and North-Western Railway Company and the Governors of King Edward's Free Grammar School, by counsel, before an assessor and a special jury, on Thursday in last week, argued a case of compensation for property in New-street and its vicinity, taken by the company for their extension through and under the streets of Birmingham, to the Wolverhampton, Dudley, and Stour Valley Railway. The property in question consisted of 14,000 square yards, occupied by seventy houses, at a rental of nearly 1,000*l.* a-year, and forming a portion of property worth 20*l.* a-year in King Edward's time, and granted by his Majesty for the education of Birmingham children,—the inhabitants having preferred the property to an alternative offer of 20*l.* a year in money, a sum still granted to King's Norton on the like alternative. On the part of the governors, Mr. Jeremiah Matthews, of Park Hall, near Kidderminster, the land-surveyor and agent of Lords Ward and Lyttleton, was called, and valued the property taken at 42,318*l.* 8s. 4d.; Mr. Dugdale Houghton, surveyor, at 42,379*l.*; and Mr. Ebenezer Robins, at 42,514*l.* 9s., including 50 cent. for compulsory sale. Mr. Robins had first claimed 45,000*l.*, and Mr. Fowler, on the part of the company, offered 40,000*l.*, but withdrew his offer. On the part of the company it was argued that there was no compulsory sale, the governors having assented to the scheme for the purpose of disposing of the property, and that 23,000*l.* was sufficient, but that 25,000*l.* would be given. Verdict for claimants —for land and houses, 39,603*l.* 10s.; for severance, 250*l.*: total, 39,853*l.* 10s. The claim was 42,000*l.* A second inquiry was settled by consent. The school claimed 750*l.*; the company consented to give 550*l.* Verdict for that amount.



HER MAJESTY'S MARINE RESIDENCE, OSBORNE.—Mr. Thomas Cubitt, Architect.

[See page 565.



ON THE STUDY OF DESIGN, FROM PAINTINGS, &c., IN HAMPTON-COURT PALACE.

At a meeting of the Decorative Art Society, on the 8th instant, Mr. Bulnois in the chair, a paper, "On the Study of Design from Tapestries, Paintings, &c., at Hampton-Court Palace," was read by Mr. Dwyer. The subject was prefaced by remarks upon the ordinary disregard of those things within our reach at all times, whilst a fondness prevails very generally for speaking of foreign arts in caves, temples, cathedrals, &c., as "very fine," by those who often are dwelling in shameless ignorance of the genius which illumines a Westminster Abbey, Saint Paul's, or Saint Stephen's, Walbrook.

It was remarked, that we pass along the highways and byeways,—and that things common and uncommon are familiarized by constant association till we observe them not. We are only impressed, as the case may be, by matter of a very new or of a very ancient character. It is, however, necessary to awaken reason, and to render our senses susceptible, by thoughtful investigations, to a truer appreciation of those qualities which ought to challenge our respect, and which ought to serve as our guides or our monitors. It was contended that we may thus be taught, and most forcibly too, that there are vast fields for thought beyond the boundary of our own imaginings,—regions wherein the various tastes and feelings of past ages have been well-begotten, matured, and then neglected. In comparing our deeds with those of bygone times, it was suggested that it should be our aim to discover wherein we now excel or are deficient—to trace results from causes, and to contemplate the issues in a free unprejudiced manner. Moreover, the architect or painter who speaks of time-honoured Athens, of the wondrous structures of Egypt and India, to those who have not seen them, speaks at a disadvantage, for while the intellect can grasp at once the actual features of art as seen by the eye, things which are but dimly pictured upon the mind by associations imbibed from relics in a museum, can never be more than partly estimated or understood; and although the mind may theorize upon and extend an idea, it does not frequently attain to a true or just embodiment of a fact described. After considerations such as these, Mr. Dwyer said, he had devoted a few days in the autumn at Hampton Court, and he hoped that in his aim to evoke some of the practical and useful information that the palace affords, it would be remembered that there are convenient opportunities for witnessing these things, to which he would draw attention, and also of testing the value and accuracy of his remarks. Visits, with a spirit of searching inquiry, were recommended to the architect, painter, sculptor, and every lover of the arts. The vague and redundant impressions, usual

on a first visit, arise from the mind being unable to embrace so much variety as is there presented under circumstances of entire novelty;—the crowding of historical recollections and associations—the numerous rooms—the vast quantity of pictures—the state beds and old crockery—pretty walks and stately avenues—gold fish and *monstre* vine—immense façades, quaint court-yards, and other architectural features, each embodying and displaying intact those several characteristics which so well define the progressive changes in the prevalent tastes, during two of the most important centuries in English art-history.

The architecture, he considered, admitted of much profitable study, from its representing two distinct styles, the works of two great masters in the constructive arts, Cardinal Wolsey and Sir Christopher Wren. A comparison between the widely different means employed in the production of palatial magnificence was made, and it was suggested, how differently had beauty been estimated—how strikingly had the phases of the two opposite styles been developed in the Tudor and the Italian, in the contrast of material and the variety of contour. The respective advantages and disadvantages supply much to reflect upon, much to learn, and much to profit by. A description of the old palace built by the Cardinal was then given. The well-designed and well-executed chimney shafts, their sharply moulded caps, forming picturesque clusters around the fine court-yard, the noble gateways, all constructed in admirably ornamented brickwork, with its glowing richness of colour contrasting beautifully against our prevalent cool grey sky, were each respectively alluded to, and the use of artificial cements, now so generally applied to our buildings, was comparatively disapproved of. He advocated the more frequent use of terra cotta; it is very durable, possesses a rich colour, and in many places, such as window and door dressings and architraves, might permit the introduction of forms of greater importance than the conventionalized bracket: and it has especial advantage in not requiring paint to keep it clean, or to preserve it from the influence of the weather.

The next court-yard built by Wren is surrounded by an Italian colonnade, after the manner of the Gothic ambulatories, and presents an imposing appearance. Several beautifully sculptured stone wreaths of flowers, executed under the superintendence of Grinling Gibbons, are admirably arranged within semicircular arches, and are as sharp as if just from the chisel.

A wish was expressed for casts of these, which by the use of gelatine moulds might be readily obtained and distributed to our schools of design at a trifling cost. This would greatly facilitate the studies of the modeller, the importance of whose skill is beginning to be better recognized. A series of lunettes is arranged between the principal and attic story over the colonnade; and on one side of the court, these are painted with frescoes representing the labours of Hercules: the framework is boldly conceived and well executed in stone, designed from a lion's hide, with head, paws, &c., the shadows being well defined. The pedestals placed in this court, it was said, are finely formed, although deprived of their purpose—an iron bar that projects from the top of each shewing that they once secured some figure (by Farelli), which has been removed.

The reader censured the taste which could leave these pedestals standing with such palpable evidences of despoliation, and also he condemned the presiding taste which continued to denominate this the fountain court, when it had been stripped of the device which adorned the water, and had left standing instead some 3 feet of small gas pipe. He hoped that the name would be altered or a person be permitted to receive subscriptions of pence in a box labelled "Assist the poor fountain," and in a few months it would be no longer necessary to think of changing the name.

The chapel was the next place referred to. It offered an important study in what to avoid. He described it as a victim to perverted extremes in proportion, form, and colour, and to the utmost force conceivable of contrasting oppositions resulting in an impressive jumble to warn us against abandonment with pretty wantonness. That which Walpole said of Verrio, would apply equally well in this instance to Sir Christopher Wren and to "the modern decorator,"—"They appear to have spoiled it on principle." Wren spoiled that which Wolsey had left at least "passing good," and the doings of our own times had spoiled in turn the work of Wren.

The open timber roof of this chapel was an elaborate and ingenious construction, somewhat debased in the design of its principal divisions and proportion, as is often noticeable in specimens of late Gothic; the ribs of the arches and the interspaced tracery, broad and massive spandrils, pendants of a singular kind, and other details, which are remarkable for a want of conformity and exaggerated contour. The ribs are ornamented with the egg-and-tongue moulding; the pendants rejoice with ecstatic boys springing out from a basket, and corbel brackets present evidences of burly Italian, ill according with the Gothic character of the roof. All this, however, and even more, it was contended, of strange combination might pass with less censure had it remained simply in oak, as Wren intended; but the incongruities had been rendered more distinct by the power of misapplied colour and the effulgence of misplaced gold. Repose, light, and shade, may be impressive under certain conditions, but in this instance all tended to a "coloured dazzle." The ribs are gilt, the pendants and bosses are gilt, the eggs are golden, the groundwork of the whole ultramine spangled with stars of gold, some dashes of vermillion laid in the deepest quirks, to give spirit and displace shadows. By such treatment, as explained and shewn by coloured sketches, he considered the proportions had been again changed in a wrong direction, and the roof had been, in effect, brought nearer to the eye. In its previous condition, as left by Wren, the roof of oak, ribs, &c., in quiet and retiring guise of self colour, must have been more in abeyance, more retiring from the eye, and invested with the gloomy repose of deep shadows. Another line of argument was then advanced in support of these condemnatory opinions. A comparison was suggested between the gaudy roof and the other features of the interior,—the quiet altar, with its Corinthian columns, elliptic pediment, and crimson velvet hangings, the somewhat *petite* character of ornamental paintings by Verrio on the piers and windows, the plain wainscotting around the pews, and the pews themselves. It was maintained that, in a perverse spirit, reason had been trifled with, and the laws of harmonious decoration set at defiance; that we have here an instance of the incongruity in combining Italian with Gothic, literally depicted in strong colours. Attention was directed to the well-conceived and finely-executed pendantive pilasters, arranged on each side of the picture over the communion table. They were carved by Gibbons, and few of his works are so happily treated in the details as well as in the general outline. Other carvings below the cornice of the wainscotting display much of his style in pleasing variety: a combination of the flowing palm with the acanthus was alluded to as admirable for its simplicity, and being "easily read," as well as illustrating the picturesque manner in which the round fullness of one class of botanical forms may be contrasted with the angularity of others. It was remarked that a large window of similar construction to the beautiful one at the west end of the Great Hall had been accidently discovered a few years ago, in excellent preservation, and still remains concealed behind the altar, as left by Wren.*

Society of Arts.—The first meeting of the present session was held at the society's house, on Wednesday evening last, when a communication was read by Mr. T. M. Gladstone, on iron bridge building, with some remarks explanatory of his plan for constructing a malleable iron lever bridge.

High Art *v.* Upholstery.—We have money enough to spend on cumbrous furniture, which another generation will throw into the garret as antiquated and absurd; but we cannot afford to adorn our walls with the productions of genius, which delineate the unchanging beauties of nature or the grandeur of man, and to which the lapse of time will impart only new value.—*Channing.*

* Remainder hereafter.

LODGINGS FOR THE POOR.

Amongst the many improvements of this vast metropolis (and we see them in every quarter, from Bethnal-green to Paddington), we behold enlarged thoroughfares, lofty houses, architectural elevations, and many noble edifices—the crooked ways are made straight and the rough places plain—but those who can recollect the locations of the poor before their demolition, are lost in conjecture, whither can the unhoused artizan or labourer turn for a dwelling, for he cannot find one in the vicinage of the old quarters.

It is known that the purlieus of St. Giles's, in its pristine state of agglomerated population, contained some 10,000 inhabitants: those were generally penned in separate families occupying one room each, on an average of six persons to a chamber; but frequently were the chambers hired out at 3s. a room to speculators, who erected six beds, or something answering instead of a bed, which by them were let to occasional lodgers at 2d. a night per bed: this would pay the humble lodging-letter 1s. a night, or 4s. profit per week on every room he thus rented!

All these have been swept away in this quarter, and very many more in other regions of the city; but whither are the denizens of such slums departed?

Palaces rise around us on all sides, mansions for the noble, clubs for the middle orders, and squares and terraces for the wealthy; but we look in vain for suitable provision for the poor, who have been driven far afield from the sphere of their occupation.

It is natural to infer that the denizens of those now embellished neighbourhoods found a convenience in dwelling there, and that their employment was not remote therefrom; for certainly the aspect of St. Giles's, as it was in 1830, was no inducement to the meanest beggar for the adoption of such a home: it had no drains, little ventilation, and seemed to be a sort of Alsatia on Sundays, when full; or a *desert* in the *oasis* on week-days, when emptied of its operative miserables. Whether the scavenger or dustman ever visited its *defiles*, was, I believe, unknown to the citizens; but the necessity for their operations was but too obvious to the senses of the wanderer who, on those days, looking for a short cut to Oxford-street, happened to take the continuous line from Bloomsbury in that direction.

On the site of all the modern improvements introduced in this parish, the only reservation made for the shelter of the class thus rooted out, there is but one building erected, and that is the model lodging-house. This house is constantly full: although the charge for beds is over 3d. a night, nevertheless it is to many single men a great convenience and source of comfort; but no houses have been erected, even in the cross lanes, for the accommodation of families.

The rental of the leading street is too high for such a purpose, as it ranges at from two to three guineas a foot frontage per annum; but still there are many houses (both old and new) which might be converted to such uses, with profit to individuals or companies. At the same time, if such houses were constructed, it would be very desirable that open spaces should be reserved in the rear thereof, both for ventilation, drying linen, recreation of children, and other family uses. As to the model lodging-house, although the benevolence of its founders cannot be for a moment questioned, it would have been much better had it also an open space behind: it is certainly clean, but there is no *thorough* ventilation; and the greatest objection to the construction is as to the extent of the dormitories, which contain as many as 18 beds in one room! These beds are fenced off by seven-feet partitions—are furnished cleanly and comfortably, and provided with locks and keys; but would it not have been better to adopt sleeping-rooms for no more than four individuals? Some may retire to rest as early as eight o'clock (and working men who have to rise at five, or earlier, must rest early), others may keep dropping in fitfully till eleven o'clock, and thus disturb the wearied sleeper: besides, amongst so many, sickness or inebriety may sometimes occasion a restless night, not to speak of other objections.

These hints are dropped in hope of improving the condition of those who are de-

pendent on the benevolence of the higher orders for the comfort of some repose from labour.

No charity is more *conservative of the morals of the poor* than that which *provides places of rest for the houseless wanderer*. How many females have been saved from perdition by the houses of nightly refuge in Nutford-place? (I know of two cases.) No fiscal provision for the poor is more consolatory, none more conducive to their health of body, the promotion of good habits, and reformation of mind, than that which secures to families clean and respectable lodgings, apart from the filth and pollutions and bad company which infest the low haunts of those who are forced to resort to nightly sleeping lairs, and who perhaps at morn know not where at night to lay their head!

Through the medium of The Builder, the writer of this article would suggest to the affluent and benevolent the means of providing such retreats, not only for the wandering, but for the fixed population of this metropolis.

No sacrifice need be made by such outlay of money, for the model lodging-house is paying a large per centage. A little paternal care might and would narrow the gulf which yawns now fearfully between wealth and poverty. Care for their own interests should impress the subject on the higher classes—but regard to the temporal and eternal welfare of their poorer brethren should more particularly enforce it, for the improvement of the social community would fructify in blessings on those who took and those who gave. Quondam.

NOTES IN THE PROVINCES.

The selected design for the Philanthrophic Society's Farm School for vagrant boys, at Potter's-bar, near Barnet, to be founded by H. R. H. Prince Albert, consists of eight houses, each for about sixty boys, arranged on the sides of a chapel, as at the schools of reformatory discipline at Mettray, Hamburg, and elsewhere on the Continent. Each building is to be adapted to the instruction of a separate family of the boys, in domestic occupations and mechanical arts, as well as husbandry and gardening.——The Peterborough Corn Exchange now erected, is a plain structure, with committee and retiring rooms, orchestra, and market room with pillars and arches supporting a domed roof, covered with plate glass, and ventilated through the top. Underneath is a warehousing vault.——The new chapel in St. James's-street, Newport, Isle of Wight, recently erected, was opened on Wednesday week. The style of it is Gothic, from a design by Mr. Francis Pouget: Mr. Hillier, of Ryde, superintended the erection. The cost will be about 2,900*l.*, of which 1,500*l.* have been subscribed.——The committee appointed by the parish of Sherborne, for the restoration of the Abbey Church, have recommended the completion of repairs before other restorations are begun, and to that end, that a rate yielding a sum not exceeding 1,500*l.* be collected, if the subscribers will advance a like sum.——The new gaol at Winchester, which is a considerable building, is nearly completed. The contractors, Messrs. Locke and Nesham, are now laying the numerous cells and corridors with Seyssel Asphalte, under the direction of Mr. Pearse, the architect, in the application of which a small steam-engine is employed.—— A society for the improvement of the condition of the labouring classes, has been instituted at Winchester. It is proposed at first to provide a lodging-house for about forty single men, on a plan prepared by Mr. Colson, architect, for a gentleman who is willing to erect the building, and let it on lease to the society. Dwellings for married men, allotments of land, &c., are next to be considered.——The new mayor of Worcester, Mr. Padmore, an Independent, while declining to give the usual breakfast or attend divine service in the cathedral on the Sunday after his election (an ancient usage), has offered 100*l.* instead, towards widening a narrow street.——The new works at Corsham-court, are progressing rapidly. The roof is all but completed, when all the building will be covered in. Seventy workmen are employed. The large centre tower, it is said, will be raised to the height of 75 feet. ——A paper warehouse at Sheffield, on a floor immediately above the printing-office of Mr. Bridgeford, was lately so crammed with reams of paper, weighing in all more than twenty tons, that the floor forming the ceiling of the printing-office gave way with the overpowering 'press of matter,' and a good few tons of the paper 'went to press' of their own accord, with beams and spars, and other machinery, much more likely to produce what the local *Times* regards as "a very vexatious interference with the liberty of the press," than anything likely to facilitate its operations. Fortunately the press-men had gone out before the paper-reams came in, so that nothing was reduced to 'pie' but the types, and the only plaster in request was applied to the ceiling and its broken beams. Joists are supposed, especially by printers, to be capable of carrying anything.——Brougham Castle is about to be repaired by the heir apparent to the Earl of Thanet, the Rev. C. H. Barham, it is said. The base of the tower at the north-western corner of the Vampire has been thoroughly repaired already; and the great tower, supposed to be of Norman construction, and built soon after the Conquest, is to be again made habitable. —— South Leith Parish Church has been undergoing extensive repairs, the only portion of the old retained in the new structure being the side walls. In removing the old roof from the aisles, a tier of clerestory windows were discovered, which have been restored. The roof, which is an open one, is decorated with gilded inscriptions taken from the Bible. The windows are of stained glass, by Messrs. Ballantyne and Allan. Mr. Thomas Hamilton is the architect, and the builders are Messrs. Smith and Son. In the south-west aisle a monument has been erected to Mr. James Reoch, merchant, who held the office of chief magistrate in Leith for six years. It was designed by Mr. Hamilton, and, like the church, is in the pointed style. Mr. Handyside Ritchie, sculptor, carried out the design.——The Adelphi Theatre, Glasgow, which, though erected of wood as a merely temporary building at first, has in all cost upwards of 10,000*l.*, was lately burnt to the ground during rehearsal of a piece called "The Ship on Fire;" but the conflagration began in one of the galleries, not on the stage, though, strange to say, at the moment when an imaginary crew were in the act of being reprehended for endangering the ship by smoking tobacco. Within the last few years three buildings of this sort have been burnt at Glasgow.

COST OF NEW LUNATIC ASYLUM FOR MIDDLESEX.

COMPETITIONS.

As it is desirable that all matters relative to competitions and their results should be known, I beg to send you the amounts of the only tenders sent in for the new lunatic asylum at Colney Hatch:—

Jackson	£225,000
Jay	198,000
Myers	165,000

The competition plans were estimated by the successful architect at 80,000*l.*! and the lowest builder's tender is 165,000*l.*—a little more than double! Does not this shew defective plans, to call for so much alteration, or unfair estimate in the first instance?

The magistrates having refused to accept the lowest tender, it has been reduced by cutting down the building to 114,000*l.*, at which sum Mr. Myers is to execute it.

An Architect.

*** According to the report of proceedings of the Middlesex magistrates at their last meeting, the sum ultimately decided on seems to be 138,000*l.*

Fire in the Royal Exchange.—A fire took place in the merchants' room in the Royal Exchange on Friday in last week, but was quickly extinguished. It appears to have originated through setting a stove in a recess intended for a window too near to the wooden cill, which remained in. The stove was separated from the cill by 9 inches of brickwork; but it seems that an iron band, intended as a fastener, served to communicate the heat.

New Books.

The Architect, Builder, and Contractor's Pocket Book of Prices for 1849. John Weale, Holborn.

Together with an Almanac, blank pages for memoranda, an epitome of Mensuration, and many useful tables, this very useful pocket volume gives the *Board of Works' official lists of prices*, which are often made the basis of contracts by architects, but up to this time have not been generally accessible.

The editor of the work says justly,—"It is mere charlatanism to pretend to give fixed prices to be used under all circumstances. The cost of works similar in name must vary greatly, from the variations in the qualities of the materials used, from the degrees of skill and honesty in the workmanship, and not a little from the peculiar modes of construction or styles of architecture adopted.

The profits to be allowed to the master-builder must also be varied, to do justice between him and his employer. In ordinary works, the wages of men are paid weekly, and the merchant who supplies the materials is paid three or six months after delivery. If the master-builder is not paid for such works until many months after they are finished, which is frequently the case, it is just that he should be paid a higher rate of price for risk and use of capital, than when he is paid monthly, as the works proceed, which enables him to obtain his materials at a lower rate of price, and supplies him with capital to carry on the works, and removes all risk of great loss. The rate of price in the official schedule of the Board of Works is made on these assumptions: that the best materials and workmanship are employed; that the bills are made out and paid quarterly; and, finally, that no risk of loss of payment is incurred."

If a quicker mode of payment, for large works, be adopted, the architect should take care that a discount be allowed; and, on the other hand, if the builder be kept longer out of his money, he ought to have higher prices than those in the official lists.

Under the head of *Notitia Architectonica*, a considerable amount of valuable information is given, especially on cast-iron columns and girders, roof coverings, &c.

Miscellanea.

Joiners and Cabinet Makers in the United States.—Carpenters and joiners are less needed in the United States than almost any other workers in wood, with the exception, perhaps, of cabinet makers; all of which trades are not very promising at the present time, owing to an over-supply of workmen. The wages of these classes are low, and the pay not very prompt. There is one plan which these persons can pursue, which has been found a good one in many instances; but it requires a good deal of tact. It is this: let the person go to the West, and seek out some small, new, rising village; let him purchase a few acres of land, within half or three quarters of a mile of the village—on credit, if he cannot get it otherwise; let him here put up the common, cheap log-house of the country, and go to work, as best as he can, at a garden and other things on his land. Having got a house, and a garden, and a pig or two in the pen, and a few chickens scratching up their living, he should then make himself known in the village, and give out that he is ready to work at his trade, either as a journeyman or otherwise. He will soon get *something* to do in the way of trade. Let him take his pay in almost any thing useful that he can get, and turn it to some good account on his land. Sometimes he will do well to take his pay in other people's labour. Some man may want work done in his particular trade, and cannot pay the money for it, but can pay him by ploughing his land, or by other work of the kind. His provisions he can generally get in this way. After a while the man's prospects will brighten; the little village will grow—his land will rise in value—the demand for his labour will be greater, and in a few years he will become quite independent—*Wiley and Putnam's Guide.*

Sanitary Progress in the Provinces.—At Chelmsford "a vast number of really dangerous nuisances and annoyances have been removed." The Board of Health too have appointed an inspection.—At Leicester the propriety of adopting the Health Act is to be discussed by the council, and the removal of nuisances, in the meantime, is being attended to. There appear to be difficulties in the disposal of manure to contend with.—At Penrith one party is determined on adopting the Health Act, another thinks the Nuisances Act sufficient.—Witham has applied for the Health Act, and a commissioner is to make inquiries.—The Newmarket guardians warn parish surveyors, that though the general Highway Act only *empowers* them to scour ditches, gutters, drains, or water-courses, the Health Act *requires* them to do so under a penalty of 5*l.* for neglect. Other salutary hints are being given to proprietors of nuisances, &c.—The Nuisances Act is being put into active operation at St. Ives, Leominster, Sculcoates (Hull), Kington (Hereford), Upperby (Carlisle district), and even in "primitive old Hinckley;" yea, even at "Crook," according to a correspondent of the *Gateshead Observer*, embued with the cleansing spirit of the age, a committee on "sanitary nuisances" has been appointed.—Stratford has just formed a sanitary committee; and the West Ham Union are in correspondence with the Board of Health.—The *Gazette* has published further cleansing regulations as to Scotland; and at Edinburgh the Police Commission and the Royal Colleges of Physicians and Surgeons are confabulating, while the Town Council and the Board of Health have also a mutual good understanding as to sanitary measures.

Claims on Contract-works.—The arbitrator in the case "Burgess *v.* Brassey and Mackenzie," is said to have established Mr. Burgess's various claims, with some trifling deductions, and awarded the whole costs to be paid by the defendants, whose counter claims, turning the balance of account in their favour to 682*l.* odd, were disallowed. One of Mr. Burgess's chief claims was for a share of a premium of 50,000*l.*, paid by the Caledonian Company to Messrs. Brassey and Mackenzie for opening their line six months before the time limited in the original contract! Another claim allowed was for the profits reaped by Messrs. Brassey and Mackenzie on a lighter portion of the contract let to Mr. Burgess, but which it was alleged the defendants, notwithstanding, relet to another contractor at lower prices, on account of the lighter work upon it. A third claim was for "diminution of labour and damages sustained by night-work, owing to being kept out of possession of the work eight months after the work was taken:" this claim also included a rise of 25 per cent. upon labour and provisions, 30 per cent. upon horses' hay and oats during the detention, &c. A fourth was for six miles of excavation at 9d. per cubic yard. These and others, in all amounted to a sum of 1,140*l.* and upwards. One of the claims made by the defendants, but disallowed by the arbiter, was for 962*l.* odd, for trimming off and soiling the plaintiff's work during the time when they themselves had prevented him from finishing his contract.

Why Lions Spout Water in Fountains.—Anubis, or Sirius, the dog-star, was worshipped by the Egyptians from its supposed influence on the rising of the Nile. According to Champollion, their calendar commenced when the heliacal rising of that star coincided with the summer solstice, the time at which the Nile began to swell at Cairo. Now, this coincidence made the nearest approach to accuracy 3,291 years before the Christian era; and as the rising of the river still takes place precisely at the same time and in the same manner, it follows that the heat and periodical rains in Upper Ethiopia have not varied for 5,000 years. In the time of Hipparchus, the summer solstice was in the sign of Leo; and probably about that period the flowing of the fountains from the mouths of lions of basalt and granite was adopted as emblematic of the pouring forth of the floods of the Nile. The emblem is still common in Rome, though its origin is probably forgotten, and the signs of the Zodiac have moved backwards more than thirty degrees.—*Physical Geography, by Mary Somerville.*

Projected Works.—Advertisements have been issued for tenders—by 9th December for the supply of English oak, timber, mahogany, &c., for the London, Brighton, and South Coast Railway Company; by 6th, for the completion of two contracts on the London and North-Western Railway; by 25th inst., for the whole or any portion of the works required in erecting a new church at Clayton, Bradford; by 13th December, for building a chancel and vestries to St. Catherine's Church, Ventnor, Isle of Wight; by 5th, for making three sewers at Cambridge (separate contracts); and by 11th, for the construction of a reservoir and tank, &c., a supply of iron pipes, slide cocks, fire plugs, &c., and for the construction of a system of sewerage, all for the town improvement of Londonderry.

A Town Surveyor is wanted by the Corporation of Derry, borough of Londonderry: salary, 150*l.* per annum.

A Rolling Fence in the New Forest.—The *Hampshire Advertiser* says:—"Among the discoveries made by the new management of the forest, but well known within and without its borders, and which is to be specially provided against for the future, is the rolling fence. Gilpin, in his *Forest Scenery*, describes the manœuvre as that of taking in the ditch one year and putting another outside the hedge the next. That practice was stopped, and the present mode adopted. The cuttings of the hedge are thrown over, and accidentally strike. The hedge becomes too thick, and is thinned—of course on the inside. In fact, the old hedge is taken away. In due time the process is repeated, technically called a 'rolling fence,' and the inclosure insensibly expands.

The Great Tubular Bridges.—The final operation of lowering the second tube bridge at Conway for the return line to London, on the Chester and Holyhead Railway, and the placing it on its permanent bed, was accomplished on Wednesday. The ponderous mass of 1,300 tons was suspended on chains, hanging and swinging two feet above its permanent bed, over an area of estuary of 400 feet, and 20 feet above the Straits, for a period of ten days, during which the engineers and pilots were engaged in adjusting the bed plates and rollers and masonry for its support. The tube was likewise lengthened 12 feet, by the addition of 6 feet of similar tube to each end of the mass so raised, this additional length alone weighing upwards of 60 tons. The whole bridge, with its permanent way for the passage of the trains, complete and ready for use, was then gradually lowered by means of the hydraulic presses which raised it, on to a bed of red and white lead, spread over the creosoted timber, which equalised the weight on the cast-iron bed plates and rollers, to allow for the constantly varying length of the tube from changes of temperature. The tube is now in use for the transit of the trains.—*Morning Herald.*

Relative Heights on Maps.—Sir: On examining lately a plan of a rather large estate, prepared by a land surveyor, for the use of competing architects, in devising schemes for laying out the grounds for building, I was glad to find that the usual practice of giving, separately, sundry lines of section, which sometime bear very little relation to each other, had not been followed; but that heights from a given datum level (the lowest) were marked in figures on the map instead. Unfortunately, however, it turned out on closer inspection, that while in some parts these figured heights were unnecessarily plentiful, in many others they were few and far between; and it occurred to me that it would be carrying out this better mode in the best manner, if the surveyor, in such cases, would give the heights in a systematic order,—dividing, for example, the whole plan into equal squares, and marking the heights at the intersections,—the squares measuring a yard, ten feet, or any other dimension, according to convenience, or the necessity of the case. It is obvious that where the surveyor must be totally unaware of the thousand and one modes of arrangement which may be proposed in a widely-advertised competition, the system of relative heights which he gives, should be such as will apply equally well to all, and subserve for determining the extent of cutting and banking which may be requisite in forming the lines of road in the plan ultimately adopted. J. W.

Archæology.—The Bishop of Oxford has declared himself a warm supporter of architectectural and archæological associations, and has recently accepted the office of president of a society formed in Bucks. His lordship, however, has cautioned his brother members against some of the dangers attendant on too zealous a pursuit of antiquarian researches. "The master danger," says the Bishop, "from which all others spring, is this—lest the lover of antiquity should be tempted rather to seek to go back into that old time than to let its curious lights cast their beams upon the present—lest he should forget that the life only of that old time was what gave it worth, and that his object should be to strengthen the life of this present time—lest, whilst gazing affectionately upon the outward trappings of circumstance (which is of moment only as it witnesses of life within) he should grow to value for themselves those outward things, and seek to reproduce them upon this living world."

Extraordinary Block of Granite.—A block of granite, containing upwards of 12,000 cubic feet of stone, and exceeding in weight 850 tons, was dislodged on Tuesday, at the granite quarries of Messrs. Freeman and Co., at Maen. A hole 9 feet deep having been bored, 1½ lb. of powder, with which it was charged, produced a slight crack; into this was thrown another charge of 35 lbs., which, on explosion, threw out this immense block several yards from its bed. Considering the largeness of some of the stones produced at these quarries, it is astonishing in how comparatively short a time they are prepared for exportation. A few days since another large rock was unseated, measuring when wrought 150 feet, and in weight 11 tons, the preparing and working of which was performed by a couple of men in a week. The removal of this stone from the quarry attracted the attendance of a great number of visiters, whose remembrance of the difficulties experienced a few years ago in the transit of such stones contrasted strangely with the ease and expedition of the present day—not the slightest let or hindrance occurring from the loading to its deposit on the quay. The stone at these quarries is of admirable quality, and of very great extent, the present slope being 50 feet, and as it proceeds a much greater depth will be attained.—*Cornwall Gazette.*

Railway Compensation Case.—Popplewell and Others *v.* The Leeds and Bradford Railway Company.—Tuesday last a sheriff's jury was impanelled at the Odd Fellows' Hall, Shipley, to assess the amount of compensation to be given to those claimants who are devisees of the mortgage estates of the late Mr. John Sharp, of Bingley, for damages, in consequence of a worsted mill at Bingley, now occupied by Mr. David Wilkinson Sharp, having been injuriously affected by the company's works. Mr. Russell Gurney, Q. C., and Mr. Addison appeared for the claimants; and Mr. Stephen Temple for the railway company. The amount demanded of the Company in the notice of claim was 7,220*l.* It appeared from Mr. Gurney's opening, that the company, in raising the ground at their station at Bingley, had placed their embankment upon a field of boggy earth in front of Mr. Sharp's mill, whereby the light of the lower floor was seriously injured, and a great amount of damp forced from underneath, below the foundation of the mill, which rendered the floor unfit to stand upon, and injured the walls and the machinery. In his opening, Mr. Gurney reduced the claim to 1,500*l.* About 28 witnesses were examined for the claimants, and their evidence went to show damages varying in amount from 1,570*l.* to 1,960*l.* The company altogether denied that any extra damp had been caused by their works, or that the light was materially injured, the embankment in front of the weaving-room being less than two feet in height, and at a distance of 30 feet from the mill. The inquiry closed on Thursday night, when, after an hour's absence, the jury gave a verdict for 100*l.* It subsequently transpired that six of their number were of opinion that no damage whatever had been sustained; and the other six considered that the light had been to some extent affected. The result of their deliberations, however, was a verdict for the above amount.—*Leeds Mercury.*

TENDERS

For the "Home," Spicer-street, Spitalfields.

Wm. Cubitt	£11,770
Hicks	11,600
Hayward and Nixon	11,377
J. Lee and Son	10,947
Locke and Nesham	10,830
Haynes and Co.	10,597
Kelk	10,589
Piper	9,943
Grimsdell	9,565

*** Query: Don't this list to go under another head.

TO CORRESPONDENTS.

"*The Four o'Clock Moument.*"—We have received several communications on this subject, but cannot find space for any of them in our present number.

"*Smoky Chimneys.*"—Two or three parties claim the merit of having arranged a pot similar to that described by "H. C. T." last week. The matter is so simple that this may easily have occurred. We cannot go into the question of priority.

"*A. X.*"—We have not heard that the Committee of Leicester Cemetery Competition have purchased any of the other designs. Several competitors complain of bad treatment.

"*An Architect.*"—We have several classes of readers, and strive to serve all. The success which has attended our efforts to extend the circle of those who find matter to interest them in our pages would seem to prove that we take the right course.

"*Archi.*"—As to the roof of the public building in question, we are informed that no movement has occurred. The line of the curve is somewhat original in appearance, which has probably given rise to the impression.

"*X.*," "*D. D.*," "*F. L.*"—Ditto.

"*W. N., Jun.*"—All would depend on the understanding. As stated in the letter, the architect would seem clearly entitled to charge the tenant.

"*Holder of House Property.*"—If it be part of the builder's contract that he should produce the surveyor's certificate, he cannot recover the amount without doing so.

Received.—"Tempus" (The proposal to alter names of the hours has already appeared in THE BUILDER). "E. D." (Write to Dr. Potts, Buckingham-street, Adelphi, London). "W. B." "Verus." "C. C." "A Builder" (As to Benevolent Institution). "J. S." "J. W. S." "W. S." "Quondam," "T." "M. P." "An Old Mason," "H. C." "Country Wheelwright" (see below). "F. M. B." (Article shall appear). "J. G." (We cannot recommend). "T. B. L." "W. E." Epsom (We shall be happy to see the models). "J. P." Southampton (The beams may be obtained without difficulty: take proper advice as to size from those who can see the circumstances). "C. C." (The decision was announced in THE BUILDER a few weeks ago; "X. Y." "W. F. B." "W. T." "W. M. B." "A Subscriber." "W. S." (Dorking). "A Competitor." "W. J. and Son." "C. W." (We cannot answer without seeing the drawing). "Young Mechanic" (We are unable to recommend). "G. H." (Usually oiled). "W. B." (We will look to Waltham one of these days). "Well-wisher, &c.," "Young Architect" (Write to the Royal Agricultural Society). "A Historical Inquiry into the true Principles of Beauty in Art, more especially with Reference to Architecture;" by Jas. Fergusson, Esq., Architect, London: Longman and Co., 1849. (An important work, to which we shall give early attention). "Wright's History of Ireland," Part IV.: Tallis.

"*Books, Prices, and Addresses.*"—We have not time to point out books or their addresses.

ADVERTISEMENTS.

TO ARCHITECTS AND ENGINEERS.

MR. EDWARD is desirous of meeting Gentlemen who require Coloured Architectural Designs, Perspective, or plan well executed in the neatest style at moderate terms. Mr. E. further begs to state that he makes a considerations in his charges, should the competition prove unsuccessful. Address, Mr. EDWARD, 16, Woodstock-street, Bond-street.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, Buildings, Figures, and Views of every description. Lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ARCHITECTS, COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO BUILDERS, CARPENTERS, AND OTHERS.

BENJAMIN WALMSLEY, Wholesale Ironmonger, Brass-founder, Stove-grate, and Kitchen-range Manufacturer, at the Phallex, 127, London road, Southwark.

Self-acting ranges, with oven and boiler and revolving shelves complete.

3 feet, 2l. 10s. 3 feet 6 inches, 3l.

Register-stoves, from 6d. an inch and upwards.
Elliptic-stoves, with double backs, 3d. an inch.
Washing coppers, in 24 per lb.
Sash pullies from 5d. to 8s. per gross. Sash weights, 6s. per cwt.
Cast butts, per dozen pair.
2 inch, 10d. 2½ inch, 1s. 3d. 3 inch, 1s. 9d.
Best cut clasp, per thousand.
4d., 5d.; 6d., 7d.; 10d., 1s. 3d.; 20d., 1s. 7d.

Every description of iron mongery, brass-founding, &c., adapted to the use of builders, cabinet makers, bell hangers, smiths, wheelwrights, and others, of quality and at prices that defy competition. Iron and spring steel.

WALKER'S PATENT. — WARMING and VENTILATING WORKS, LOWER KING-STREET, MANCHESTER.

Established for the manufacture by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes. The proprietor having for years past had many years in extensive practice of the first situations in the kingdom, and reduced it to certain and accurate data, and finding it useful, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying rooms and stoves heated, where required, up to 300 deg Fahrenheit, and drying operations generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—

Walker's Patent HEAT-BOXES. Portable; SELF-FEEDING BOILERS, improved SCREW-WARMING and VENTILATING MACHINES. HOT-WATER STOVES TUBULAR and other WARM-AIR STOVES. Portable Steam-Engines of useful sizes, with cylindrical tubular boilers.

Competent workmen sent to any part of the country. Reference to numbers of public institutions, churches, nobility and gentry architects, manufacturers, &c., throughout England Ireland Scotland, and Wales.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

PATENT SUSPENSION STOVES.—As a precaution against cholera, the Board of Health strongly recommend "warmth and ventilation." For the attainment of this all-important object, the PATENT PORTABLE VENTILATING SUSPENSION STOVES were expressly invented. Thousands of them have been sold, and tens of thousands are now using in the security and comfort which these stoves afford. Sizes suited for any situation, from the smallest bed room to the largest halls. Price from 13s. and upwards. In operation daily at GEORGE and JOHN DEANE'S, 46, King William-street, London-bridge. Prospectuses, testimonials, &c., forwarded by post free.

TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.
Cast Butts	11s.	16s.	24s. per gross.
Cut	4d.	6d.	10d. 20d. } per
Clasp	6d.	8d.	1s. 4d. 1s. 10d. } 1,000.

Nos.	3	4	6	
Patent Line	6s. 6d.	7s. 3d.	9s. 10d	12s. per gross.

	2	2½	3 Inches.
Rain Pipe	1s. 1d.	1s. 3d.	1s. 5d. per yard.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d. 7d., 8d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 45s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £3 3s. 4 ft. 6 in., £3 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7d.	10d.	1s. 2d.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 13s. per cwt. Best Town Glue 38s. Do. Scotch, 62s. per cwt.

Best Patent Sash Line.

4s. 3d.	6s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

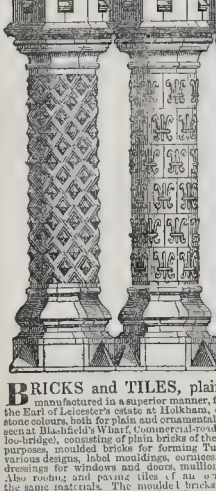
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Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp. Warehouse closes at 7 o'clock.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for maltinz, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.



BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate at Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth (near Waterloo-bridge), consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, dressings for windows and doors, mullions, ridges, skirtings, &c. Also roofing and paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 230 and 291, of "The Builder."

GAS LIGHTING.—To Architects, Builders, &c.—ESTIMATES given for LIGHTING UP Churches, Railway stations, Factories, Shops, &c., with the best description of work and most approved designs. JOHNSTON, Brothers, Gas Fitters and Gas Apparatus Manufacturers, 3, Curs-tor-street, Chancery-lane, London.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale. Orders per post receive the most prompt attention. WILLIAM PIGGOTT, 115, Fore Street, City. Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

A CATALOGUE,

With Engravings, Prices, and ample Particulars of COMMUNION LINENS, ALTAR-CLOTHS, SURPLICES, ROBES, ECCLESIASTICAL CARPETS, &c. &c.

Forwarded free by Post to ARCHITECTS, CLERGYMEN, AND CHURCHWARDENS, only,

On application to the Manufacturer, GILBERT J. FRENCH, BOLTON, LANCASHIRE.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 316, Oxford-street.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quantity required. To one unacquainted of Plate Glass for glazing purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 3-8ths, ½, ⅝, and 1 inch thick.

London Warehouse, 59, Hatton garden, Holborn.

H. CHRISTIE, Agent

SOHO PLATE GLASS COMPANY.

CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS. ALFRED GUSLETT begs to call the attention of Builders and the Trade to the following quotations:—

Thirds Crown, per crate 18 tables			£3 2 6
Fourths	"	"	2 7 10
CC	"	"	2 1 0
CCC	"	"	1 18 0
Horticultural, 13 oz. sheet, per crate, 21d. per foot.			
Fourths,	ditto	ditto	2½d. "
Horticultural, 16 oz. ditto,	ditto	ditto	3d. "
Fourths,	ditto	ditto	3d. "
Horticultural, 21 oz. ditto,	ditto	ditto	4d. "
Fourths,	ditto	ditto	5d. "
Ditto,	26 oz. ditto,	ditto	6½d. "
Ditto,	32 oz. ditto,	ditto	8d. "

Ornamental Glass of very superior patterns, from 1s. 2d. per super. foot, cut to order; or 1s. in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate ¼, ⅜, ½, and ¾ inch thick.

WINDOW GLASS. — THOMAS MILLINGTON solicits an inspection of the different GLASSES he has now in stock, the qualities of which will be found to be very superior.—4, Bishopsgate-street, Without.

NEW TARIFF.—Sheet in various large dimensions delivered free in London

Common	100 feet cases	20s. 0d.
Do.	200 do.	38s. 0d.
Thirds	200 do.	42s. 0d.
Seconds	200 do.	66s. 8d.
Best	do. superior do.	100s. 0d.

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

¼ thick	1s. 9d.	½ inch	2s. 0d.
3-8th inch	1s. 5d.	1 inch	3s. 0d. per foot.
¾ inch	2s. 6d.		

PATENT ROUGH PLATE TILES.

¼ thick	0s. 11d.	3-8th inch	1s. 7d.
½ inch	2s. 9d.	¾ inch	3s. 0d. each.

GLASS DOMES for SKYLIGHTS, from 10 to 36 inches in diameter. These are well worth notice.

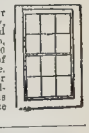
CC	Crown per crate 18 tables	£1 16 0
CC	do. do.	2 0 0
Fourths	do. do.	2 7 0
Thirds	do. do.	2 15 6

Large Crown Squares in 100 feet boxes ..... 21d per foot.
8 by 6 — 10 by 8 do ..... 2d do

Very superior Plate for Pictures and Windows, averaging 26oz. from 3s. 6d. per foot upwards.

CHAS. WM. WATERLOW, MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.





SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK, 1, Amwell-street, Clerkenwell, near the New River Head.

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joinery work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.



LIGHTERAGE.—To Contractors, Builders, Stone, Timber, and Slate Merchants, or others requiring Lighterage.—CHARLES STRUTTON, Lighterman and Timber Rafter, having a large number of craft of all sizes, is ready to undertake large or small CONTRACTS at prices particularly advantageous to his employers. 34, Commercial road, Lambeth (near Waterloo bridge), and Trinity-street, Rotherhithe (near the Commercial Docks). BARGES LET on HIRE

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead, STEPHENS'S DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, public rooms, and theatres, as well as private dwellings. When economy is an object (material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York street, Covent Garden, London; at both which places may be had the proper Varnish and Size, with directions for their use.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has, upon the Premises in his Manufactory, now in full work, established a very large Assortment of Dry and well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1½ inch thick, planed free, grooved with and tongued, and at greatly Reduced Prices. Also, Timber, Deals, Battens, Planks, Scantlings, Sash Sills, Mouldings prepared by Machinery, Lathe, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, lanced to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and 6 & 4 Barge Wharf, Upper Ground-street, Blackfriars.

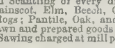
THE LOWEST PRICES for CASH.— T. ADAMS late S. DARE, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, Surrey, has Boards, Arms SEASONED FLOORING, MATCH BOARDING, FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

N.B.—T. A. has several lots of dry and stuff in seasoning and boards to sell cheap, previous to stock taking at Christmas.

JOHN NEWSON'S Machinery being now perfectly completed, he is enabled to offer to Builders and others the BEST DRY FLOOR BOARDS at the following reduced prices:—

¼ white S	18s.	per 100 feet superficial.
1 inch ditto	18s.	" "
1 inch white D	25s.	" "
1 inch yellow	24s.	" "
Two-cut battens white or yellow	9d.	" "

All sorts of sawing done for the trade, and room to stack and dry upwards of 20,000 deals and battens. Barges always going to and from the principal docks. Goods can be insured in the Builders' Fire Office, 69, Lombard-street, or at Mr. Newson's Office, 30a, Westbourne-street, also at his Timber Yard, Grosvenor-row, Pimlico

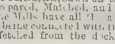


SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle, Boards, &c., Prepared, Matched, and Grooved by Muir's Patent Machinery. The Mills have all the advantages of construction and water-carriage, being close with the Thames and the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

A list sent to HENRY SUTHAM, Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Port of Deseating Company's Extensive Premises, Stone-street, and Plan ne Wharf, at the Grand Surrey Mills, in the Commercial the Quarter, and at Dock Entry Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and, instead of the fire, the vapour process is used to work the patent, which is free from corrosion, and in the most pure, rapid, and perfect manner.

The Patent Desiccating Company's Offices are REMOVED from 28, Broad Street to 30 & 31, GRESCHURCH-STREET, CITY.

The Company's Agents are Messrs. MANGNALL and CRIGHTON, Manchester; late of St. Ann's; Messrs RANDOLPH, ELLIOT, and Co., Glasgow; Messrs CLIFFORD and BROWN, Hull.

TIMBER-PRESERVING COMPANY.— PAYNE'S PATENTS for the PRESERVATION of TIMBER AGAINST DRY ROT, FIRE, RAVAGES of WORMS, &c. The above Company are ready to enter into arrangements for the Preparation of Timber at any of their undermentioned stations, viz.:—

Whitehall Wharf, Westminster,	Louth,
Fleet's Boat-Wyre,	Newry,
Wisbech,	Guildford,
Gateshead,	Southampton,
Barnstaple,	Hartlepool,
Leicester.	Darlington;

and they will erect the necessary apparatus wherever there is a considerable quantity of timber to be prepared.—Further particulars will press, may be had at the London Works, Whitehall Wharf, Lambeth, Westminster.

JORDAN'S PATENT MACHINE CARVING and MOULDING Works for WOOD and STONE, Belvedere-road, Lambeth, and 194, Strand.—TAYLOR, WILLIAMS, and JORDAN beg to call the attention of the building community to a new feature of the establishment, and, at the same time, to thank their numerous patrons and friends for the very liberal support they have lately experienced, which, they assure them and the public, it will be their constant study to deserve, by giving the most complete and punctual attention to all orders entrusted to them. The means of manufacturing by machinery, which they have just succeeded in applying to the production of the most intricate carving in Coade and other stones and in statuary marble.

T., W., and J. particularly solicit the attention of architects and builders to the fact that, in the use of this machinery, a very large saving both of time and money, to effected, is effected, suggest, indeed, that in many cases they can deliver a well-finished article in Coade stone for less money than it can be cut in Caen stone, while the latter, when finished, is far from being more close-grained and perfect in its texture than the former. Specimens of both compositions may be seen at the Works, and estimates supplied at the Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Gentlemen,—In reply to your letter of yesterday, I have much pleasure in stating, from my experience of more than two years, in its application to the production of the wood and stone carvings for the Houses of Parliament, that I have found it, not only economical, but also highly favourable to the production of the most perfect work, which has been executed in this country, and which I recommend to the Right Honourable the First Commissioner of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"Messrs. Taylor, Williams, and Jordan." "CHARLES BARRY."

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

7 & 8, Chapel, London, and 28, Cross-street, Blackfriars-road.

NEUBER'S WASHABLE WATER VARNISH—REQUIRES no PREPARATION of SIZE inserted. It is perfectly washable, requires no preparation when dirty, takes a good, gloss in small and large quantities, and adapted for maps, drawings, paper canvas, &c. Sent to the country Price 8s. to 12s. per gallon.—Manufactory, 4, Dudell-street, Broadstreet, Holborn.—N.B. A liberal commission to agents.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, PLONCEAUX'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform both Architects and Builders that he is now remaining in the SUPPLY of the ANSTONE STONE for all building purposes, and which can be seen at the above wharf (applications to Mr. W. G. WARDLE, of whom every necessary information can be obtained.—August 5th, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity at the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at the Marble and Stone Wharf, Horsfall basin, Minden-lane, King's-cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27 Burton-crescent.

CAEN STONE, from the first Quarries of Allemanne. Depôt at the Whitby and Scotch Wharf, 14, Pancras-road, London.

P. FOUCARD, and de Mottays Caen proprietaire des Carrières à Allemagne, begs leave to inform Builders, Architects, and others that he has on the above-mentioned wharf, 60,000 feet of the best stone ready to meet the demand of purchasers. Contracts taken for any quantities.

Orders received by Mr. BASSHET, at 39, Stoney-street, Borough Market,—Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.— LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the Caen Stone as well known to the special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities to various parts of the continent for public works, Bath House, &c., under the patronage of the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Substance Wharf, Rotherhithe, where samples and information may be obtained.—Offices, 18, Chatham-place, Southwark Bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the requisite accuracy and truthfulness.

FONTS from £4 upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pots from ..... 12s.
Vein-Marble ..... 40s.

RESTORATIONS Estimated for" in which Branch S. C. has had considerable practice. Papers furnished, &c. &c.

Goods Loaded, Housed, and Delivered.

ENAMELLED SLATE.—CAUTION!— Some discarded workmen of Mr. Magnus's, having pirated his invention, and, in the name of another, upon the public frankly imitations, which, in fact, can by no possibility be equal to MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them of what their trade is capable, Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles (which articles have won for him the patronage of the highest personages in the realm, the patronage and support of the Architectural Societies, and the medal of the Society of Arts), begs to publish upon this occasion a protest, and that of the public, against the fraud, and to caution purchasers to be on their guard against the imposition. The public are respectfully requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and in future all articles of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duchess of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Willoughby de Eresby, Lord Wenlock, Viscount Gage, Lord Rivers, Lord Petre, the Bishop of Lichfield, Bishop Hatfield, Wells, the Hon. Col. Douglass Pelham, Mr. Assheton Smith, Col. Challoner, Sir Francis Lawley, Sir Francis Ralph Holmes, the Hon. Capt. Duncombe, Sir W. Gordon, the Hon. C. Shaw Lefevre, and numerous other persons of rank and dignity of this and other countries by the most eminent architects and surveyors, the engineers and directors of the principal lines of railway, the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having the machinery in his works capable of sawing and planing some thousand feet superficial of slate daily, and it being his object to place it in the power of the public at a price that no other can be induced to compete with, he has facilities. Parties ordering large quantities will be allowed a consideration of the ordinary reduced price list.—Address MAGNUS, Pimlico Slate Works.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.—M. H. BLANCHARD, from late Conde's Original Works, Belvedere road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, for the last five years has proved the imperishable nature of the material, the specimens of those times in exhibition, all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, pedestals, fountains, vases, flower vases, coats of arms, dates, and every description of architectural ornament, at prices in mass instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 4, York-street, Covent Garden, and at the Works.

TO BUILDERS AND OTHERS.

RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, rathing bars, sash and steel straps and gudgeons, air bricks, class and open cast plates, serpentine, Hollow Wall or Arch Bricks, wheels &c. GAS and WATER PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot houses, and PIPE MOULDS for making the same, sometimes. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades.

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading,
H for sketching.	B B ditto ditto,
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto

Sold by all the principal Stationers in town or country.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balustrades, Capitals, perforated Panellings, Cartilevers, Brackets, Trusses, Window Sills, Mullions, Heads, Pilasters, Friezes, Cornice and other Chimney Shafts, Mouths, Bead-moulds, Paterns, &c. &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion An assortment of Shop-front Trusses always ready for fixing.—WOOLLER HERBERT and SON, Modellers, &c., 43, Parker-street Drury-lane.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VERREYS, 2, South Wharf, Paddington Basin, Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. Sole Consignee for Atkinson's Cement. Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD, late Wyatt, Parker, and Co., Waterloo Dock Wharf, Commercial-road, Lambeth, Iron-ore Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &c.

PARIAN CEMENT, for internal Stucco, instead of PLASTER OF PARIS, may be painted and papered within twenty hours of its application on the bare walls; and rooms may be rendered habitable by its use before the materials commonly employed begin to dry. It is worked without the slightest difficulty. A finer quality is also prepared for ornamental plastering, for encaustic painting, &c. &c. Specimens of which may be seen at the Works, in the Pimlico Road, CHAS FRANCIS and SONS, Cement Works, Nine Elms, London.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

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WEBB and GREENWAY, Manufacturers and Wholesale Ironmongers, York-street, Birmingham.

The Builder.

No. CCCIV.

SATURDAY, DECEMBER 2, 1848.

MANCHESTER has been pointed to as the type of one grand and new idea—MACHINERY,—an idea which belongs to our own age exclusively, and is full of great results hardly yet foreshadowed. Its progress during the last seventy years has been extraordinary; and its present state is a marvel. As Lord Mahon said, at the recent meeting there, of which we gave a report last week,—It is but little more than a century ago, when the young Pretender marched through this town, and lodged at a house which was standing not many years since in Market-street. If it were possible for him to revisit these scenes, could he recognise them? Would he see any resemblance between the inconsiderable country town, as it was then, and what it has now become,—this immense capital of our manufacturing enterprise,—this vast mart of active wealth—this hive of stirring industry? What would he say to those lines of factories which have since risen on every side, affording honourable employment to hundreds of thousands of our people, and the beneficial effects of whose produce have been felt in the remotest quarters of the globe?

The speaker need not have looked so far back even as this to find a startling contrast. The Manchester of 1800 and the Manchester of 1848 are the same but in name: within that time its population has increased four-fold, and it has become the representative of a new system and new powers.

The useful has been the prevailing object in Manchester; but until very recently one of the greatest utilities, the *beautiful*, had received little attention. Science had been thought of more than the arts, and amongst these architecture had not received even a fair share of such small attention as was given to them. We have often pointed this out before, and have remarked on the absurdity of such neglect of the study of design as was apparent here, in another department, while thousands of pounds were being spent annually in obtaining patterns from France.

Of the architectural improvements in Manchester during the last three or four years, as well as of misdeeds, our pages contain a full and critical account,—fuller, perhaps, than is to be found in a connected form elsewhere; and it will be seen that Manchester now contains many very satisfactory edifices, and a number of rising architects preparing to do good things when the opportunities occur. There is less bad *building* in Manchester than in London. Brickwork is usually very well and soundly executed there, and would put to shame much of it that has been, and is being, done in and around the metropolis. It is well bonded; the mortar joints are small; and the walls are made solid throughout; moreover, the bricks used are, generally speaking, better: much of what is done in London is positively a disgrace and a danger.

There are several large works now going on. The first we stumbled upon in the course of a recent fly through the city, was a schoolhouse of considerable size, in the course of erection, behind Dr. Halley's new Independent Chapel, in Cavendish-street, and in connection with it. This is being built by Hollins, under the direction of Mr. Edward Walters, architect, who also designed the new chapel. The building is two stories in height, Tudor in character, and promises to be a satisfactory structure. The size of the upper room (occupying the whole area), is no less than 123 feet long and 38 feet 6 inches wide. The roof is open, and the height from the floor to the ridge is nearly 40 feet. An extent of 20 feet at each end of the large room is divided off by an open screen, and is formed into two stories, for class-rooms, &c.; and there is an ornamental gallery along one side of the main apartment, leading from one end of it to the other. The cost of the whole is set down at 5,000*l*.

The chapel has been already described in our pages: it is Early English in style, of extensive size, and very creditable to its architect. That it has large galleries all round it is probably not his fault. The main columns separating the nave and aisles being slight, and the spandrels of the arches and the clerestory above being lofty and heavy, produce an appearance of insecurity which is somewhat striking.

The same architect has built some warehouses of superior character, particularly one near the Athenæum, the materials of which are red brick and stone: the ground story is all stone. The heads over the recesses which contain the first and second floor windows, are connected by an enwreathment at the foot of each, and made to form a good feature.

Some warehouses by Messrs. Travis and Mangnall have been already mentioned by us, and there are others by Mr. Tattershall, Mr. Holden, and Mr. Alexander Mills, which challenge attention. Very considerable sums of money are spent upon the warehouses in Manchester, and in many cases they display not only sound construction, extending to rendering them fire-proof, but good taste.

After pains had been taken, in most respects, to prevent the spread of fire, it was found in some instances that it was communicated by the "lift" used to raise the goods from one floor to another. To obviate this, Mr. Edward Bellhouse invented a fire-proof "lift," which appears well calculated to answer the purpose, and deserves to be made known to those by whom such an arrangement is needed.

We were glad to see in Mr. Bellhouse's foundry that the intention of using on the South Junction Railway, now being formed over part of the town, the under-trussed iron girders, similar to those over the Dee (the uselessness of which arrangement was demonstrated in our pages), has been abandoned: arched girders are to take their place. In one part of the line three bridges so formed come together, having each a span of 70 feet.

Iron is becoming extensively used in Manchester, and will be more so—there and elsewhere. In Market-street, not far from the Exchange, there are some new shops which are wholly faced with it, as high as the cills of the one-pair windows. The design of these, by the way, is very bad; we allude to them simply in respect of the material used.

Concerning the Exchange, just now alluded to, some of our readers will remember, that more accommodation being required than was afforded by the old building, it was a question whether to extend this or build a new one, and that after much discussion the former course was determined on, and Mr. A. W. Mills appointed to carry it out. By this time, probably, many who helped to bring about the first part of this decision have been sorry for it. Adding and patching, especially in a building purporting to be Greek, seldom produce a good result, and certainly will not do so in the present case. This is the more to be regretted, as a large sum of money will be spent upon it. Both the exterior and interior of the building are now so far advanced that a tolerably correct idea may be formed of them, and in neither case is our impression favourable. At the extremity of the extension, or what is known as the Bank-street front, the architect has placed a large octastyle Grecian Doric portico, the proportions of which are said by the local press to be those of the portico of the Parthenon. It is not yet finished, and a decisive opinion now might be unjust; but certainly, if this statement as to the proportions be correct, there must be much to be done to what is already fixed, or, by Minerva, our vision was strangely disordered on the day in question.

The portico is joined to the main building by two circular corners, each of which has two columns and will be terminated by a quarter dome in masonry.*

The flank elevation shews a series of *arched* recesses between Doric antæ, with windows in them, and having very long key-stones running up to the entablature, with the exception of a certain number at each end, where the upper part of the key-stone gives place to a small square opening for light. Semi-circular recesses over the heads of the windows are filled in with elaborately-carved panelling, which, however, although in itself clever, produces but little effect, in consequence of being but very slightly recessed and having little relief. The whole flank, it will be seen, has small connection with the Grecian Doric portico in the front.

That the new end of the building may be seen at all, the houses on one side of St. Ann's Square ought to be cleared away; at present it is quite blocked out of view. This being desirable, we saw with regret that a new building for Sir J. Haywood's Bank is being erected on this side of the square, as it will, of course, materially lessen the chance of having this improvement made. The bank is not yet far advanced, but promises to be creditable to the architect, Mr. J. Gregan. The style is Venetian, and the material stone. Attached is a residence, of brick and stone. Iron girders, of large size, are being put in for the floor over the public

* The *Guardian* says,—"The total height of the edifice is nearly 55 feet. The extension is 179 feet in length, down Exchange-street; and 79 feet in width, over all, from that street to Ducie-place. The question whether the semi-circular front next Market-street is or is not to be lined with shops, is not yet decided; but we believe that the Committee have come to the determination that the front shall be altered. Supposing shops to be constructed, the area of the room will then be 1,440 square yards; but if there should be no shops, then its dimensions will be 1,628 square yards. Including the portico and vestibule next Bank-street, which, on market days, will, doubtless, be crowded with subscribers, the total area available to the subscribers will not be less than 1,737 square yards—a superficial extent not possessed by any other exchange in the United Kingdom. The room will be 185 feet in length and 92 feet in breadth, across the widest part. Irrespective of the old semicircular part, the new room will be divided longitudinally by two light colonnades into three avenues: the order adopted for these columns is Ionic, from the example of the temple of Erechtheus, at Athens. The centre avenue is lighted by a central dome and two octagonal lanterns, one at each end; the two side avenues derive light from the large and lofty three-light windows in Exchange-street and Ducie-place. The interior height from the floor to the top of the centre dome is 60 feet; that of the side avenues, which have panelled ceilings, is 23 feet. Attention has been paid by the architect to secure complete ventilation. This is effected by innumerable apertures in the ceilings, domes, and lanterns, to carry off the heated air by means of shafts, &c., to the top of the building; while fresh air is to be introduced through ornamental apertures in the columns, &c. Double floors, and other air chambers, are provided, by means of which, and the stoves in the basement story, it is expected that the whole building will be well warmed and ventilated." Messrs. Bowden and Edwards are the contractors.

office (the office will be formed into three divisions by two ranges of columns), and other arrangements are being made to render it fire-proof. It was, therefore, the more surprising to see the walls over openings depending, in several cases, wholly on wood lintels, without discharging arches, so that, in the event of fire, all the other precautions might be rendered unavailing.

One of the most successful specimens of polychromatic decoration in Manchester is the interior of the Catholic Church in Mulberry-street, erected on the site of a former edifice. Messrs. Weightman and Hadfield were the architects. The building itself consists of nave and aisles, of more diminutive length than was desired, and a recess or chancel at the end. The style may be described as one variety of Romanesque, displaying a fanciful arrangement of materials, which are brick and stone, the walls being of red colour, and the arch-headed windows having alternate white and black *voussoirs*. The door is a fine one, with arched head, and bas-relief in the tympanum: it has a bold roll ornament. The tower, which is at the angle, is terminated by four gables, from which rises a short spire covered with slate, this part of the building having a general resemblance to the tower of Sompting Church, Sussex, a well known example, and to some towers in Germany, which, however interesting they may be as examples, should serve for scarcely more than suggestions, it would appear to us, were it not the habit of architects to forget their chief vocation as artists. Internally the church is divided into nave and aisles by semicircular arches and columns, with capitals of Romanesque character, and has little other sculptured enrichment. But the more especial reason of our noticing this church is the character of the decoration. This part of the design is, we believe, to be attributed to Mr. Bulmer. The columns are painted a sage drab colour, and their capitals are picked out in positive colour and gold. The arches have an ornamental pattern in subdued colour, round them on the surface of the wall, and their soffits have panels painted, containing inscriptions. The arch-headed clerestory windows are filled with stained glass, of appropriate character, and have an ornamental pattern painted on the face of the wall. The use of positive colour is mainly observable over the altar, which has an arcade below, filled with diaper work and sacred emblems and monograms, and above are figures painted with considerable ability, on gold grounds. The roof shows the timbers, which are painted, and decorated with ornament, and the ceiling is blue and powdered with stars. The whole is cleverly conceived and executed, and is a manifest advance upon some former attempts, where, as we have often pointed out, the effect of the members of the architecture and beauty of form are sacrificed for mere colour.

Another successful specimen of decoration, but of a different kind, has been produced in the club rooms, in Mosley-street. With a comparatively limited amount, and little attempt at display, Mr. Walters has afforded us the opportunity of less qualified commendation than we are usually able to give. Of the committee, too, we must say, that we are so often compelled to notice the injurious result of dispensing with the assistance of an architect, just where he is most needed, that we give them credit for allowing Mr. Walters full power in all those matters which are usually consigned to the mere upholsterer. The building is one of the class once known as "Grecian," and need not be particularly described. Internally there were cornices, much like those of an exterior, and giving the rooms a very heavy appearance. These it has not been convenient to remove, but the ornament has been picked out with light warm colour, and a pleasing effect otherwise gained by painting a Vitruvian scroll, or other ornament, upon the face of the corona, and lines upon the ceiling. The doors have been surmounted by low pediments, original in design, but of Greek character, and are grained oak, some of the mouldings being gilded. In the library, the dark blue cushions have a very pleasing effect, and in the mere selection of patterns for the curtains, something of that consideration for general effect is indicated, without which, in such points of detail, the whole previous labour of the architect may be made abortive. Altogether we are glad to have the opportunity of mentioning these decorations, if only because they evince coincidence with our own views, given on several occasions, not only as to the importance of making use of professional assistance in such matters, but as regards the principles of decoration which should be observed. The dining room at this club has yet to be undertaken, and will afford an excellent opportunity. We ought to mention that the graining, by Froggatt, of Manchester, is remarkably good.

We went with some degree of interest to examine a Greek Church now building on the north side of the town, hoping to find evidence that "something of the spirit of old Greece" was still lingering about those modern Hellenes who crowd the public places of an English city. Alas! alas! There was a semicircular absis, and a floor elevated at the altar end, but nothing that could remind us that we were examining a work with which any one but a very ignorant or careless builder had to do. Ancient Greece made the people of the wide world her debtors; modern Greece scarcely less diffused the knowledge of arts and letters over Europe.—Of the modern influence, we might have hoped something would be developed, even in a building in carcase: we saw nothing in the way of decoration but a façade —apparently an after-thought—tacked on to the main structure, in preparation for stucco—which the people of Manchester have almost rejected—and of very common-place character.

Constructively, also,—what a comparison! The temples of old Greece, which time, and war, and wanton mischief, and *dilettanti* ardour have conspired to destroy, still stand, in at least sufficient integrity to disclose their original design and construction. The descendants of that very race whose pride it was to carry the arts of Greece to other countries, and there surpass the achievements of Greece itself, raise a church which shews some signs of not lasting till the time of its completion. What *were* the Grecian colonists of Ionia, of Magna Græcia,—what *are* the Greeks of Manchester? What their forefathers were, their architecture tells us; what they are, will they allow us to take this building as evidence?

The building is an exception to the general good construction we have noticed. The façade, which, we said, may have been built subsequent to the flank walls, appears to be curling off from the remainder of the building: a very inadequate iron girder supporting a wall, when we saw it, was shored up in the middle: very diminutive iron columns, supporting considerable weights, and which seemed to us to have already gone out of the perpendicular, were standing in deep holes full of water, although, as concrete is usually dispensed with in Manchester, extra caution should have been observed. External and cross walls are settling with large cracks in the latter, and one flank wall we saw shored up with planks, which were bending with the pressure,—good construction being usually so well attended to in Manchester, that builders there have little opportunity to familiarise themselves with the proper arrangement of shoring. Having felt called upon to notice the general prevalence of good construction, we have thought it equally requisite to particularise a case which would be disgraceful in any town.

From the Greek place of worship we went to the Cathedral,—but we will not treat the Mother Church so ill as to put her into the fag end of an article.

THE STORY OF BUILDING.*

If some keen disputant were to insist upon it being an odd circumstance that men should choose for their great material for building, of all things in the world, *stones* (as we have seen), the question might seem hard of settlement for a while. Certain it is, that stones were the choice of the very Antediluvians of the art, the choice no less of every age and school of building since, and are still at the present day the choice, and likely to continue so for ever. And at the same time stones seem at first sight a singular thing to fix upon, unquestionably: one would think there must be surely many things to choose from besides this; many smooth and elegant things before this most obdurate and rude,—many soft and warm and comfortable things to prefer to cold and ungenerous stones.

Yet, nevertheless, except it be brick (which is but an artificial stone), or unless the wonderful invention of which we now hear should give us undreamt-of powers to melt stone down and mould it a new material,—or, lastly, except something original should arise out of the cement practice of the present day, there seems nothing to supplant the old and simple plan of stones piled on stones. For common habitations of a day, there may be the tent of cloth in the desert till the wind has blown it away, or the shanty of boards in the tropics till the sun and the rain have twisted it into ruin, or the log hut in the far west till the tongue of damp decay has quickly rotted it, or our own lath and plaster refinement of the old wattle-work and mud, till the bitter wet of this cold November has soaked through its flimsy walls; but for an enduring structure, in whatever climate or whatever age, or for whatever end or use, we have adopted always (and the reason is now more apparent) stone. And this, the material of architecture in the first era of the art, is the material which we have chiefly to note in all succeeding periods.

When the historian of architecture leaps over nearly a thousand years, from the Egyptians to the Greeks, and steps from the Romans of the first or second century to the church-builders of the twelfth, it does not arise, at any rate in the first case, from what in other histories would indicate at least an un-historian-like absence of precision. The intervening space is simply a dreary desert or unproductive sea,—a lapse of centuries when the genius of the world was under a cloud. Now-a-days, and for many ages bygone, if the star of progress has set here, it has risen there; and the world itself and manhood still move onward, if not in this quarter, in the other, if not by Italy and Spain, by England and America. But in the early ages of which we have been speaking, the world, now all a garden, was all a waste; and the sunshine which now imparts, if a changing, still a continuous vigour, could then only at distant intervals enkindle in the wilderness a short-enduring oasis of life. Now architecture (the practice of great and embellished building) marks, by its existence, a certain definite stage of intellect and national advancement, which all countries of reputation come up to now, but which was far beyond the

* See p. 493, *ante*.

standard then; and when the day of Egypt's prosperity declined, it was night till the dawn arose on Greece. The history of architecture, then, after the fall of Egypt, is simply that it died and was not, till the cycle of the world's energies animated it again in a new form and among a new people, after many centuries, during which the mind of man was beneath the standard of its possession; and, indeed, here we have something really worth boasting of in our "History in Stone" over all other histories,—that it marks man's progress and condition in difficult periods with an exactitude which fighting and other such more approved exponents of history do not by any means so well possess. In the ruins on the banks of the Nile,—in the temples on the crown of the Acropolis,—in the remains of imperial Rome,—he who can read this history finds illustration of the phases of humanity worth volumes of learned and laborious inquiry. The calm untutored ponderous first,—the severely natural and beautiful second,—the last richly luxuriant but in richness gradually effeminated, express in everlasting record simply and at once, more than frequently laborious treatises can shew of the unformed massive Egyptian, the philosophic Greek, and the mighty but degenerating Roman, whose works and memorials they are.

The monuments of the Egyptian and Indian building have never yet, by fashion, been rendered so familiar to the systematizer, with dates and histories, as to admit of our tracing well the rise, climax, and decline of those species of architectural works; but in the classic school, from the first simple temple of infant Attica to the mongrel fancies of expiring Rome, and even to its absolute fading away into alienation in the basilicæ of the Christians, we can trace minutely, and step by step, the course from the cradle to the tomb, and, with the changes, and declining, and reviving health of the world, the no less fitful changes, and declining, and reviving health of the art.

How much we may be influenced by the prejudice of education is perhaps in some measure a question,—but certainly we think the temple of the Greeks, born seemingly, like its own goddess, in full maturity, is a most remarkable production of the human mind. In the system of the middle ages, for example, there is no parallel in any way to so striking a fact. Every form and arrangement and principle seems traceable back into the very depth of rudeness. And so, perhaps, in no subject whatever among the productions of human genius is it otherwise. But in the ruins of Greece there appears absolutely no room at all for a search for the growth of architecture,—the Doric temple, complete and unimprovable, arises at one step. And if we were to say that the preparatory steps are all swept away, such a hypothesis would be as singular to the full as the other incomprehensible alternative—that preparatory steps there were none. In what we might expect as the natural course of cause and effect, we should be able to trace the relics of many efforts of increasing approach and the perfected standard as the end; and this, if not in the country of the standard itself, in some progenitor. If the first attempt upon the idea of the Greek temple were rude stones set up on end, and rude stones spanning over them, between this and the temple at Corinth there cannot but have been numerous gradations of advancement. And if we suppose that of these no vestiges whatever are in being, it is assuredly a supposition eminently unsupported by analogies; and if we therefore suppose that the vestiges have simply never attracted the keen edge of the antiquary's spade, that no less is a supposition which, from what we have been led to believe, is a very unlikely thing. If again it were argued that those earliest temples may be only the first works *in stone* of a style and pattern already perfected and established in a more perishable material,—not the old-fashioned dogma of the primitive hut, but a hypothesis that there were previous temples of the Greeks in a sort of simple carpentry,—then some may see another and not less important difficulty in the question, whether masonry of such good finish could have been attained to without preliminary steps, of which no remains exist. Indeed, it would appear as if the course were simply this, that perfect masonry and exquisite design sprang into being together and at once, or that in both the preliminary steps of growth were no more than the tentatives of a short period.

In these days, when everything boasts a reason and a cause, and miraculous interpositions and credulous Villalpandas are more rare than they used to be, we will all take refuge in the conclusion that doubtless the matter in hand was all in the regular natural course, and has all its reasons, and good ones too, recorded in the invisible book of forgotten history. But it is no less remarkable and honourable to the Greek genius, that the fundamental conception—indeed, the detailed idea—of the earliest temples was never improved upon. There were amendments made in proportion and profile, and there were varieties of order introduced, but no organized change was ever attempted—such as in all other styles of art have stamped the earlier works as out of date, and of false conception. Simply, perhaps, because in no other school of design can it be at all said, with the force with which it can be said of this, that there was no falsity of conception at all. Possibly, as we have admitted, education may be to some extent blinding our vision, but we can scarcely detect the risk,—and if our study of the Greek temple proclaims it perfect and unimprovable in its conception, we have certainly this fact as a powerful support of the presumptuous position—that no other conception of design in the whole story of building is to be produced, in which the passion of improvement could detect no crudity whereon to fasten an organic change.

One word must be said on what we have in some degree admitted to be possible—the derivation of the Greek temple from wood construction, for it is manifest that the risk in such a case would be great of false conception, by reason of the different principles of the different materials. We have good reason to entertain a horror of this very danger of adaptation. But if it did prevail, it is only the more to the honour of the Greek genius that it passed so harmlessly, even with all allowance being made for the fact, that probably the principles of early carpentry and masonry would be by no means so widely different as the principles of the more advanced sciences of our day. If a first effort upon the principles of stone, the Greek temple is a marvellous work, and if an effort upon the basis of previous works in another material, it is no less marvellous in its perfection.

In the Ionic and Corinthian orders of the Greeks, the excellent principles of the original Doric were merely amplified and worked out in variety. The Ionic order, however, displays, in our view, with a certain increase of elegance, a decided lapse in perfectness, while the monument of Lysicrates, as the only Greek work in Corinthian, is merely to be taken as a solitary gem which, with the exquisite Caryatic portico in the Erechtheum, only shows us how much the genius of the day was capable of producing in happy novelty. The Romans, in engrafting more luxuriance on the principles of the Greeks, carried out the system in many admirable varieties, but in process of time more variously than well; and at length the result was the insinuation of false principles and feebleness, which ended in a ruin of the spirit of the Greeks more complete than the early masters of the style could have comprehended to be possible.

The introduction of the principle of the arch was what might have been an important era in the history of design under the Romans: but it was the fate of this principle to be misapplied by them from the first. It ought at once to have originated (as it afterwards did), a new style of design. The principles of arcuated building are as essentially different from those of the Greek or trabeated style as opposite materials could be; but the architects of the time were somehow so infatuated in a spirit of mere regulation, uninventive and unreferred to first principles, following merely superficial form in neglect of animating spirit, that their use of the arch was only as a graft upon a system of forms founded on opposite principles, and therefore quite incompatible with an amalgamation such as they attempted. Misapplication and discordance were only the natural results; and long before the decline of wealth and influence prompted the spoil of the old monuments for materials wherewith to build the new, the decline of artistic truth had destroyed the merit of their work, by prompting an undiscriminating reference to the old forms to supply the lack of the originating powers of genius.

With the Romans also the application of architectural design—the province of building—became immensely enlarged; and it was again their fault that novelty of circumstances and requirements failed in the production of novelty of design. They did not proceed upon first principles in designing, nor in copying and adapting refer to them. The powers which produced the monument of Lysicrates and the Caryatic portico had now scope for an infinity of excellent modification and variety, but the genius was gone from the world.

Meantime, the barbarian hunters and shepherds of the north were multiplying their numbers and,—swelling within their bounds, and looking out of their miserable huts across the Roman boundaries upon palaces and rich fields,—began to meditate attack and plunder; while the enervated Romans only excited their evil passions by the exhibition of degeneracy and vice. In a few years these savage hordes were to be masters of the empire of the world, defenders of the Christian faith, and founders of a new period in our story of building. But let us pause at the fall of a mighty people; and, while we blame deficiencies, acknowledge with reverence a still wondrous supremacy, and a legacy left to us of more virtue and wisdom than will ever permit the tongue of levity to dishonour the Roman name.

K.

LEICESTER-SQUARE AND ONE OF OUR FRIENDS.

We have what "Jeames" would call an "emeusing" correspondent. We have several "emeusing" correspondents; but one who is more particularly so than the others. This gentleman—we suppose he is a gentleman, and one apparently with much spare time on his hands—makes it his recreation to write us with constancy and regularity (let us give him the credit of such virtues as he really has), to reproach us with not having mentioned something which nine times out of ten has not occurred. He was surprised that we did not inform our readers, seeing that other papers had already informed theirs, that a new colonial office was to be built directly; astonished we had not mentioned that the works were wholly stopped at the new Houses of Parliament (this was before any of the men had been discharged); and really quite indignant when he found that we did not state, as others did, that Mr. Barry had received orders to improve the National Gallery,—at the very moment when we held in our hands (*exclusively*, we may take this opportunity of remarking, notwithstanding its appearance elsewhere without acknowledgment), the report of the Parliamentary committee advising that the same, when done, should be opened to competition.

Our foolish friend seems to consider it his mission to point out to us what we have *not done*, and as we are mortal, and, moreover, do not *pretend* to speak of everything which legitimately falls within our province, he will find it a prolific field for labour, even if he had the wit to confine himself to matters which might with propriety be treated of, and to avoid blaming us for not having assisted to spread false reports.

In his last communication, which, like the preceding, shews that he cannot thus discriminate, he gravely points out the omission by us of any account of "the proposed novel bazaar in Leicester-square." "Haven't you seen," says he, "long ago in the other papers, that the erection now in the course of being made is to be no other than a fancy bazaar, which is to be built partly upon the same plan as the 'Lowther' in the Strand, and that the ground-plan adopted for the undertaking is as follows: passages of about 25 feet in width are to be made from each corner of the square, and are to terminate in a circle in close proximity to the statue. Upon either side of these passages, tiny shops are to be fitted up, in so tasteful a manner as will insure their being speedily let to parties who will fit them up as depositaries for the sale of fancy goods of every description. Moreover, it was expected that it would be open for the sale of fancy articles

within a month from that date, and yet you have not told your readers anything of this great alteration."

Gentle reader, and most sapient writer, we *have* seen such paragraphs (*and more*) long ago,—long enough ago, indeed, to disprove the last part of the statement, at all events,—but we saw in them but a flourish of words and no soundness. They were evidently nothing but a "come on if you dare," to those in whom the power of prevention might rest. We were very doubtful, and are very doubtful, of the right of any person to build upon this area, and the present state of things confirms our opinion. The few trumpery posts and planks which, stuck up in the ground, were the foundation of the foregoing flourishes, remain precisely as they were, a miserable eyesore; an injunction to prevent further proceedings has been obtained, it is said; and the "tiny shops" will, it may be hoped, get "small by degrees and beautifully less," until they disappear altogether. The idea of covering this space with buildings is perfectly preposterous, and, if it were likely, should be resolutely opposed by all London.*

THE FOUR O'CLOCK MOVEMENT.

A LETTER from "A Young Builder," which appeared in your paper of the 11th inst., headed "The Four o'Clock Movement," having been brought under the notice of the London Operative House Painters' Association, I am directed by that body to offer a few remarks in reply to the inference to be drawn from it, viz., that the workmen in the building trade are a disorderly race. All must know that this is a libel on the working men of London. If we examine the police reports we shall find that but a very small proportion of those brought up for being drunk and disorderly are men connected with the building trade.

He says he has had much experience among workmen; if so, he knows that workmen in the building line are always at their post at six o'clock on Monday morning: when the reverse occurs it is an exception to the general rule. They who willingly granted the leisure have won for themselves the lasting gratitude of all classes of workmen, and they are fully compensated for any trifling pecuniary loss they may sustain by the increased satisfaction which exists between them and their men—by the conviction that they are moving with the age, which evidently tends towards diminishing the hours of labour, and that they are adding to that which is the happiest time in the life of a working man, viz., Saturday night in the bosom of his family.

He asks, in what way can the less favoured tradesman make up for the gross imposition? I would humbly suggest to the "Young Builder" to endeavour to promote its general adoption, and put the deficiency on the price of labour in his estimates. He would then find himself in as good a position as he holds at present (?), with the consolation that he was increasing the opportunities of his men for moral and intellectual improvement; he would be doing something that would create a good feeling between the employer and employed.

Trusting that in justice to the class to which I belong (whose character is publicly traduced by your correspondent), you will find a corner in your journal for these few lines, I am, Sir, on behalf of the London Operative House Painters' Association,

PHILIP WOOD, Secretary.
Ryder's-court, Leicester-square.

Much has been said in favour of this movement, and at first sight it appears very right, at least to the working classes, and it would appear still better to leave off at four o'clock every day in the week, as the masons have now in contemplation; but the best of all would be, if we could, to *abandon work altogether*. Men would then have all their time to cultivate their minds, and we then might expect to find men of gigantic stature in intellectual powers, and of the highest moral cultivation. But fate subscribes not to our wishes. The original curse mixes its bitters with all our sweets,—by the sweat of thy brow thou shalt eat thy bread. And as this fate is almost irresistible, a patient submission to the same will greatly soften its hardships, for the more we attempt to fly from labour the heavier its pressure becomes. The man that has none, perhaps labours under the heaviest burthen; for such a man is a burthen to himself and to all those around him; whilst, on the other hand, labour will strengthen the body, invigorate the mind, make time pass cheerfully, preserve the health better than medicine, and create a purer appetite than any stimulant: it will give sound rest when asleep, and true enjoyment for recreation; whilst those who have not anything to do and are in the possession of all good things, for the want of this ingredient are never truly satisfied, and have no true enjoyment of anything. The man who labours has the fewest temptations to evil. His employment is honourable; he labours to help himself, he also contributes to the well-being of others; by his exertions our barns and storehouses are filled with plenty. Among the mighty he is the mightiest. For he levels the mountains and penetrates through the hills; constructs a way by which you are carried with the rapidity of the wind; he erects a barrier, and quells the raging of the sea, and secures to the mariner a safe haven of repose. He builds our temples, our palaces, our houses, and decorates the same with the most curious workmanship. Among the gallant he is the bravest; he ploughs through the stormy ocean in search of foreign goods; he penetrates the bowels of the earth, and furnishes us with all our glittering store; in short, he is the principal instrument of producing all our wealth and all our good. Use him fairly, despise him not; remember, although he be thy servant, he is not thy slave. Govern him, but let it be without rigour; and, as the labourer is worthy of his hire, defraud him not, lest thou bring the hireling's curse upon thee.

Now to the point, viz., the four o'clock movement. Let us take a survey on both sides. The "Young Carpenter" states, that there has not yet been time to develop its benefits; it must therefore remain as yet, according to this concession, a matter of speculation as to its good or ill effects. All that can be said in its favour is, that it is approved of by many of the building trades, and will promote the mental cultivation of the men. I might, for instance, propose to the public another good thing, that if employers would pay their men on Fridays,—it would be more conducive to the working man's comforts than the four o'clock movement; but the result, in all probability, would be, that many would squander their money and time on Saturdays on the account of it.

Above all things, I like honesty. If the excuses on behalf of the four o'clock movement were that men wanted a little more time for recreation, it would have appeared more like truth; but to say that it will promote the culture of the mind is a thing that will never be publicly accredited.

Admitting that certain builders named did give it freely, this is no just argument why every other employer should be bound to follow their example. These builders might be just retiring from business with independent fortunes, whilst others less fortunate in the trade might have struggled all their lifetime with difficulties. What one builder could give without injuring himself would prove the ruin of another; for the sum per week to a builder employing fifty men makes a good round sum per annum, and would be seriously felt by builders of small capital.

It is stated, that should the privilege be withdrawn, it would create a spirit of retaliation injurious to employers and employed, and open a breach that would take many years to close. The "Y. C." evidently entertains a very ill opinion of his fellow-tradesmen to think that they would offer retaliation in being deprived of that which they, many of them, have unfairly taken from others; for, if the matter were fairly sifted, not one-third of employers have freely given it.

Supposing builders had attempted to impose another hour's labour on Saturdays, for the same wages, would the men have been sufficiently enlightened to have understood this as an imposition on the part of employers? Now, allowing fair play on both sides, what might have been said in this case might be said of the four o'clock movement, where it has been imposed contrary to the wishes of employers. I am ready to believe that there has not been sufficient time to develop its beneficial effects; but I have seen sufficient to convince me of its evil tendency, both to employers and employed. Through striking for this mere trifle, many have been thrown out of employment for months together, families deserted, and homes forsaken; and to my personal knowledge, men who have taken part in such resistance, have regretted the day that ever the subject was broached.

In conclusion, I ask workmen to take the advice of an old mason—older, perhaps, than he who takes the opposite side of the subject. Let the subject remain as quiet as you can; our trade has already been materially injured by agitation; we feel the smart of it at the present time. If the movement be, as is stated by those on the other side of the subject, beneficial to employers, they will, no doubt, in time be enabled fully to appreciate its advantages. But should we, as a body of working men, endeavour to extort by unjust means, what they are not willing to give, we shall deserve the calamities we shall bring on ourselves thereby. I trust, Sir, you will endeavour as far as possible to maintain peace, for the interests of both parties are so blended, that all agitations and disagreements must destroy the welfare of both parties.

ANOTHER OLD MASON,
And a Member of the Masons' of London Protection Society.

THE INFLUENCE OF ANTIQUITY ON THE ARTS OF ITALY.

THE following reflections on the influence of antiquity on the literature and arts of Italy are submitted by the writer, as appearing to offer evidence in support of objections to the study of the old Masters.

Since the days of Cosmo de Medicis, when the taste for Greek literature revived in Italy, bearing along with it the taste for Greek architecture and Greek sculpture, the records of the effects of that diversion having been handed down to us by men themselves under the influences of it, there is little reason to be surprised at historians in our own country having attributed to that account the excellence attained by the Italian nation, particularly when we reflect to what an extent the pseudo classical taste pervaded Europe a few years ago, and how at this moment the classical and mediæval feeling is balanced in all that relates to æsthetics; the artist, however, who can appreciate the character which alike pervades Grecian and Gothic remains, and the philosopher who loves to trace the progress of a people towards maturity, may find matter in this subject for far different reflections, and while the one must lament that want of consistency which from that time forth was to characterize Italian art, the other ought to regret that so gifted a race was not suffered to work out alone that idiosyncrasy which forms the strength of nations and periods, as well as individuals, and which operated so powerfully in bringing to a glorious climax the arts of ancient Greece.

Literature, which affects more our moral qualities, and bears less on external characteristics than her sisters, the plastic arts, may be supposed to have suffered least from the admixture, nevertheless it would be easy to trace the downfall of Italian poetry from this source, although not in immediate connection with it; for, notwithstanding that the love of nature in the first instance may have enabled Lorenzo di Medicis and some few others to keep pace with the current, yet that it ultimately proved too strong is attested by the misdirected efforts of the Latin poets of the fifteenth and sixteenth centuries, to revive a literature in a language foreign to their feelings, and by the

* In a leading article on the subject, the *Herald* said,—"This proposal, to fill up the open space of one of our squares, seems to us so alarming, that we cannot help wishing that the public at large may interfere, and insist on [illegible] It [illegible] many a more private and secluded spot, where open yards and gardens are becoming gradually covered with dwellings; [illegible] find it almost impossible to penetrate. In our opinion, a law [illegible] any such addition to existing buildings in the metropolis; and should ordain that every vacant space, heretofore unoccupied by houses, should remain so until specially exempted from such prohibition by a distinct Act of Parliament."

subsequent falling off of Italian poetry from all the manly and truthful qualities which once formed its strength. Nor ought the examples of such men as Ariosto and Tasso, who, for a while, stood forth resplendent amid the symptoms of decay, to be opposed to these truths, because men, peculiarly gifted, will flourish on a system which is bane to the multitude; and we should rather inquire what talents, like those of Tasso, might have effected had he treated his great Christian epic with a truly Christian and Gothic feeling, instead of resorting to pagan imagery to illustrate his Christian incidents,—a custom then so common as to be introduced by churchmen in their discourses. The writer was lately favoured by Mr. G. Rosetti, a son of the popular Italian poet, with some translations which he had made from the early poets before the time of Dante, wholly unknown in this country, as they are unappreciated in their own, and could not but wonder at the precocious genius of this people, exemplified in the exquisite tenderness, richness, and truth of these effusions of an age 150 years anterior to that of our Chaucer. What might such a race not have attained to, had their development been attended with less fortuitous circumstances?

Not to omit architecture (a subject to be *delicately handled* by one, not of the craft, writing to The Builder), I must say that it might appear like sectarianism to complain of the change which, in this case, the love of antiquity has effected, great excellence having been arrived at in the Italian style, which in itself is well adapted to the beauty of the climate and materials there employed;* while, on the other hand, the mission of Gothic architecture has been fulfilled in other countries; nevertheless, if we reflect on all the instances of fulsome interpolation and idiotic restoration for which the classical style is responsible, the numbers of basilicas, churches, and other noble edifices, which have either made way for it, or still suffer from its pitiless embellishments, if we consider the ignominious results to which it ultimately led, and all the handy work of the eighteenth century, exemplified in the churches of Rome and other cities, I might be allowed to revert with displeasure to the first order which Bruneleschi received from the Medici, to build a palace in the classic style, and lament the want of harmony which must have been felt on the introduction of this forerunner of an entire change in the character of Florence, for till then everything in it was Gothic, the houses, the pageantry, the tournaments, works of art and furniture, arms, and dresses, nothing was wanting to the uniformity of feeling. But a change was preparing for the scene, the wrench was already applied to the bars and fastenings that encompassed antiquity, and the past was revealed in all its splendour! The first to appreciate, this ardent people could not rest satisfied with admiration, but emulous, they must enter the arena to strive with the past at its own games; vain struggle with phantoms which elude the grasp!

But let us hasten from this *delicate* topic of architecture to the subject of painting, and submit it to the same train of reasoning. From the period when Giotto first impressed on the childhood of art the character of true pathos and dignity, up to the decoration of the Brancacci Chapel by Masaccio and Filippino Lippi, the evidence of one continual state of progression is afforded the archæologist, unimpeded, as it was unassisted, by foreign influences. As perfection was not yet attained, we may justly infer, as well from this previous improvement, as from the necessity of art having risen, at *some time*, unassisted, that progress would not have stopped with Masaccio, but that, under equal encouragement, painting would ultimately have arrived at perfection, while from the quality of excellence displayed by that master, we may also conclude that the desired period could not be very far removed.

About this time the rage for disentombing antique statues began to show itself, and their influence to be felt. Andrea Mantegna, an artist who little awakens our sympathies, had already strongly imbibed the feeling; Masaccio was never influenced by it, but several of his cotemporaries exhibit at times a feeble and even ludicrous effort to combine the drawing and costume of the old statues with designs of a very different nature. In the meantime the rage for antiquity continued to gain ground; under the pontificate of Leo X., it had reached such a height, that in the words of the historian Roscoe, "he who could bring to light an antique bust, might consider himself provided with a competency for life, while the discovery of an entire statue was deemed equivalent in value to a bishopric." This fashion, like all others which combine novelty with a love of the beautiful, took strong hold on men's minds, till it became a passion and a creed. Now, it is not to be supposed that men like Raffaëlle and Michelangelo, would be loath to avail themselves of the impetus thus given, or the advantages it held out to them; none are so easily led as the inexperienced, and till then art had been in its childhood. What, in fact, did they want? they who, early inured to the severe study of nature, had imbibed the vital qualities of individuality and expression, which can be obtained from that source alone; they who had inherited a simple and pure taste from their predecessors; they who had surpassed them; what more could they require, if not a greater perfection in drawing, and a bolder outline? This was ready prepared for them in the works of antiquity daily brought to light, and is it to be supposed that, contrary to the spirit of the times, and incapable of foretelling the consequences, they should refuse the proffered boon, the ready chance of improvement, and devote themselves laboriously to extort from nature that which apparently lay beneath their grasp? The shortest route sufficed *their* purpose; they took it. Italian art reached its highest state of development, and the causes of its decline alone remain to be considered. It may be easily understood that these great men, in their reverence for those examples by which they had been enabled to outstep all previous efforts, would forget much of the gratitude due to those who had early directed their steps in the right way, of the numerous windings by which they had ascended the eminence, they were most likely to remember the last by which they had gained the summit, their admiration for the antique is known, but they forgot how little their works evinced of the study they so affected. The pupils and followers of these two painters, although they little noted their career, hoarded their precepts, and were little loath to carry them out: their masters had achieved what appeared to them perfection by the study of the antique, *they* would study the antique and their masters,—it was more expeditious than the study of nature, and each man by these means would become a Michelangelo: thus was the study of nature supplanted by that of art. The masters had strained the band that held them to nature to the utmost tension,—their successors broke it; and through all the phases of the decline of art, the less nature was resorted to, the lower the degradation, till general disgust brought about a reaction which now is beginning to bear fruit.

The review of sculpture in Italy would be little more than a repetition of that of painting in the same country,—gradual progression in the first attempts—sudden and fearful development under Michelangelo and antique influences—the abandonment of nature for the study of art, and consequent decay, with this difference, that it appears from the beginning to have been more dependent on the works of antiquity, and that it never reached a degree of excellence equal to that attained in painting by the Italians; and if we are to believe the words of an illustrious sculptor of our own country residing in Rome, "the Italians never were sculptors."

An opinion is now beginning to gain ground that Michelangelo was not quite immaculate as a sculptor; and that he who had gathered from the antique the true principles of art, displays in his works what might be better termed an exaggeration of *some* of the qualities of the antique allied to a wonderful knowledge of nature, but more of the painter than the sculptor. The impression which the writer received from his works in Italy was, that he was the Rubens of that country,—an opinion which he has since heard corroborated.

Before concluding, let us give a few examples to elucidate the view which is here taken of Italian art. Leonardo da Vinci flourished many years before Raffaëlle, although in his old age a cotemporary of that master, we may therefore expect to find less of the spirit of antiquity in his works, an assumption which they justify on inspection; nevertheless, in perfection, his individual figures are considered superior rather than inferior to Raffaëlle, that master only surpassing him in imagination and activity, which helps to prove that perfection would have been attained independent of antique examples. As an instance of how much artists deceive themselves, may be adduced the case of Raffaëlle, who being appointed to the conservation of the remains of antiquity under Leo X., conceived such an affection for them, that, writing to his friend Agostino Chigi, he complains of not being able to succeed with the head of his Galatea, because nearly all the old statues wanted heads; nevertheless, his claims to the admiration of posterity depend far more on the admirable character of his heads than the drawing of his limbs. As an instance of how much both he and Michelangelo owed to their predecessors, may be noticed the facts of their plagiarisms from the Campo Santo and the Brancacci Chapel. In support of the study of nature, there is the fact of Leonardo having in his latter days wasted much time running after models; and, finally, in support of that study being the strongest safeguard against decay, there is the example of Leonardo's pupils, one of whom, Luini, almost rivals the master, while all bear a better proportion to him than the followers of Raffaëlle do to their master: there is also the example of the Venetian school, which, from having more need of the aid of nature, as colourists, resisted longer the degeneracy of the times.

In the hasty sketch thus drawn of the effects of "looking backwards" in Italy, the object has been little more than to direct attention to the subject, and there was not room to take notice of individual cases, which may require explanation, nor has the writer pretension to do justice to such a subject; but wishes it to be understood that he confines himself to all that strictly relates to æsthetics, for necessarily the principles of ethicks and positive science must be of equal value, from whatever source they may be derived. But as it would appear that whatever the Greeks knew of real science had already reached Europe through Arabian sources, to sum up, it may be asked—What was the real benefit conferred by this all-reversing revolution in mediæval æsthetics? Setting aside the preservation of some classic authors, the answer might be summed up in few words, a race of pseudo Latin poets, whom nobody reads, and a great amount of disputation on the Aristotelian and Platonic systems of metaphysics, and then with Lord Bacon all to begin afresh!

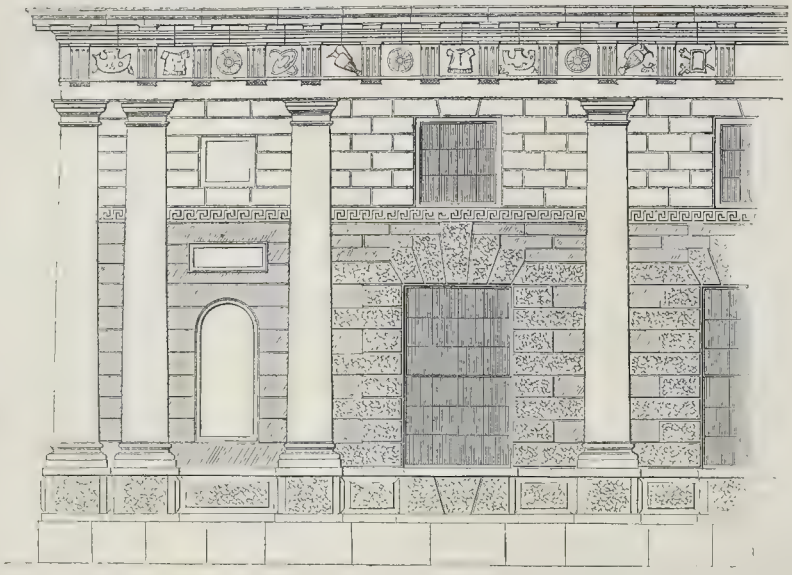
I will address my concluding remarks, with your permission, Mr. Editor, to our fellow-students in the plastic arts, and will beg not to be misunderstood with reference to the study of nature; her principles must be investigated, as well as her appearance imitated, and this is the point least understood at the present moment; for, since the excellence attained by the Dutch, many artists, looking at nature through the medium of Rembrandt or Sir David Wilkie, cannot persuade themselves that Leonardo da Vinci can be also like nature: to solve the difficulty, they denominate the latter high art, whereas, in point of fact, that master is as much an imitator of the generalities of nature as Teniers is of her particularities. For nature is the stay of the artist; she is our kind mother, and she will never desert us if we trust in her; seek her, and she will ever appear before you beautiful; question her diligently, and she will answer. She alone can reconcile the differences of conflicting schools, and by her sanction alone does the minister of every calling share the rewards due to fidelity,—Wilkie and Burns in the throng, with Michelangelo and Shakspeare. Let us, then, never neglect her worship for idols of wood and stone, nor, from a selfish motive, seek to obtain by stealth those merits for which we should labour honestly. Let us think of what we owe posterity; and while we take hand-in-hand the slow and sure road that leads to excellence—

"Learn to labour and to wait."

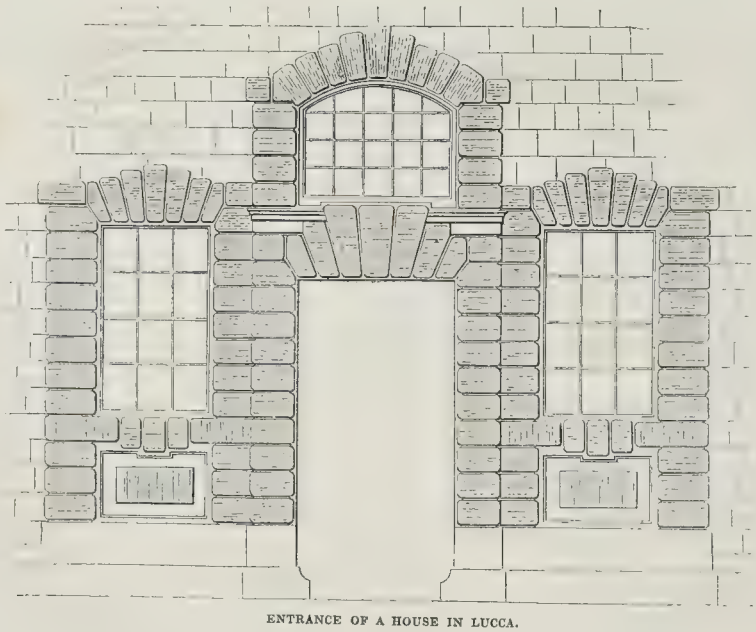
An Artist.

* It has always struck the writer that classical buildings require sunshine to display them to advantage, whereas Gothic structures show best in gloomy weather.

SUGGESTIONS FOR STREET ARCHITECTURE.



COMPARTMENT OF THE T PALACE.



ENTRANCE OF A HOUSE IN LUCCA.

SUGGESTIONS FOR STREET ARCHITECTURE.

1. COMPARTMENT OF THE T PALACE AT MANTUA.

This celebrated palace was built by Giulio Romano, the pupil of Raffaelle, about the beginning of the sixteenth century. Many of the rooms are adorned with the frescoes of this artist, who has enriched Mantua with numerous monuments of his talent, both as a painter and architect.

2. ENTRANCE OF A HOUSE IN LUCCA.

The house to which this composition belongs is a private dwelling in the principal street, leading from the Duke's Palace: the stone-work is remarkably well executed, and the method of rustication has an excellent effect. Lucca abounds in beautiful details of this character, besides its more celebrated architectural monuments.

H. R. Ricardo.

FERGUSSON'S PRINCIPLES OF BEAUTY IN ART.

Well may you call Fergusson's "Principles of Beauty in Art" an important work, it being one calculated to produce a complete revolution in architectural study, criticism, and taste. By some it will be very much relished, by others,—by those who have all along cherished opinions which the writer exposes as inveterate errors and prejudices,—it will of course be

MARSHFIELD ALMSHOUSE, GLOUCESTERSHIRE, A.D. 1619.



disliked and condemned,—not condemned publicly, perhaps, because few will care to encounter in open combat so powerful an antagonist. Among those who would willingly make an *auto-da-fé* with the book, if not with the writer, are Catholics, Puginists, and Puseyites; since it not only lauds the Reformation in the highest terms, but speaks of the religion of our forefathers during the palmy times of Gothic architecture and art, as "*sensuous idolatry*," akin to that of the Egyptians!—"in both times the people were equally priest-ridden," &c. Neither will archæologists thank him for animadverting so cavalierly as he has done on their absurdities and extravagances. While as to the venerators of Vitruvius, they will stand aghast on reading what is said of their idolized classic authority, whose writings are declared by Mr. F. to be altogether cold and soulless, utterly devoid of any tincture of art, and no better than what any "uneducated house-carpenter or stonemason" could have produced.

No danger is there of Mr. Fergusson's awful heresies corrupting those who are confirmed in the "good old doctrines" hitherto established and taught: it is the young and uninformed,—the rising generation of architects and critics whom our architectural Luther will gain over to his pernicious new-fangled principles and opinions. And even some of the old school may be not only greatly shocked, but greatly shaken also in their present architectural faith. To give the devil his due,—Fergusson has shown architectural gusto in his own residence. His library is, perhaps, the most artistically-designed apartment in the whole metropolis: others, no doubt, there are of far greater pretension as to size and sumptuousness; but for captivating effect and variety of effect, I know of none that parallel it. To call it superb would be but a clumsy compliment: the proper epithet for it is *delicious;* and to such epithet, thanks to the commonplace ideas of architects, there are very few rooms, not only in the whole metropolis but in the whole kingdom, which can justly lay claim.

P. P.

MARSHFIELD ALMSHOUSE, GLOUCESTERSHIRE.

The accompanying sketch represents the almshouse at Marshfield, in Gloucestershire, about eight miles from Bath.* From an inscription in one of the gables, it appears that the building was erected in 1619, by Thomas Crispe, and I understand that it receives four men and the same number of women. The ground plan is nothing more than a rectangular parallelogram, with the projection of a small porch in the middle of the south side, which is the front of the building. Over this porch is a large dormer gable, to which a similar one corresponds on the north side, thus forming an intersection in the ridge of the roof, which is crowned by a plain, but very elegant tower and broach spire of masonry. On the south are four smaller dormer gables on each side of the large central one; each has a square-headed two-light window, with a label. In the central one is a *cinque-cento* composition with shields. The lower windows have also two lights, but without labels; they correspond with the upper, and a string runs above them, and is continued on the east and west ends, if not round the whole building. The ends are in other respects quite plain, and without windows. The north side has only the central gable. As I did not go into the building, my time only allowing me to make such sketches of the exterior as I was anxious to obtain, I cannot tell what the internal arrangements are, nor how the central spire is supported. The clock, in the face of the tower, is placed under a square-headed label, which is a far better arrangement than if it were in a circle, a figure that ought not to be introduced, except on a very small scale (as in some Norman examples) on the face of any tower of the mediæval styles.

I send you sketches of this building, because I was exceedingly struck with its simplicity and picturesque appearance, the more so, from the evident absence of effort on the part of the architect to make it picturesque. Perhaps indeed it is one of the magical effects of time gradually to remove the appearance of such effort, while it adds to picturesqueness; still I question whether the building I am noticing, if fresh from the tool of the workman, would not contrast favourably with many buildings of the same standard, as schools, &c., of the present day, which, however successful as designs, yet seem to betray too decidedly the attempt at picturesque effect. The somewhat ecclesiastical character of the building appears far from unsuitable to its purposes, and this is increased by the nature of the material, which is the stone of the country, probably the same with which the greater part of Bath is constructed. The wall in front is of rough work, but with a good coping, and the entrance doorway strikes me as remarkably neat. On the whole I cannot help thinking this example well worth study, and for some purposes imitation. The length of the south side or front is about 140 feet.

Brighton. John Louis Petit.

* We have preserved Mr. Petit's characteristic style of drawing by engraving it *fac simile*.—Ed.

A Cylinder, lately cast at Haigh Foundry, Wigan, is 8 feet 4 inches in diameter, and about 17 feet long; weight, about 22 tons; quantity of metal melted, nearly 30 tons. It will sustain a load upon the piston equal to 80 tons, with 14 feet of stroke.

RUINS OF ENGLAND.

In rambling over the verdant hills and valleys of our beautiful island, the lover of the picturesque dwells with feelings of pleasure and veneration on the mouldering and ivy-green remains of the castles and halls which were once the fastnesses of her feudal nobility. To the admirer of ancient buildings nothing is more consolatory than the moats, bastions, portcullises, and keeps, of old baronial halls; and in the quiet contemplative repose of a summer-day's march, the pedestrian finds a refreshing sedative in visions of fancy which people these structures with armed knights, warders, and love-lorn maidens.

Often in the radiance of last summer's sunshine have I contemplated the glories of Rochester Castle, Herstmonceaux, Allingham, Sandling, and various others in our home counties; but it has been to me a source of deep regret to observe how, within a very few years, the sordid love of pelf has dealt destruction and demolition amongst those fine memorials of our ancestors.

At Sandling I have lain under the shade of a venerable oak and indulged in reveries on the gorgeous processions of Wolsey, and then prying into the vista of previous ages, have seen, in dreamy fancy, the tournaments of Norman knights which had been there exhibited before the crowding villeins. Here no sentiment of regret was mingled with my fancies, for no Gothish hand has dared to meddle with the sainted wreck—it has been left to Time, and he has gently done his work: mantled in ivy its noble towers and minarets preserve their dignity—no ruthless hand hath ever displaced one stone; no, it stands on consecrated ground, all open to the view of those who love antiquity, but not converted to the servile uses of the barn or shed: the verdant turf within and without denote that it is dedicated to devotion. Here I often strayed, and here, "around the green ruin, each wish of my heart entwines itself fervently still."

Turn to Allingham Castle in Old Harry's time, the seat of the tasteful and tender Sir Thomas Wyatt, but long before, the castle of many a baron bold: what a contrast strikes the sense! this was indeed a princely hall. Now one portion (that next the Medway) is converted into a farm-house for the cultivation of 300 acres: the other was also a farm-house for some 100 more, but lately this latter has been *dismantled*, the roof torn off, the floors taken away for cattle sheds, the *windows demolished*, and the materials converted into peasant cottages!

In the refection hall, there yet remains the mantle-piece, where once the faggot blazed, and on the entablature, T. W. 1586, denotes the spot where old Sir Thomas warmed into verse: within the court are piggeries and fowl-yards, cow-sheds, stacks!!—and yet remaining in its chiselled groove, the old portcullis shuts in all the hoard, an orchard fills the moat, and sacrilegious hands have robbed the structure of its outward show.

This latter is the property of Lord Romney; the beautiful Sandling, standing in its native rude simplicity, belongs to Mr. Brockman.

How truly noble is the possession of a ruin such as this—it is Nature's temple, and aloud proclaims to all who view, *come here and worship:* but the other, closed against the prying antiquary, turned to thrifts, debased by grovelling votaries of gain, excludes the wayfarer, and robs our sires of all their chivalry, and us of our romance.

Throughout the land there are many ruins preserved in all their beauty, and many, very many possessors of those proud memorials treasure them, if not for ancestral pride, at least for respect to opinion, or in deference to good taste.

The Archæological Association, which embodies so many lovers of the olden relics, will, it is to be hoped, make an effort to preserve from gothish spoliation what remains to us; and occasional observations in The Builder cannot fail to aid the admirers of our old national relics from further Vandalism. A permanent column for the *Nooks and Corners of Old England* would not be an unwelcome subject; and the credit due to the liberal owner of well-kept olden monuments, might prove a stimulant to respect the decaying castles of our ancestors, as well as to share the pleasures of many an instructive reflection with many a less fortunate though not less tasteful admirer.

Q.

AN ARCHITECTURAL COMPETITION ABROAD OPEN TO ALL.

The Amsterdam Society for the Improvement of Architecture offer a prize of 500 *florins de Hollande* and a certificate of merit, for the best design for a theatre capable of containing from 2,000 to 2,500 persons. Each design must be accompanied by an explanatory memoir, written in French, and not in the handwriting of the author. Foreigners are invited to compete. The name is to be sealed up, and the design distinguished by a motto, must be sent in by November 1, 1849. A letter addressed to *M. Warnsinck, Secrétaire, Société pour la Propagation de l'Architecture, Amsterdam*, would, doubtless, obtain all the necessary particulars for any who may desire to have them.

THE CURVE OF SUSPENSION BRIDGES.

Sir,—With reference to the curve of suspension bridges, called the catenary, a few remarks may not prove uninteresting.

The curve of the chain is arrived at by mathematical investigation, thus stated:—"A chain of variable thickness, but of the same material throughout, is suspended from two points: required to find the law of thickness, so that the tension at different parts of the chain may vary as the strength of the chain at these parts." The curve so determined is known as the catenary of equal strength; from this, likewise, a conclusion may be drawn that the tension at any point of the common catenary is measured by the weight of a portion of the chain, whose length is equal to the perpendicular distance of that point from the directrix, or horizontal line below the curve, so that it is obvious the tension of the chain is not uniform throughout its length, but increases from the middle to the points of suspension.

As an illustration of this, Hungerford Suspension-bridge may be referred to. In this bridge the pathway is not a horizontal plane, as it rises 4 feet at the centre; but for the present purpose we may suppose that it is level, and forms the directrix of the curve; therefore, on the supposition made, the tension of the chain at the point of support would equal the weight of a portion of the chain, whose length is equal to the vertical height of the pier above the roadway; and again, the tension at the middle would equal the weight of a portion of the chain, whose length is equal to the length of the suspension rod at that point. The deflection of the chain at the middle is 50 feet. Hence the difference between the tensions at the middle and the point of suspension is equal to the weight of a portion of the chain whose length is 50 feet. The average section of the chain is about 300 square inches, or $2\frac{1}{17}$th square feet; so that the difference between the tension is equal to $2\frac{1}{17} \times 50 = 104\frac{1}{2}$ cubic feet of metal of which the chain is formed. This, upon calculation, will be found to be rather more than ten tons.

The catenary, if supposed to be of uniform thickness throughout, is exposed to the great objection of subjecting equal strength to very unequal strains. If a bridge, constructed on the old catenarian principle, be sufficiently strong to resist all the strains to which it would ever be subjected, then it follows that there must be a redundance of strength, and consequently a waste of material in some of its parts; for if the chain be sufficiently strong to resist the strain at the point of suspension, then it must be much stronger than is necessary to resist the tension at the middle. It is obvious, therefore, that the catenary has this economical objection of wasting material in producing a strength which cannot be brought to a practical application, and the superfluity of material towards the middle of the chain is not merely useless but prejudicial.

Mr. Dredge's plan of constructing suspension-bridges is the adoption of the taper chain, for which he obtained a patent in 1836. The first bridge that was constructed on this principle was the Victoria-bridge at Bath, and since its erection others on the same principle have been put up in different parts of the kingdom. The inventor does not construct his bridge in strict accordance with the principle of diminishing the strength in the proportion in which the tension diminishes. His method is but an approximation to that of the catenary of equal strength and only in so far as it approximates thereto. Before, however, the catenary of equal strength can be carried into practical application, a considerable difficulty has to be overcome in the regulation of the taper; the sectional area of the chains cannot easily be changed in the same link—the change can only be effected while proceeding from one link to another, but the diminution in the number of bars in a link brings along with it a difficulty in connecting it with the preceding link. Mr. Dredge's plan is to give the chain sufficient strength at the points of support, by putting the requisite number of bars in the links adjacent to the piers, and to diminish the number by one at every successive link until the chain terminates in a single bar at the centre of the bridge. In this way the difficulty of the gradual taper is thus avoided at the same time it approximates to the just principle of construction.

In the old way of constructing suspension-bridges, the suspension rods are all perpendicular, but in this plan they are placed obliquely, consequently support a proportionate part of the weight by a cross strain; the obliquity of the bars also applies the force at a greater distance from the abutment, which is regarded as a fulcrum; it likewise causes a thrust which is not obtained by the action of vertical force.

The greatest defect of suspension-bridges lies in the susceptibility to vibration: this remark applies to all kinds, whatever be the proportion of the suspending chains. This defect may be counteracted in a degree by forming the railway of the bridge into a strong truss and making the roadway a strong diagonal framing.

G. J. Rhodes.

New Books.

Practical Essays on various Branches of the Fine Arts. To which is added, a Critical Inquiry into the Principles and Practice of the late Sir David Wilkie. By John Burnet, F.R.S. D. Bogue, Fleet-street, 1848.

The Essays in this volume are on six subjects:—historical painting in England; portrait painting, with the comparative merits of Vandyke, Reynolds, and Lawrence; the treatment of pictures of fancy subjects and familiar life; the distinctive characteristics of oil and water-colour painting; comparative merits of line engraving and mezzotinto; and on the present state of the fine arts of Great Britain. They are collected from the pages of the *Art-Journal*, for which they were originally written, and form a pleasant and useful volume.

In some brief remarks on the Art-Union of London, which display a want of knowledge and due appreciation of its real purpose quite singular on the part of so able a writer as Mr. Burnet is,—the author seems to assume that the alterations proposed some time since by the Board of Trade had been adopted, whereas, in truth, they were all withdrawn, their injurious tendency being made manifest to their lordships in the course of the discussion elicited by the proposal.

Composition and Punctuation Familiarly Explained. By Justin Brennan. Sixth Edition. London: E. Wilson, Royal Exchange. 1848.

This is an exceedingly useful little work, which, although intended by the author for those who are "not acquainted with grammar," may be very usefully studied by many who *are*.

The Literary and Scientific Register and Almanac for 1849. By J. W. G. Gutch, F.L.S. Bogue, Fleet-street.

We have had occasion before this to commend Mr. Gutch's Almanac, and may safely do so again. It contains a large amount of information.

Miscellanea.

Provincial.—The Great Western Docks at Plymouth are progressing night and day as the tides suit, with 400 to 500 men at work. ——Holy Rhood Church, Southampton, is now in course of demolition. The walls exhibit great strength.——The tender of Mr. Watson, of Whittaker, for a lock-up at Erdington, for 470*l.*, has been selected by the authorities from a list comprising others ranging from 710*l.* to 590*l.*——The foundation-stone of Christ Church, Timperley, was laid on Monday week before last. It is to be in the Norman style, with tower and spire, and built of Runcorn (red) stone. The architect is Mr. J. Bayley, the contractor Mr. Samuel Delves, and the mason Mr. Wm. Gibson, all of Altrincham.——The Earl of Ripon is to erect six almshouses, in commemoration of his son's majority.——A new cast-iron bridge has been erected at Allonby by Mr. John Hodgson, of Carlisle, engineer, and Mr. Pearson, of Solway Foundry, Maryport, the contractor.——The north and south clerestories of Carlisle Cathedral are now restored; Mr. Nelson, of Carlisle, was the builder.——The new bridge at Ashesteil, which fell last year while in progress, is now completed on the same principle. It is of one span, of 136 feet, of rubble Whinstone, crossing the Tweed.—— New barracks are to be built in Dublin, Tipperary, Ennis, and Clonmel. Sixty new workhouses are also to be erected throughout Ireland next year.—Barracks and workhouses! We would rather see the building trades flourishing under other auspices. But how louringly significant of the actual past and the possible future of *poor* Ireland!

The Insurance of Iron Ships.—The high rate of insurance demanded by underwriters generally upon iron ships, has led to an attempt to form a club or mutual insurance association for these and iron steam-boats only, upon the same principle as those established in the North of England for the insurance of wooden ships. Owners of iron ships have long complained of the high premiums charged on iron bottoms compared with wooden ships in similar trades, and they will now have the opportunity of showing conclusively their faith in the safety of this comparatively untried class of ships by joining the association. Mr. Gibson, of Gracechurch-street, London, is the moving party. That the mutual principle is the only right one there can be no question.

The City Sewers.—The select committee of the Court of Sewers of the city of London, to whom the new act was referred for examination, have recommended to the court, amongst other things,—that the constitution of the commission be continued as at present; that the meeting of the commissioners be hereafter held monthly; that a committee of 12 commissioners, besides the chairman, be appointed for general purposes, to meet once a week upon the ordinary business, and oftener if required; that the present number of four inspectors of pavements be retained, and that they superintend the private drainage within their respective districts, as well as the other works hitherto executed by them; and that one inspector of sewers be continued. They have also directed abstracts of the clauses in relation to graveyards and interments to be printed separately, for the use of the clergy, churchwardens, sextons, and others. We have not overlooked the striking difference of opinion on several important points, between Messrs. Walker, Brunel, and W. Cubitt, set forth in their report on the city sewers, and the officers of the metropolitan commission. We shall take an early opportunity to refer to them.

The Iron Trade.—A Birmingham contemporary, in the interest of the 'great masters,' complains of "the progressive reductions at which Welsh iron continues to be forced into the London and Liverpool markets, and the probable results that may be expected from such a system;" and states that "it can no longer be denied that sales have been made at unsually low rates, far below what is openly acknowledged." The trade at Merthyr, according to the *Bristol Journal*, "is in a very depressed state, this staple manufacture of the district selling almost at ruinously low prices, and rumour has it that we are on the eve of another reduction."

Sanitary Progress.—A Government inspector has advertised his intention to proceed to Worcester, and take evidence on 4th instant.——A like announcement has been made by the same gentleman, Mr. G. T. Clerk, to the Stratford-on-Avon authorities that he will take evidence there on 16th inst.——Notice has been given by the Board of Health that an inspector will shortly proceed to Whitehaven on a similar official visit.——A public meeting is to be held at Carlisle on the 12th, to consider the propriety of adopting the Health Act. It is suspected that the mortality is 23 in every 1,000 per annum, and therefore renders the Act compulsory. The council, at all events, appear to appreciate its more permanent gifts, even although the Nuisances Act is in temporary operation, and is being carried out with vigour and success.——At Sheffield, under the latter Act, several inspectors have been appointed by the guardians, and no even casual visiter to Sheffield can fail to see and feel that they will have work to do.—A sanitary committee has been appointed at Romsey to carry out the regulations of the Board of Health, and the guardians have appointed an inspection of nuisances.

Lectures at the Society of British Artists.—Professor Ansted has given three lectures of his course on the structure and phenomena of the earth, in reference to the theory and practice of landscape painting. The first lecture included a general account of the phenomena of the earth's surface as affecting the art of painting and the principles of drawing — The atmosphere; its use and influence—The nature and phenomena of light and colour—The effects of water on landscape —Mixtures of water and air—Atmospheric, optical, and other effects resulting. In the second the professor gave an account of the structure of the earth, and the nature and characteristics of rock masses—The general peculiarities of scenery with reference to geological structure—And described different kinds of rocks that have most influence on picturesque scenery. The third lecture treated of the characteristics of scenery where limestone is the prevailing rock—Remarkable variety of limestone scenery, and cause of this—Limestone scenery of mountain character, jagged and rough as in the Alps—Broken table-land as in the carboniferous limestone of Yorkshire and the oolitic rocks of the Franconian Switzerland—Rounded hills as in Ireland—Smooth scooped out coombs, as in the chalk of Sussex —Bold cliffs and isolated pinnacles or needles, as at the back of the Isle of Wight, &c.—Step-like terraces, as in the oolitic districts of England—Grotesque limestone cliffs on the coast of Durham, Canada, &c.—Varieties of effect from colour, weathering, vegetable covering, &c. The fourth lecture, to be given on the 6th, will treat of sandstone scenery—Mountain districts and peculiarities of mineral structure, and prevalence of the harder varieties—Remarkable appearances arising from the action of currents of water—The Saxon Switzerland —The scenery of the back of the Isle of Wight—The sands of Alum Bay and Whitby —Peculiarities of colour and vegetable covering in sand-rocks will be alluded to. Permission to attend these and other lectures here is liberally afforded to any who apply.

The Electric Light.—The greatest interest has been excited throughout the country by the announcements which have been made on this subject, and we are asked by a dozen correspondents for a further opinion upon it. All in good time. When we say that there are at this time three parties waiting "to specify," whose inventions have been admitted by the law officers to be *distinct*, they will see that patience and caution are desirable. An experiment made on the Great Western Railway a short time since with an electric apparatus, invented by M. Le Mott, is described by some of our contemporaries as singularly successful. Unluckily, however, paragraphs to this effect constantly find their way into print, when in truth they are little deserved.

Chichester Training School Competition.—We received a letter, too late for insertion, directing attention to the unsatisfactory terms of the advertisement for designs in this case; and to some still less satisfactory replies to private inquiries. Would-be competitors should take the hint.

Malleable Iron Lever Bridge.—Mr. Gladstone, in his paper on a plan for constructing a malleable iron lever bridge, mentioned last week, noticed the bridges of the ancients, as shewing a continuous history of civil engineering accurately traced through twenty-six centuries. The distinction of the age we live in, as compared with that of former ages, is, that the applications of science are for the purposes of peace and unity among men, while the genius of man was formerly used as a means for tyranny and aggression. The introduction of iron, as the material of which to construct a bridge, was noticed, and the mode of its application alluded to. Having called attention to the first application of iron in the construction of the bridge at Coalbrook Dale, also the bridge at Southwark, to those on the principle of suspension at Conway and Menai, and to the last great work, the tubular bridge at Conway, he proceeded to describe the plan on which he proposes to construct bridges of wrought iron, of almost any required span. It consists of bars of wrought iron somewhat in the form of double T iron: these he proposes to rivet together, or fix by means of screws and nuts through their flanges, in a manner suited to the position in which they are to be placed. Thus, over the piers of the bridge where strength is required, the bars are fixed so as to form a solid, while as the arms of the lever become extended they are placed so as to form an open iron-work of a light and elegant character. The whole of the bars are fixed in a horizontal position, and, in addition to other fastenings, are to be tied by diagonal rods or braces. The advantages which the author considers his plan to possess over other plans are, that of enabling bridges of any span to be built without a centering, whereby a great saving is effected, also in enabling a flatter roadway to be obtained, while a higher waterway is insured than can be obtained by any plan in which the arch springing from the pier is made use of.

Railways in Sydney.—The Legislative Council of Sydney, New South Wales, have resolved unanimously—1. That the time has arrived when the formation of railways in the colony ought to be commenced. 2. That to facilitate the speedy formation of a company for carrying out such a means of transit, it is expedient that the Government and the Legislature should hold out some peculiar inducement. 3. That a grant of Crown land in fee simple ought to be made to any company incorporated by an Act of the Council, not only of the quantity required along the line for the construction of the railway, but that by way of bonus the company should also be permitted to make selections of other portions of land, free of charge, to a reasonable extent. 4. That in addition, the Legislature ought to guarantee for a limited term of years, the regular payment to the shareholders of a dividend at a rate not exceeding 6 per cent. per annum upon the first 100,000*l.* of the capital subscribed. 5. That as a large amount of money is lying unemployed, and consequently unproductive, in the savings' bank, the council is of opinion that a sum not exceeding 30,000*l.* might be advantageously invested by the Government, in behalf of that institution, in shares in any such company. And 6. That his Excellency the Governor be requested to bring the subject generally under the notice of the Secretary of State for the Colonies, with the view of obtaining the sanction of her Majesty's Government to such portions of the recommendations as cannot be carried into effect by the Colonial Government.

Blind Builders.—Tenders for building a part open shed for breaking stones and picking oakum, at Hampstead Workhouse:—

Walker and Soaper	£133 0 0
Burton	113 0 0
Stone	98 10 0
Hart	98 10 0
Johnson and Son	93 0 0
Lampsell (accepted)	85 0 0

Yet worse remains behind. The following tenders were opened on Tuesday last, for alterations at a house in Threadneedle-street; Mr. A. Gwilt, Architect:—

Sherwood	£397
Hawtrey	394
Rider	355
Sanders	338
Wallen	253
Green (accepted)	170!

Cost of New Lunatic Asylum for Middlesex.—Sir: Under this head there appears in your last week's paper a letter, signed "An Architect," which, as containing two misstatements, I cannot allow to pass unnoticed. It is true that the estimate of the competition design was 80,000*l.*, but owing to a considerable increase in the width and height of the galleries (from 12 feet to 14 feet) required by the magistrates, besides the addition of an assembly-room, dining-hall, schools, and an extension of the centre buildings and offices, the adopted estimate was 114,000*l.* In answer to the question, "does not this shew defective plans, to call for so much alteration, or unfair estimate in the first instance?" I may answer that the arrangement of my original plan has not been altered in the slightest degree, and that the estimate was nearly the same as those of the two other premiated designs, which contained the same amount of accommodation, and were certainly more costly in style; so that it may be assumed to have been a fair competition estimate. The contract has (as you correctly stated in your note) been taken at 138,000*l.* Your insertion of this in your next paper will oblige, Sir, yours, &c., S. W. Daukes, Architect, 14, Whitehall-place, November 27, 1848.

Liverpool Architectural Society.—The fourth meeting of the present session was held at the Royal Institution, on Wednesday, November 15th; Mr. J. A. Picton, in the chair. Mr. Arthur Holme presented to the society an original drawing of the late Mr. Telford; being a design for a suspension bridge over the Mersey, at Runcorn, in the year 1817. It was interesting as shewing the original conception of what was afterwards matured in the Conway and Menai bridges. Accompanying this was another drawing by the late Thomas Rickman, referring to, and modifying, the design of Telford. Some wood carvings were exhibited, the work of Mr. Richard Sherratt, of Liverpool. A portion of the original drawings were exhibited for a forthcoming work of Messrs. Bowman and Crowther, of Manchester, on Ecclesiastical architecture. Some specimens were also shewn of a forthcoming work on Temple Bolsall church, by Mr. Davies, of Chester. The paper of the evening was read by Mr. Holme, "On Fireproof Construction," in which the writer went into the history of the subject, and entered into considerable detail as to the nature and form of cast and wrought girders, columns, arches, and ties, particularly as applicable to warehouses and buildings to contain merchandise.

Exhibition of Mechanical Inventions.—The report of the council of the Society of Arts, Adelphi, read at the opening meeting, contained the following passage:—"It is proper that the council should direct special attention to a new feature in the exhibitions of the present session. It has been complained, perhaps justly, that for a couple of years the society has directed attention too exclusively to the fine arts, to the neglect of the mechanical arts and manufactures. This may, perhaps, be in part true, but in reforming the operations of the society it was necessary to begin with one thing, and to do one thing at a time. The council have postponed the mechanics—not lost sight of them—and have availed themselves of the past vacation to prepare the large room on the ground-floor for the reception at Christmas of an exhibition of models of new and important inventions of recent date, and of a mechanical nature. This, they hope, will afford to inventors the opportunity they so much want, of bringing valuable inventions under the notice of the public, and also afford to the public the gratification of having laid systematically before them all that is most important in the records of modern invention."

Stir in the Royal Society.—A contest has run high in the Royal Society as to the appointment of a secretary in the place of Dr. Roget, who resigned. The council named Mr. Grove; the physiologists and naturalists complained of having no representative amongst the officers, and named Professor Thos. Bell in opposition. At the anniversary meeting on Thursday last the ballot was taken, and Mr. Bell was elected by a majority of 30.

Projected Works.—Advertisements have been issued for tenders by 17th inst. for the erection of St. Mark's Schools, Wolverhampton; by 16th, for the erection of twenty cottages at Stoke-upon-Trent, for the North Staffordshire Railway Company: by 5th, for the supply of a steam-engine and works connected with the St. Pancras workhouse well, &c.; by 12th, for the erection of closets, washrooms, &c., at the Watford Union Workhouse, Watford, Herts; by 29th, for an expansive condensing pumping-engine, &c., for the Hull corporation waterworks, Stone Ferry, Hull; by 7th, for the works required in the erection of a parsonage at Sowerby, Halifax; by 4th, for the erection of two gate-houses on the line of railway between Havant and Portsmouth; by a date not specified, for the construction of an iron suspension foot bridge, to cross the Clyde at Glasgow; by 4th, for making an oval sewer at Bristol; by 7th, for a supply of broken Kentish pit flints, for Camden-town; by 9th, for the supply of English oak timber, oak scantling, mahogany, deals, battens, &c., for the Brighton and South Coast Railway Company; and by 7th, for a supply of 60 tons soft melting pig iron, for the Admiralty.

Competition.—A premium of 50*l.*, or the usual commission, is offered for plans, specifications, and estimates, by 25th January next, for draining the town of Cardiff.

Injury to Timber by Chemical Works.—In a recent case, concluded by arbitration, between the proprietors of property near Wakefield and a manufacturer of alkalis there, the arbiter (according to a local paper) has awarded, "in the actions tried at York for the two plaintiffs, on behalf of Sir William Pilkington and Mr. Waterton, 40*s.* damages—which, of course, carry the costs of the two actions: to Mr. Waterton, 1,000*l.* for damages to his trees; 100*l.* damages to his mansion by smoke and vapour; and some other small damages. Also damages to Sir William Pilkington for his trees, and to the tenants of both those gentlemen for damages to their crops. The arbitrator also directs the discontinuance of the manufacture of salt cake. The defendant has also to pay all his own costs of the action and of the reference; half the plaintiff's costs of the reference; and three-fourths of the other costs of the reference, and of the arbitrator's award."

British Archæological Association.—At a meeting held Nov. 24, Mr. C. R. Smith gave a description of an extensive Roman villa recently excavated in a field called Dane's field, near Hartlip, Kent, at the expense and under the superintendence of Mr. W. Bland, one of the members of the association. Nearly thirty rooms have been opened. Some of the rooms were heated by means of furnaces, the flues of which opened underneath the pavements, which were supported by hollow tiles, filled with earth. Adjoining are two baths, the leaden pipes for drawing off the water from which still remain. Among the many objects found in and about the rooms is some window glass, which appears to have been cast in a mould. A paper on Domestic Architecture, as illustrated by a curious wooden house at Pitchford, Salop, by Mr. T. F. Dukes, was also read.

Architectural Association.—A paper on Monumental Architecture, by Mr. Seddons, for which we shall endeavour to find room, was read at a meeting on the 17th ult. A meeting of the society will be held this (Friday) evening, December 1, at Lyon's Inn Hall, Strand.

Brighton Pavilion.—The notice given that it is "the intention of Her Majesty's Commissioners of Woods and Forests to bring in a Bill in the next session to extinguish all right of way or common over the Pavilion ground, and to empower the sale or letting of the same, provision being made for opening a thoroughfare across the grounds in continuation of East-street," has, of course, caused considerable discussion in the governing board of the town. It was thought strange that Government, who had taken so much pains to open the lungs of other towns by sanitary measures, should wish to close the lungs of Brighton. If it was now abandoned as a Royal residence, it did not follow that it might not be required for other branches of the Royal family hereafter.

Dwellings of the Poor.—Mr. Charles Cochrane, who, though he has done some foolish things, is entitling himself to praise by his steady attention to sanitary reform, said, in a recent speech at a meeting in favour of the employment of the poor:—With regard to their dwellings, I find from the elaborately-compiled tables before me, for which we are indebted to the zeal of that eminent philanthropist, the Rev. W. Quekett, that in St. George's-in-the-East, there are 2,618 houses, 1,802 of which belong entirely to poor people. Devonshire and Star streets contain 123 houses, with 492 rooms, in size 8 feet high by 8 feet square, with three persons in each room, amounting to 1,476 in number. There are 6,328 rooms inhabited by separate families, but a few inches larger than those in the two streets alluded to. In well-constructed hospitals the space allotted to each patient to breathe in contains 1,000 cubic feet of air. In St. Martin's, and the St. James's Workhouse the inmates have from 500 to 600, whilst the quantity obtained by the independent labourer of St. George's-in-the-East is limited to the small amount of 170 cubic feet of air—a privation which cannot fail to engender the most fatal diseases. In St. Martin's parish the artisans and labouring classes suffer severely from over-crowded and expensive dwellings. I have myself seen from three to four families of different sexes and of various ages living in one small room: they eat, drink, sleep, wash, dress, and undress therein, without curtain or screen of any kind. Every domestic arrangement essential to the preservation of decency and cleanliness is wanting. The atmosphere is of the most fœtid and pestiferous kind, whilst the water in the house-butts, preserved for the purpose of drinking as well as of washing, is so foul and offensive that the poor lodgers are driven to seek some of a pure kind at the nearest publichouse, and are thereby compelled to spend much of their hard earnings in stimulating drinks.

Cottages for Labourers.—In Gloucester an association has been formed to promote the building of cottages of good construction for working men, with gardens attached, in the immediate vicinity of the city. Each cottage is to contain a good, light, airy living-room, with a second apartment for washing, &c., which must be well supplied with water; not less than three sleeping-rooms, and also proper and separate conveniences. Ventilation and drainage are to be attended to. The second thing is, "To facilitate the purchase of the cottages and gardens by the occupants themselves, by fixing such a rent as shall in about fourteen years liquidate the whole amount of the purchase-money and the interest accruing thereon, the society entering into an agreement with each occupant to convey the property as soon as the purchase-money agreed upon shall have been paid." The advantages that are expected to accrue from the scheme are these: the encouragement "of habits of providence, cleanliness, and order, amongst the occupants;" the elevation of their standard of morals and self-respect, by removing them from the degenerating influences of bad society, overcrowded or unhealthy dwellings, to which they are so often unnecessarily exposed."

Failure of Foundations.—Sir: The failure of the viaduct, recently, on the Sheffield and Manchester Railway, suggests the expediency of having recourse to piling in all doubtful cases. There is, however, a very good reason why engineers and contractors seek to avoid such an expedient wherever they can, and that is, the expense of pile-driving; and therefore, wherever there is a chance of doing without piles, a foundation is made without them, though failure sometimes results. For my own part, I have a great conviction of the utility and economy of Dr. Potts's process of pile-driving, or as I should rather call it pile-excavating, because the pile sinks from the earth, sand, or clay being excavated from beneath it. I would therefore suggest to engineers and contractors the benefit they would get from using piles, when they can do it so cheaply and efficiently, as Mr. Stephenson's works on the Chester and Holyhead Railway prove. I am surprised that the process is not more used, but I think it arises from a misapprehension of it. C. E.

ELECTRO-TELEGRAPHIC.—In America, according to a New York citizen, the telegraph is so wisely managed in respect to lowness of charges and quickness of dispatch, &c., that it is used by everybody for all sorts of ordinary business; not as with us, where nobody ever dreams of resorting to it unless in extreme emergency. The charges here are impracticably high compared with those of the States, where, on the other hand, dividends of 12, 15, and 20 per cent. are spoken of as likely to be permanent returns for liberal management and public accommodation. There, too, if any where, high charges were excusable, as the original patentees reap half the profits.

TO CORRESPONDENTS.

"*Studiosus.*"—We wish we could assure him that there is even a proper "Law Catalogue" in the Museum. We would not mean that; our remark only referring to the comparatively much more copious list of works under head of "Law," than under such heads as those of "Architecture," "Building," "Chemistry," &c.

Received.—"W. C.," "G. F. J." (shall appear), "J. W. B.," "H. C.," "M. C." (thanks), "E. A.," "X. Y. .," "A Subscriber" (apply to a manufacturer of such pumps), "H. B.," "J. F.," "L." (shall appear), "An Architect," "S. C. H." (too late), "X." (we simply stated the fact in that particular case), "Consistency," "A Builder," "An Architect" (there seems little doubt of his right to build to the extent of his land; but not knowing what the local Act may provide, we cannot advise), "Articled Pupil" (buy Weale's 1d. volume on the "Orders" to begin with), "Quondam" (thanks—a note will be found at 75, Great Queen-street), "Regular Subscriber" (an architect is entitled to charge his travelling expenses in addition to the usual *per* centage), "B." (coping should form part of ramp), "W. Q." (church text may be used on monument of fifteenth century), "J. W.," "J. P." (postponed), "W. H. M." (Asphalte in varnish is sometimes used: Stephens's stain, constantly advertised, seems to answer very well), "Junius," "Studies of Ornamental Design," by C. J. Richardson, F.S.A., Author of "Studies of English Mansions, &c.," Weale, Holborn, 1848. "Rudimentary Architecture, for the use of Beginners; the Orders, and their Æsthetic Principles;" by Mr. W. H. Leeds: Weale, Holborn, 1848. "Enquiry into State of Smithfield Cattle Market;" by John Bull: Ridgway, Piccadilly. "Notes of a Visit to Northwoods;" by J. C. Christopher, Architect. "On the Importance of Studying Abstract Science;" Lecture delivered at Putney College, by Lyon Playfair, F.R.S. "The British Almanac and Companion for 1849:" C. Knight, Fleet-street.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

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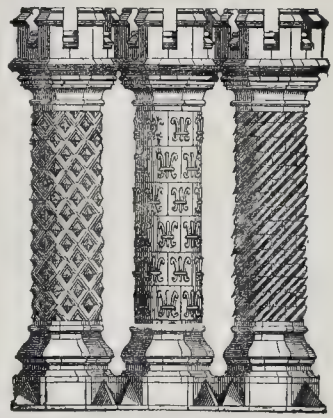
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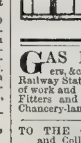
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MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT. REDUCTION of PRICE. The Patentees [illegible] to inform their Friends and the Public that they [illegible] arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been [illegible] the [illegible], and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary [illegible]. The Patentees, however, feel called upon to observe that [illegible] greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is [illegible]. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity [illegible] of the Patentees, Messrs. STEVENS and SON, at their Plaster [illegible] Works, [illegible], London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, [illegible], Cantilevers, Brackets, Trusses, Wreaths, [illegible], Masks, [illegible], [illegible] and Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 4[illegible], Parker-street, Drury-lane.

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BUILDINGS may now be CONSTRUCTED FIRE PROOF WITHOUT INCREASING THE COST OF ERECTION.

The attention of the public is especially directed to a NEW METHOD of CONSTRUCTING the FLOORS, CEILINGS, and ROOFS of DWELLING HOUSES and other buildings, invented and recently patented by Dr. FOX, of Northwoods, Bristol, by [illegible] they are rendered PERFECTLY FIRE PROOF, and secured from the annoyance of vermin, and the baneful effects of [illegible]. This invention has been subjected to the test of more than [illegible] in the Lunatic Asylum, erected [illegible] in the county of Gloucester, and unites greatly increased strength and durability with the above advantages, while the principle of construction is so perfectly simple and effective [illegible] liable to failure. For PUBLIC BUILDINGS of all kinds; for WAREHOUSES where valuable property is deposited; for MANUFACTORIES where hazardous business is carried on; and for all buildings which are subject to heavy [illegible] of fire-insurance, as well as for PRIVATE MANSIONS and DWELLING HOUSES generally, this system is most [illegible], affording complete security to life and property, [illegible] less than any other system of fire-proof [illegible] that of the ordinary [illegible] timber. There is also considerable [illegible] in the application of the FIRE PROOF ROOFING which [illegible] of the usual timber roof. Further [illegible] obtained, and the flooring seen, on application to the proprietors, Messrs. FOX and BARRETT, Leicester Chambers, 46, Leicester-square.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the [illegible] guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S PATENT PAVEMENT OFFICE, 15, WHARF ROAD, CITY ROAD.—N.B. Country Agents and [illegible] the best manner for covering bridges, [illegible].



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W. Wright and Co. have made arrangements to have a stock always on hand at the Marble and Stone Wharf, Horsfall-basin, Maiden-lane, King's-cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27, Burton-crescent.

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SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some thousand feet annually, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Parties ordering large quantities will be allowed a considerable discount off the recently reduced price list.—Address, MAGNUS, Pimlico Slate Works.

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Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

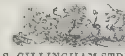
Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK and DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ½ inch to 1½ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

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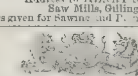
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JORDAN'S PATENT MACHINE CARVING and MOULDING WORKS for WOOD and STONE, Belvedere-road, Lambeth, and 1[illegible]4, Strand.—TAYLOR, WILLIAMS, and JORDAN beg to call the attention of the building community to a new feature of their establishment, and at the same time, to thank their numerous patrons and friends for the very liberal support they have lately experienced, which, they assure them and the public, it will be their constant endeavour to deserve, by giving their customers an increasing share of the advantages arising from the constant improvements in the machinery which they have now succeeded in applying to the production of the most intricate carving in Caen and other freestones, and in statuary marble.

T., W., and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large saving both of time and money is effected, so great, indeed, that in many cases they can deliver a well-finished article in Caen stone for less money than it can be obtained in cement, while their wood-carving will, in some cases, be found to come into close competition with the best kinds of composition and [illegible]. For prices and estimates apply at 1[illegible], Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"Gentlemen,—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the production of the wood carvings of the Houses of Peers, and other apartments of the New Palace, at Westminster, that I am enabled to [illegible] most favourably [illegible], and to add that [illegible] the terms upon which [illegible] Her Majesty's Commissioners of Woods and Works [illegible]. I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

NEUBER'S IMPROVED LIQUID GLUE is impervious to damp or heat, without smell, and equal, if not superior, in strength to any other glue. It is used as a cement for iron, wood, stone, marble, ivory, glass, china, and earthenware, plaster models, for every description of fancy work, and for household purposes. It may be used at a moment's notice, and requires no preparation. Price—dark, 8s., pale, 10s. per gallon; and in bottles at 6d., 1s., and 1s. 6d.

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"This is to certify, that I have analysed and subjected to various tests a Sweet Oil of Turpentine, which is wholly free from the smell hitherto considered inseparable from the article. The process of manufacture, which is entirely new, has been communicated to me by the Inventor in confidence, and I am satisfied that by this discovery the deleterious properties for which oil of turpentine has hitherto been notorious are wholly obliterated, whilst its useful properties are preserved intact, and that the use of common oil of turpentine in all branches of trade where this article is now used will be entirely superseded. I find that paint, when mixed with Sweet Oil of Turpentine, although greatly improved in brilliancy of colour, is FREE FROM SMELL, and does not emit those noxious vapours which are so offensive to the smell and prejudicial to health, and I am confident that this discovery will prove to be a SURE PREVENTIVE AGAINST the common and fatal disease called THE PAINTER'S COLIC, and an invaluable boon to the public, in depriving the process of house painting of those manifold ill effects and discomforts with which it has hitherto been accompanied.

(Signed) "J. B. SERNY, M.D.,

"A Senior Member of the Royal College of Chemistry, Senior Physician to the Spinal Institution, and Author of the 'Treatise on Local Inflammation, Spinal Curvature,' and Contributor of the Articles on 'The Evidence of Two Electric Fluids,' 'The Structure of the Nerves and the Nature of Light'—*Lancet*.

"8, Nottingham-terrace, New-road, October 7, 1848."

Sold only at the Depôt, 1, Bream's-buildings, Chancery-lane, by the cwt. or by the gallon. Sample bottles may be had, One Shilling and Two Shillings each.

The Builder.

No. CCCV.

SATURDAY, DECEMBER 9, 1848.

WE left our readers last week on the threshold of Manchester Cathedral, where considerable alterations and improvements have been going on for some time past, and many more are needed. In taking them there, we might have shewn them streets greatly widened and improved, and some new ones opened, but these have been already mentioned; and, on the other hand, we ought to have pointed out in a different tone some pavements recently laid down, of stone, with a surface so full of inequalities as to establish countless reservoirs during the shower which is too often falling in Manchester, for the discomfort of unfortunate pedestrians.

The cathedral is an interesting old building (as every one knows), and we grieved to see the miserable state of dilapidation into which the tower has lapsed,—amounting almost to danger. It was stated in a London paper, a short time ago, that its repair had been determined on, but this does not seem to be the case: something must be done, however, before long.

The chapter-house, on the south side of the choir, has been rebuilt, under the direction of Mr. Holden, architect: the position of the base-moulding would seem to have been changed, and not improved. The ground vants clearing away on this side of the cathedral.

Within, the building owes much to a late churchwarden, Mr. Brooks, whose care for the improvement of the building seems not to have ceased with his office. The ceiling of the nave has been decorated with colour,—the panels are blue, the ribs white and red, the bosses, &c., gilt. Carved oak sittings are being introduced, and some cumbrous pews removed. The most striking of the new works is the font, designed by Mr. Truefitt, and already described in our pages. It stands at the west end, on the north side, and is unquestionably a very meritorious work. Since our notice of it, a very elaborately-constructed cover, of oak, designed by the same gentleman, has been added, and ought to increase his reputation. It is pyramidal in shape, 2 feet 6 inches wide at its base, and 9 feet high. It consists of a central octagon of open panels to two-thirds the height, from which radiate sixteen compartments of intricate work. Between these are three rows of open panels, which recede as they rise, encircled with five tiers of pinnacles, amounting in all to eighty: above are united eight crocketted ribs; and the whole is surmounted by a figure of John the Baptist. It was carved and built by Philip and Wynne, of Oxford-street, London, and is most creditable to them.

The cathedral contains a singularly large quantity of carved screen-work, some of which is very beautiful, and deserves illustration. The double rood-screen is curious. A portion of the plaster ceiling under the rood-loft having been removed recently, a black-letter quotation from Deuteronomy, on the top beam of the screen, is made visible: it has the date 1503.

From the church to the gaol is a worse transition than the reverse would be; but thus circumstances led us. The Borough Gaol, which is now being built, under the direction of Mr. George Shorland, the town surveyor, by Mr. D. Bellhouse, contractor, is intended for 486 prisoners, and stands on an area of ten acres. The plan, arrangement, and fittings, are precisely similar to those of Pentonville.*

The style of the exterior is Italian, extensively rusticated, and when seen from a distance the general effect of the building is good.† It is less satisfactory, however, on a nearer approach: the upper story is much too massive and heavy for the lower, which it seems to crush, and there is a disagreeable want of connection between the main central building and the wings. The vermiculated stones in the columns of the great gateway are, in some cases, mere caricatures, and should be altered at once. The forms which the vermiculated panels in the stones present are *floral*. The Tudor strawberry leaf appears to have been the type followed in one or two instances, and the result is a great disfigurement. An architect is wrong who trusts matters of this sort to the workmen (as has evidently been the case here), unless he knows well the hands he has to deal with. These and other salient points for objections, however, ought not to blind us to much that is meritorious. The work appears all sound and excellent; the materials used are brick and stone; and the scale of the construction may be judged of when we say that some of the stones in the main cornice weigh 6 tons each. The corridors inside, open all the way up to the roof, with galleries communicating with the cells in the upper stories on each side, are vaulted with brick with open spaces at intervals for light. These vaultings tend to make the place dark, and, as there is an iron roof (slated) above all, might well have been dispensed with.

Mr. Cockerell's branch bank has already been spoken of by us as having a character suitable to its purpose; and of the Theatre Royal a full description will be found in our third volume. The value of the provision for the prevention of fire mentioned in that account was found not long ago: it probably saved the edifice. The arrangement of the stage machinery here is particularly good, and may be usefully referred to by those who are engaged in similar works. The Royal Manchester Lunatic Asylum, a building of considerable extent, at Stockport Etchells, 7 miles from the city, is now being fitted up and furnished. It has a façade of 350 feet in extent, with a central projecting building. The style is Elizabethan, the materials employed stock bricks with stone dressings. Mr. Lane is the architect, and the contract was taken by Mr. Hollins at about 10,000*l*.

The same architect (one of the oldest standing in Manchester, and who sees an entirely new school growing up around him), has added a new wing to the Royal Infirmary. It has a *tetrastyle* Ionic portico of stone (the wall of the building behind is of fire-brick), and cost about 10,000*l*.

Half an hour took us to Liverpool, where many large works are proceeding. At the Liverpool terminus many thousands of pounds have been spent. A new station has been built, under the direction of Mr. Tite, and by this time is probably opened for use. It is an Italian building with a heavy dentil cornice, and an extensive colonnade for the convenience of passengers arriving. The immense tunnel which is to run right under the town is making rapid progress, and has occasioned some few settlements in houses above, the crown of it being in parts at a comparatively small distance below the surface. The roof over the line and platforms is not yet put up. The space will be about 150 feet, if no intermediate supports are used. An experimental portion of an iron roof formed on the same principle as the large palm-stove in Kew Gardens, was put up by the patentee, but not meeting all the requirements of the case, was taken down again.

The old façade, that enormous architectural imposition, opposite St. George's Hall, is to remain, with some slight alterations. Right proud may Liverpool be of St. George's Hall. It is one of the finest works of modern times, and an honour to the country. And while she is proud of it, let her watch carefully its completion. There is yet time enough to spoil the interior. It is simply in carcass, and the works appear to progress very slowly. The centreing is ready for the vaulting of the great hall: the vaulting is to be formed, as we understood, of square earthen pots, which will be made to facilitate ventilation. On each side of the hall is a range of six polished Aberdeen granite columns, and a podium all round the immense apartment, of the same material. One of the courts has similar granite columns. The concert room is on a higher level, with a semicircular end, and has a large central light. The completion of the design is entrusted to Mr. Weightman.

Short as was poor Elmes's life, he has earned for himself a prominent niche in the gallery of English worthies.

Another music hall is now being erected in Liverpool, near the Myrtle-street Independent Chapel, a Gothic edifice erected under Mr. Gee, architect, in 1844. This hall, designed and carried out by Mr. Cunningham, is for the Liverpool Philharmonic Society, and is a building with considerable claims to attention. It is of stone, Italian in style, and in two stories externally. It stands at a junction of streets, so that two fronts are seen. The ground story is arcaded on both fronts: the principal story shews a series of ten large ornamented windows on one side, and seven on the other, rising from a continued dado; and a massive cornice, with consoles and antefixæ (the latter at the angles being in the shape of lyres, and not elegant), crowns the whole. The elements, it will be seen, are simple, but the effect is good, resulting chiefly from attention to proportions. The ground story is low and somewhat heavy, but this has the effect of giving increased importance to the principal story, and aids in conferring a

* See our fifth volume, p. 483.

† The following, from a Manchester paper, will save us the trouble of description:—"The area enclosed is of an irregular form, and is surrounded by a lofty and substantial wall of summit stone. At three of the principal angles are octagonal towers, intended as residences for some of the officers of the gaol—these have a striking effect. The main entrance is through an arched gateway, which has its front towards the city. The entrance building and gateway is in the bold Italian style, and columns varied by massive square blocks of stone finished in rustic. On either side of the main entrance are the proposed residence for the governor and chaplain of the gaol. The gaol will be entered through a spacious court-yard, from which the visiter will obtain a view of the main elevation of this vast edifice, with the extended wings east and west forming a background to the view. The principal part of the structure contains the chapel in the upper part, and in the lower a main lobby, with the magistrates' visiting rooms and other principal offices of the gaol on each side. At the termination of this lobby is the entrance doorway to the central hall of inspection, from which, in four directions, radiate the corridors containing the separate cells for the prisoners. The central hall of inspection is a lofty octagonal interior, lighted by a dome. Around the hall are carried galleries, which communicate with the two ranges of galleries extending on each side of the corridors. The female department is in the corridor to the east, and is separated from the central hall of inspection. There are three stories of cells in the wings: the four corridors contain in the whole 486 cells—108 for female and 378 for male prisoners."

monumental character on the whole, which distinguishes it from a domestic building.

The extreme length of the hall is 135 feet, the width, 102 feet, and the height, 68 feet. There are two tiers of boxes on each side: at one end there are also boxes, and at the other an orchestra of large size. The main trusses which carry the roof are of immense size and somewhat hazardous construction. The open part of the hall—that is, in the clear of boxes—is 105 feet by 68 feet. The ceiling is coved, and is formed into flat lozenge-shaped panels, to admit of encaustic decoration. It is calculated to accommodate 2,300 persons, and is estimated to cost 22,000*l*. It is to be lighted by means of gas burners along the line of cornice. Some of the panels in the cove open to admit of the gas being lighted, &c. But we cannot afford more space to Liverpool in our present number.

THE CHURCH OF S. ISAAC AT S. PETERSBURG,

ERECTED BY THE CHEVALIER DE MONTFERRAND.*

One of the most important features of this institute is the noble body of distinguished professors of our art, who compose the list of honorary and corresponding members. It forms the immediate link of connection between the professional men of this and foreign lands. We have thus the privilege of knowing the imposing edifices which arise in the principal cities of the continent, and are stimulated by their example, instructed by their genius. If in point of some facilities in matters of construction, we have the advantage of them, they, on the other hand, have more frequently the opportunities of bringing into co-operation the sister arts, and by the abundance of the means placed at their disposal, can more profusely adorn their edifices by the production of the pencil and the chisel, and by an abundance of rare and exquisite materials, such as granite, marble, bronze, and precious stones, can give that splendour of enrichment, in vain to be looked for in our modern buildings, until the present completion of the House of Lords, by our distinguished member Charles Barry.

I have had occasion in a previous session to call your attention to the stupendous column of Alexander, erected by the present Emperor of Russia, to the memory of his predecessor and beloved brother, after the designs of the Chevalier de Montferrand. In that work we particularly admired the monolithic shaft of granite, and the mechanical means employed in the elevation of the huge block. The chevalier, our honorary and corresponding member, has since favoured us by sending to the library a superb volume, illustrative of the magnificent church of S. Isaac, just completed: a monument of such leading consequence in every respect, and holding so important a rank in the cathedral churches of Europe, that it well deserves a passing notice, as introducing us to a peculiar combination of plan, and an application of granite and iron, and other ingenious processes, on so large a scale, and in some points of so novel a nature, as to be very instructive and interesting.

The origin of the church of S. Isaac dates from the foundation of the city of S. Petersburg; for Peter the Great conceived the idea of erecting a place of worship under the invocation of this saint; but he was not able to do more than construct a provisional church of wood in the Naval Yard, which was shortly after burned. The Czar then laid the foundation in 1717, of the second church of S. Isaac, not far from the Neva, on the site of the present palace of the Senate.

This church was also partly burned by fire in 1735, and the quarter of S. Isaac becoming more populous, and a place of greater resort, the Empress Catherine directed the erection of a fresh church in honor of this saint, in that part of the city, and the architect Rinaldi prepared the designs, and it was commenced in 1768. It was intended to build this church entirely of marble, but the death of the Czarina took place, when it had only been carried up as high as the entablature, and the Emperor Paul I., anxious to clear away the immediate vicinity of the church, in order to render the site less obstructed, and the original plan more complete, directed the architect Brenna to finish it provisionally, in the mean time omitting or diminishing some of the principal features, until its proper completion, when a development more commensurate with the ideas of the Emperor, the church, and the people, could be carried into effect.

The plan of this church was strictly in conformity with the tradition and usages of the Greek church, the national rite of the Russian empire. It consisted of a Greek cross, of four equal arms, having absidal ends, the intersection or crux of the arms being surmounted by a dome with four abutting chapels at the angles, also surmounted by internal domes and exterior steeples. There was a projecting tower at the west end advancing considerably in front of the mass of the church, with a lofty steeple and entrance doorway; and there were doorways at the north and south at the ends of the transepts. There were three iconostases of the class described by Herr Hallman, in his able paper on the Greco-Russian Church, contained in the second part of the Transactions of the Institute. The plan, therefore, is simple and majestic—its parts well defined and presenting a great variety of effects. The perspective view also offers a busy and picturesque aspect. The lofty spire and the central dome, surrounded by its four minor turrets, has an effective and distinct character, devoid of monotony, although perhaps not very pure in detail, or severe in its composition as a whole. The outside dimension of the square mass of the church was 173 feet. Its greatest width from outside to outside of the apsidal ends of the transept was 222 feet. Its extreme external length from the front of the tower to the exterior of the eastern apsis 280 feet; consequently it was an edifice of no mean dimensions.

The magnificent ideas of the emperor, who desired to have a temple commensurate with the vast empire over which his rule extended, led him to submit to public competition the project for the new fabric; but none of the plans submitted seemed calculated to meet the public expectations.

Alexander the First then directed the Chevalier de Montferrand to prepare designs, with the express command, to preserve as much as possible of the old church, particularly the space occupied by the three iconostases, or altar screens, already consecrated. Many projects were consequently submitted to the Czar, who adopted one, which seemed best adapted to the special purpose of its destination, and combining best with the buildings by which it was more immediately surrounded.

In order to carry the works into effect, the architect immediately proceeded to clear the locality and to erect spacious workshops, offices for the clerks, habitations for certain of the police and officials, barracks for a military guard, a steam engine, and other indipensable contrivances.

The foundations were immediately excavated to the depth of above 33 feet below the surface of the ground. Fir piles were then driven throughout the whole extent, 12 in. in diameter and 21 feet in length, their distance apart being equal to their diameter. The earth around the heads of the piles was cleared to the depth of 14 inches, and charcoal driven in to fill up the vacuity, and the whole surface presented 10,762 piles.

Upon these were placed two courses of granite, composed of large blocks. The points of support, and particularly the foundations of the four piers of the dome, were also carried up in solid granite, and the rest filled up with ordinary construction, but forming a regular mass of compact masonry throughout the whole surface of the monument.

While these works were proceeding, the architect was directed to proceed to Finland, to examine the quarries whence were to be extracted the 48 monolithic blocks for the shafts of the columns of the portico. These quarries are situated in two small islands on the shores of the Gulf of Finland, between Vibourg and Fredericsham. These shafts in the rough were 7 feet in diameter and 56 feet long. They were embarked two on a vessel, and then transported by the Neva to St. Petersburg, and there finished off. These columns are certainly the largest ever employed for such a purpose. Those of the Pantheon at Rome are only between 46 and 47 feet long, and they exceed in size any others of antiquity now remaining. The peristyle of the dome has 24 columns, 42 feet high. Those noble columns, which many of us know, in the Baths of Diocletian, and those in the Baths of Caracella, are only 38 feet high.

Again, there are 32 columns in the steeples of this church, also monoliths; they are 30 feet high—thus presenting a series of 104 monolithic columns in granite, in number and size, and costliness of material, excelling every other monument of ancient or modern times.

We will now proceed to consider the plan of the building, which presents the elementary type of the Greek cross. This, however, is hardly marked with such distinctness as in the older church, there being several supplementary chapels and vestibules, which give somewhat of complexity to the arrangement. In the centre is the intersection of the 4 equal arms of the cross, surmounted by the dome; and again at the extreme angles of the parallelogram are 4 square divisions, surmounted by the 4 steeples. The church is placed due east and west—the altar to the east, with its several iconostases, the principal entrance at the west end, with its 3 doorways under an octastyle portico, projecting only one intercolumniation from the body of the building. The east end has a similar portico. In the ordinary arrangement of churches we should expect that the west end would form the principal entrance, and consequently would receive the greater degree of embellishment. But in this instance there are 2 noble porticoes at the ends of the north and south transepts; octastyle, like those at the east and west end, but having a depth of 3 intercolumniations, instead of one, with deeply recessed large niches, the whole composition being in imitation of that at the Pantheon of Rome in every respect. Apparently, this greater magnificence at these points arises from local considerations, as facing more important approaches and more imposing public edifices. The bases of the columns of these porticoes, as also the caps, are of bronze; the shafts 6 feet 6 inches in diameter, 11 feet apart, and 45 feet 6 inches high, giving a total height to the columns, including the base and the capital, of 56 feet 6 inches. The entablature is 14 feet 6 inches high: together 71 feet. Each portico is surmounted by a pediment, crowned by statues; and the summit and acroteria, and the tympanum, are enriched with bronze groups. This order runs round the whole exterior of the church, and has above it a double attic, equal in height to half that of the entire principal order, an enormous disproportion, which renders the building top heavy, and tends to detract from the vastness of the order beneath. It is most likely that the architect may have adopted this lofty attic to hide the roof; but the expedient has been more destructive to the effect of the building than the apprehended unsightliness of the roof.*

We will now enter the church under the western portico, and immediately we are admitted into a vestibule, simlar to the narthex of the ancient Christian temple, with smaller vestibules to the right and left, which are surmounted by the steeples already alluded to. There is a centre nave, 43 feet wide, 175 feet 6 inches long, up to the iconostasis, and presenting a total length, from the inside of the eastern to the inside of the western wall, of about 278 feet. The greatest width inside between the walls is 153 feet.

The grand iconostasis, of white marble, rises up and forms the altar-screen, or image-bearer, in front of the large piers which terminate the eastern arm of the cross. It is 150 feet wide and 70 feet high.

Three steps lead up to the level of the altar platform. There are three lofty circular-headed doorways, about 14 feet wide by 34 feet high. The principal order is 46 feet high, the 8 Corinthian columns 37 feet 6 inches high, the shafts and those of the pilasters are

The following paper was read at the opening meeting of the [illegible] Royal Institute of Architects, the [illegible] Esq. in the chair.

* See the accompanying view of the church, p. 594.

fluted, and consist of exquisitely inlaid malachite from the province of Perm, discovered in 1831 in a copper mine of M. de Demidof, the largest seam ever known, being 17 feet 6 inches long, 8 feet 2 inches wide, and 4 feet 6 inches high; the weight of which mass has been calculated at 120,000lbs., or 50 tons. The bases and capitals are of bronze gilt—I should state that there is a cylinder of cast iron to each column, forming a core, covered by a brass cylinder, to which the malachite is attached, the pieces being fitted with such exquisite skill that the columns and pilasters appear to be of one enormous block. The whole iconostasis has incrustations of porphyry, jasper, malachite, and other precious stones of the country. An attic 20 feet high rises above the order, which in the centre is again surmounted by a supplementary attic, flanked by 2 angels, and forming the pedestal upon which is raised the cross, with a group of angels at the base in the attitude of prayer, and grief, and devotion. Groups representing the resurrection of our Saviour and the ascent of the Virgin Mary flank the circular-headed aperture of the central doorway. There are 3 tiers of pictures of saints, the Virgin, our Saviour, and the Almighty, who occupy the central compartment, and other sacred personages the side divisions, all painted on a gold ground, clad in rich vestments, and bedecked with jewels. In conformity with the canons of the Greek Church, there are no other figures in relief than the angels. The door which closes the centre aperture is of silver, 34 feet high; the side doors are of marble. A profusion of lamps, all of massive silver, are pendant from the ceiling, hanging in front of the pictures.

Behind the iconostasis are 3 sanctuaries, the central one with the high altar, which is surmounted by a baldachin, or canopy, supported by 8 marble columns. Each of the side chapels has its own iconostasis and altar, dedicated respectively to S. Alexander Newsky and S. Catherine. These secondary iconostases are 40 feet wide each, and above 25 feet high, but a central attic and surmounting group of the Ascension increase the total height of the loftiest part to 40 feet. They are of white marble, designed in the cinquecento style, and elaborately ornamented, the panels being filled with gorgeous pictures of saints on a gold ground. But, in truth, all these paintings, although executed with consummate art, are but temporary, as they are ultimately to be taken out and replaced with resplendent mosaics. In fact, this group of 3 sanctuaries, with their iconostasis, altars, and side door-screens, dividing the central altar-place from the side chapels, composed of the most exquisite marble, profusely enriched with sculptures, paintings, and bronze gilt, make a dazzling group, of which we can form no adequate conception, even if we can in imagination realise the restoration of the sanctuary of the most ornate of our principal cathedrals, carved and painted throughout—emblazoned in all the pomp of the most profuse polychromy, and abounding with statues and groups of the Saviour, the Virgin, the Patriarchs, the Prophets, the Apostles, Saints, and Martyrs of the religious calendar of the middle ages.

The general decoration of the interior of the church consists, first, of a low stylobate or dado, nearly 5 feet high, above which is a Corinthian order of columns and pilasters, 42 feet high; and this is again surmounted by a lofty attic, with pilasters and cornice, 21 feet high. The loftiness of this attic, being half that of the principal order, detracts materially from the importance of the order; and, in fact, there seems no necessity for dividing the height into 2, for if the outer order of the porticoes had been continued inside, the effect would have been nobler, and the expectations of the beholder, excited by the proportions and scale of the outer order, would have been realised also within the church. From the top of the attic spring the vaultings of the ceilings of the church, which are sumptuously enriched. The cornice of the attic is not of sufficient importance to act as the impost of the vaultings. The intersection or crux of the arms of the cross is surmounted by the dome, 96 feet in diameter and 196 feet high, from the pavement to the cupola of the lantern, and 332 to the top of the cross. Immediately over the pendentives formed by the intersection of the vaultings, and the naves and transepts, is a lofty stylobate, 27 feet high, in the periphery of which are 12 angels, 19 feet high, supporting consols.

The wall of the drum of the cupola is pierced by twelve circular headed windows, and the order, 46 feet high, is Corinthian, like that of S. Peter's and our own S. Paul's, and most other similar cathedrals. The pilasters are fluted. The dome rises to a height of 40 feet above the entablature of the order of the drum. It is not divided into compartments, but forms a vast plain surface, decorated with a picture of the celestial glorification of the Virgin Mary. In the centre of the dome is an aperture 21 feet in diameter, opening into an upper dome, formed by the intermediate cone, and on the surface of this is also a painting of the glorification of the Redeemer. The whole surface of the walls of the interior of the church and vaultings, with the columns, pilasters and dressings, are all cased with white and various coloured marbles, from Finland and Italy; the bases and caps are of bronze gilt in "or molu." For the purpose of procuring a white marble superior even to that of Carrara, a Tuscan company undertook to open a new quarry at Seravezza. Bridges were constructed over torrents and ravines, roads were formed on the sides of perpendicular rocks, and habitations and workshops were erected for the workmen, in order to provide this choicer material. The marbles from Finland were red, violet, black, and mixed, and were used in the mosaic pavement, in the construction of the basement, and in the four smaller cupolas to the steeples, at the angles of the church. The Chevalier de Montferrand has paid great attention to the decoration of the vaultings of the interior, which are distributed in large divisions. Forty colossal figures, in high relief, of galvanised bronze, and in the proportion of 21 feet high, form the chief features of this decoration. They represent the prophets, patriarchs, and angels, with their various attributes. Some stand on corbels; others are seated within niches.*

T. L. Donaldson.

ROYAL INSTITUTE OF ARCHITECTS.

GEOMETRIC DESIGN.

At an ordinary meeting held on the 4th instant, Mr. Bellamy in the chair, Mr. G. P. Boyce was elected an associate; and a number of donations were announced, including Signor Borsato's work on "Architectural Decoration," parts of the "Baronial and Ecclesiastical Antiquities of Scotland," Mr. Fergusson's book on the "Principles of Beauty," and Messrs. Walker, Brunel, and W. Cubitt's "Report on the City Sewers."

Mr. Donaldson, in commenting on the donations, said the report on the sewers was a document of high interest: as the work of three distinguished engineers it had great weight, and it served as a complete justification of the city commissioners. Respecting the "Baronial Antiquities of Scotland," he thought it one of the best of its class, and he was glad to see there that evening the three busy B's who were engaged in producing it, namely, Billings, Burn, and Blackwood.

Mr. Godwin said that, having recently had an opportunity of testing the accuracy of the Scotch illustrations on the spot, he could not avoid adding his testimony in its favour. As to the Report on the Sewers, it could not be read without great interest, as it would be found to present the most startling contradictions to the opinions entertained by those who had officially the control of the metropolitan sewers. The latter contended for small sewers, the three eminent engineers for large: the one body considered that the *form* of sewer was an important question, and ought to be egg-shape; the other, that it was of very little consequence, but that they should prefer a sewer with a *flat bottom!* Sewerage was a matter of so much consequence, and involved the expenditure of such large sums of money, that he thought it would be useful if some unprejudiced person, some person not committed to an opinion, would carefully collate and examine the arguments on both sides, and bring the result before them.

Mr. I'Anson thought a discussion of this report of considerable importance. He would not disguise from the meeting that he was a prejudiced person, but the three gentlemen who were appointed to report on the City sewers had been so appointed because they were impartial. So much had been violently urged, and most improperly urged, against the system formerly used, that it gladdened him to see these gentlemen giving their strong opinion in favour of it. Former commissions and their officers had been shamefully stigmatised, and he was glad to find these engineers stating that the expenditure in the City had been judicious, and that the authorities had done their duty.

Mr. Woodthorpe said he had obtained this copy of the report for the Institute, because he thought most improper remarks had been made by persons now in power, and it seemed to him right that members of the profession should see, by this report, that these remarks could not be justified.

The Chairman agreed in thinking that the suggested examination would be useful, and then called on Mr. Billings, to give a discourse on the Infinity of Geometric Design as regards Tracery.

Mr. Billings commenced his observations with some remarks on the present practice and position of architecture. He objected to the unwise use of gaudy colourings, and condemned the mode in which the Temple Church had been disfigured. In its original state it was the artificial infinite realised: now the whole was contracted and brought down on the head of the beholder. There were other buildings to which the remark would apply. Look to the House of——but no; he was one of those who would rather run a mile than fight a minute, and he would not provoke a controversy. Only a short time ago the idea of geometric principles in Gothic architecture was laughed at; but now the fact was well understood and generally admitted. Why should modern architects be content with simply copying?—why stand still and exhibit no invention? The use of glass and iron ought alone to have led to an entirely new style. The fact was, they succumbed to lay and clerical masters, who positively would not let them design. Why was this permitted? Architects too readily gave way to amateur pretenders. When he first introduced the system of squares for tracery he had been laughed at, but these squares, like the British squares at Waterloo, had never been broken. Pursuing the same train of thought, he had been striving to discover the means by which the Gothic architects achieved such infinite variety of design, and he had succeeded, he believed, to a great extent. On one fixed design, namely, a circle divided into eight compartments, with four smaller circles within it, placed around the circumference, and each one-third the size of the enclosing circle, he had constructed 100 different panels of tracery, not one of which could be called vulgar Gothic. They were all purely geometric; no rule of thumb in them, and any one could draw them, when he knew how. Geometric forms he thought the most graceful of all forms. An entirely new field was opening to the designer, and would doubtless be well worked.

The lecturer then explained the construction of a large number of these panels, which displayed extraordinary variety and beauty;—the variety was caused simply by varying the position of the connecting curves. He said he was most anxious that others should get on the same scent, with a view to other branches of design. These designs, forming a book, would be published at a low price, and he looked for general support.

The chairman, Mr. Burn, and Mr. Donaldson, afterwards spoke at some length, and the meeting was then adjourned.

* The remainder next week, when we shall give a section of the iron construction in dome.

Railway Bakeries.—A Belgian has hit upon a very economical notion. He proposes to attach bakehouses to the stations on the railways where the coke furnaces are placed, and to bake the bread with the lost heat. By placing the red-hot coke to cool in the bakehouses, instead of allowing it to remain in the furnaces, where the heat is altogether wasted, he will bake his bread in forty minutes without any expense of fuel.

"NO SKETCHING ALLOWED."

THE TEMPLE CHURCH, LONDON.

Mr. Kearney, the artist, has stated, in a letter to the *Morning Advertiser*, that having occasion for some specimens of pure Anglo-Norman architectural ornaments, particularly capitals and enriched columns, and passing through the Temple on Thursday, he paused under the porch of the church, and made two or three pencil-notes in his sketch-book. "Whilst thus occupied," he continues, "the door was opened to the authoritative knocking of two boys, who entered, and the person who let them in, at once commanded me to leave off. I asked why?" "Because," says he, "this is private property. It is against the law for any one to copy it. I have orders not to allow it." To my observation, that I considered that there could be no prohibition against a passenger using his eyes or his pencil in a public thoroughfare, and that the outside of any public edifice could not be considered private property to such an extent and meaning as he asserted, he replied, "that may be your notion, but that is not the *p'int*. My orders are my orders, and this *is* private property, and nobody has any right to *take off* any part of the church—it's prohibited." The writer adds that he gives publicity to this fact for the information of brother artists "who may be desirous to see a fine specimen of art, produced in the dark ages, expensively renovated, and surrounded by all the carefully preserved intolerance, and narrow-minded selfishness which distinguished the Knights Templars of the twelfth century."

We sincerely hope, for the sake of the modern Templars' character, especially as to those members of the body who loudly professed their admiration of mediæval art and their desire that its principles should be understood and studied, that the enlightened functionary who thus authoritatively laid down the law (we wonder where he found it) was acting without orders. We happen to know two or three excellent men of the "inner" and the "middle" who would blush to hear their names connected with such preposterous notions till they were deeper *read* than they even now are. Do, pray, good Mr. B. or Mr. H. inquire into this matter, and if there be orders existing to prevent persons from sketching your "private property" inside—from stealing any of the bits of beauty produced without any of your assistance half a thousand years ago—obtain their abrogation with all convenient speed for your own sake.

Carried out to absurdity (it is sufficiently absurd without any carrying out)—such orders would forbid visiters from *remembering* anything they saw there,—would prevent them from committing it even to the tablets of their memory. As to your power of preventing eager students from "taking off" the outside, notwithstanding your acute custodian who *knows* the law (who drinks it in with every breath he draws), the assertion must be simply a joke; you may as well think of preventing our excellent friend *Punch* from serving you as artists do the building, if he once gets certain of the fact that you positively are intolerant and stupid enough to desire so to interfere.

It is not at the Temple alone that the seal is put on the sketch-book. We remember going a few years ago 20 miles, to Hampton Court hall, to get the outline of two or three mouldings, and on taking out a pencil and the back of a letter, were authoritatively stopped by a man in blue, and were ultimately forced to return with simply our trouble for our pains—a proceeding the more scandalous since the public pay for maintaining the place. Not a shadow of an objection to our sketching could be raised on the plea of causing obstruction, as, with the exception of the man in blue, we stood alone in the large hall. Whether this absurd and vexatious regulation is still acted on there we do not know,—it is to be hoped not. Even at that time, however, they did not dream, as it appears they do in the Temple, of preventing people from using a pencil in the highway, for the aforesaid man in blue, when he had politely walked us to the door, said "There, now, if you go outside you may draw away as much as you like." He seemed to have no notice of an *object* in drawing: to him, and probably to his masters, drawing was drawing, and nothing more. He reminded us of a story told by Mr. Tite, at the Institute, one night, to the effect that he was sketching on one occasion a very interesting half-timbered building in the country, and, while so occupied, heard an old woman exclaim from an open window in it, "Why, Tom, I'm dashed if there beant *another* fool a taking off our house." Our friend in blue had much the same notion of those who came to Hampton Court to draw.

However, gossip apart, this really is a matter worthy attention and demanding alteration. We commend it to the serious consideration of the honourable societies of the Inner and Middle Temple.

THE HISTORY OF ARCHITECTURE.

BY AN AMERICAN LADY.

We have read with great satisfaction a History of Architecture from the Earliest Times, written by a lady, Mrs. L. C. Tuthill, and recently published in Philadelphia.* It is dedicated to the ladies of the United States, and, as we understand, is the first book of the kind that has yet appeared there. It consists of 426 octavo pages; and contains a large number of illustrations, some of them very fairly executed. The style is clear, the arrangement orderly, and most of the opinions it contains are sensible and sound. There is very little wrong in it,—and, what there is so, we are not going to find fault with. It is necessarily, to a great extent, a compilation, but the way in which this is made, shews that the author has well mastered her subject, and remarks are offered throughout which prove that she takes the right view of most of the current topics on which there is a question.

The main object of the writer—and an excellent one it is—is to obtain increased consideration for architecture, and to point it out to the young men of her country as a lucrative and honourable profession. "Instead of devoting so large a proportion of talent and active energy," says the author, "to the three learned professions and to commercial pursuits, it is high time to direct them into other channels. This art opens a fair field for laudable ambition."

The commencement of the preface shews the nice feeling of the writer,—a feeling, too, it should be understood, much less common in America than it is even in England. "The perception of the beautiful is among the noblest of God's gifts to man. When improved by culture, it diffuses over the poor wants of human nature a glory like sunlight upon the dark and frozen earth. The peasant of the genial south trains the jessamine over his rude porch, and beneath it, after the weary labour of the day, enjoys the 'stilly eve.' The Swiss mountaineer hangs his picturesque *chalêt* amid the embowering trees of his native Alps, and its beauty delights the passing traveller.

With the same earnest longing for the beautiful the man of wealth calls in the aid of art to decorate his more lofty dwelling-place. But not alone the home of man must minister to his love of the beautiful; the Temple which he consecrates to the worship of his Creator must rear its stately columns, and spread its over-arching vault to form a fit sanctuary for holy thoughts and heaven-ward aspirations. As society advances, all the edifices which the multiplied wants of civilized life demand, must be beautified; hence arises decorative architecture."

The writer points out, with due appreciation, that "the immense resources for building in the United States will be profitably and tastefully appropriated, whenever the people themselves have *sufficient knowledge of the art to employ and remunerate scientific architects.*" The necessity for obtaining proper professional assistance in erecting buildings is several times urged in other parts of the work. Mrs. Tuthill discriminates between mere building and architecture. "While society is in its infancy, and strength and convenience alone are regarded, it ranks with other mechanic arts necessary to the comfort of man; but when it adds to these beauty of design or a regard for effect, it becomes an ornamental or fine art, taking its place beside the sister arts, poetry, painting, and sculpture."

Our lady writer, however, is fully aware that regard for effect alone will not make an architect.

"An architect must be *practical*. He cannot live in a world of fancy like the poet; he cannot copy nature in its loveliest aspects like the painter; nor perfect nature in forms of surpassing beauty and grace like the sculptor. He must render tasteful and beautiful that which is essential. In doing this he must not speculate and theorize till he has lost sight of the main object of all his works, utility. Practical knowledge must make him acquainted with all that *is* best adapted to ensure convenience, strength, and durability; and a constant regard to the earlier views prevent him from sacrificing the substance to the shadow—fitness to factitious ornament. He must be practical, too, in order to gain respect and confidence. A theorist may be expert in drawing plans, and fill his studio with an endless variety when only one good plan is needed: his own mind will wander amid this variety without being able to make a choice. If this choice is at length made by another, the theorizing man has so many alterations and additions to make in carrying on the work, that he puzzles and vexes the men whom he employs, and loses their confidence, by seeming to have no plan at all in his own mind. He will not be an economical artist. In following out a favourite theory, little regard will be paid to expense, and probably he will not be able to make an exact estimate, as he never knows when his plan is fixed; and, besides, he has not the patience to examine into minute details."

The ten last chapters are devoted to the architecture of the United States, and the improvement of cities, from which we shall make some extracts hereafter; and, in the meantime, we offer a hearty shake of the hand to the lady-writer on the other side of the wide Atlantic.

* "History of Architecture, from the Earliest Times; its present Condition in Europe and the United States; with a Biography of Eminent Architects, and a Glossary of Architectural Terms." By Mrs. L. C. Tuthill. With numerous Illustrations. 1848. Philadelphia; Lindsay and Co.; London; John Chapman, 142, Strand.

THE BUILDER OF OSBORNE.

We have received two or three letters on the subject of the new buildings at Osborne, complaining, first, of our giving Mr. Cubitt the title of architect in the heading of our view, and secondly, of the employment of that gentleman in the double capacity of architect and builder, by her Majesty, considering that such a precedent must be most prejudicial to the profession. As to the first, we did not give him the generic title of architect, nor does he assume it, so far as we know: we simply stated the fact in a particular case. The information sought, is, the name of the architect of Osborne House,—who was it designed, arranged, and superintended the building? and the reply must unquestionably be, Mr. Cubitt.

As to the second ground of complaint, we have so long and zealously laboured to promote the study of architecture as a science and a fine art, and to make its practice quite distinct from the pursuit of the builder, that it must be quite unnecessary for us now to say that, as a general rule, we fully agree with those who object to the union of the two callings in one person. We are contented, however, to look on Mr. Cubitt and the present case as an exception. Apart from the fact that he stands in a different position from any other builder, London owes him much for wide streets and comprehensive schemes of improvement, and it may be, though we do not pretend to say it is, that the illustrious person by whom he is employed, was willing to give some recognition of this, and finding him not disposed to act under the direction of others, may have thought fit to depart from the usual course in his favour.

Without yielding one jot of our consistency, we feel justified in withholding any observations in respect of this matter, calculated to annoy either the Owner or the builder of Osborne.

Engineers' Competition.—Plans for the drainage of the town of Guildford are wanted —particulars not stated.

TREATMENT OF ARCHITECTS.

SIR,—Allusion has often been made in THE BUILDER to the indignity that architects bring upon themselves and the profession, by entering into some such competitions as have of late been advertised, as a lure for the unwary beginners, who hope to make their name known, by trying for many of these things, no matter how little chance there may be of success or of adequate remuneration for their labours; but I think the following particulars, which I shall endeavour to state briefly, will shew that such are not the only indignities the profession has to put up with; and I am sorry to say it is not the only instance of similar treatment I have had practised on myself, though the only one I could bring home to the author of it, and by a man calling himself an architect!

Some little time back I received information from a friend in the north, that sundry designs of mine, which I had made for a gentleman in Ross-shire, had been submitted to another proprietor there by a man practising in Inverness, and with so studied a pretence of their being his productions, as will be inferred from their original titles and my name being entirely cut away. Having occasion shortly after to visit the neighbourhood of this town, in order to make sure of the identity of the drawings, I called at the office of this *soi-disant* architect; and having asked to see the designs made by him for the gentleman above alluded to, was, in his absence, shewn, without hesitation, by his clerk, my own drawings, mutilated as described. Having now satisfied myself of the truth of the statement, I put myself in communication with the said architect, through a solicitor; and as might be expected, had a correspondence opened, which was characterised by emphatic denials in the first instance, and apologies begrudgingly rendered at what he hoped was meant for the close of the scene. One small paragraph is worth quoting:—"I have never had an opportunity of applying any of your details, excepting some I have used in churches, and, I can assure you, that only sparingly, as they (the church builders, I presume) are but poor in this quarter."

I have but little to add: the person who owns this method so imposing is Mr. George Rhind, of Inverness; the gentleman imposed upon, Sir James McKenzie, of Seatwell; the gentleman for whom the designs were made, Duncan Davidson, Esq., of Tulloch Castle; and their author, your obedient servant,

GEO. FOWLER JONES.

Monkgate, York.

P.S. This is a strong reason in support of the argument why the "Institute" should have powers by virtue of a charter, not forgetting a fund, for the protection of the legitimate members of the profession against the abuses to which it is at present so notoriously exposed. I might, as an individual, have prosecuted in this instance, and perhaps obtained something more to the purpose than a shabby acknowledgement of the injustice done me,—but then think of the trouble, time, and cost!

G. F. J.

PUBLICATION OF THE VERNON GALLERY.—Mr. Vernon having specially presented to the proprietors of the *Art-Journal* the right to engrave the admirable collection munificently bestowed by him on the nation, the publication of these works, two each month, will be commenced in the ensuing number of that periodical, and will do much towards raising the reputation of the British school of art. In addition to their appearance in the journal, proofs of these engravings are to be issued as a separate work; and we have now before us impressions from eight of them, including Gainsborough's "Market Cart," engraved by Bentley; Uwins's "Little Brigand," by Lumb Stocks; Calcott's "Wooden Bridge," also by Bentley: and Stanfield's "Venice," by J. Cousin. In their first announcement the proprietors pledged themselves that the engravings should be worthy representatives of a gallery containing the choicest examples of the leading British painters of the era, and we have no hesitation in saying that they have fully redeemed their pledge. Those we have named are beautiful. We hope to find this work largely circulated.

CHICHESTER TRAINING-SCHOOL COMPETITION.

SIR,—There has appeared in your journal an advertisement from certain parties, asking for plans for the proposed Training-school at Chichester. On attentively reading it through, and pausing over the circumstance that even the drawings are to be sent free of expense, I cannot extract the slightest guarantee of premium or remuneration to the *fortunate* competitor, or indeed any expression which would prevent the committee from appropriating any of the drawings (so obtained) without the smallest remuneration to its author. Having, in curiosity, written to the secretary, more particularly on this point, and received an answer couched in rather ambiguous terms, I wrote again, requesting a further explanation. This communication having received a very uncourteous reply, which, moreover, strengthens my suspicion as to some shuffle being intended, I think it as well to call the attention of those who propose to waste time and paper in answering the advertisement to the dilemma in which they may be placed, more particularly as the *name of the party who will have the commission is already mentioned.*—J.

Sir,—As a sincere well-wisher to your very useful paper, I venture to express my regret at a paragraph respecting the Chichester New Training-school, which appeared in your last impression. Had you merely published the letter you speak of, I should have thought nothing of it,—it would have been taken for what it was worth (particularly if given with the name of the writer), and your readers would have been left to form their own opinions upon it: but an editorial notice is quite another thing; and I cannot think it wise that you should be so ready to make common cause with every angry correspondent, although he may be an architect, when (as in this case) you had confessedly no time to make the least inquiry into the circumstances. The party in question wrote to me a note which I am sure every gentleman of his profession would at once pronounce intolerable. I simply returned it to him without a single observation. And is this a reason why a paper like yours should lend itself to fasten a charge of dishonesty upon the whole of the Chichester committee? And can I ask less of you than that you should require to see the note which was sent to me, before you give further publicity to the charges made against us?

MATTHEW PARRINGTON.

Chichester, Dec. 4, 1848.

*** Our remark was founded on the terms of the advertisement, and depends in no degree on the note in question.

HYDRAULIC PRESSURE ENGINES.

AT a meeting of the Society of Arts, on the 29th ult., Mr. Brunel in the chair, a paper was read by Mr. Glynn, F.R.S., on "Hydraulic Pressure Engines," and the employment of high falls of water acting by their weight or pressure upon a piston working in a cylinder, to produce a reciprocating or alternating motion. It appeared that, in the year 1769, this subject had been brought before the Society of Arts by Mr. Smeaton, the engineer, whose construction of the Eddystone Lighthouse has since served as a guide in similar works. Mr. Smeaton had seen a column of water brought to bear by its pressure on the piston of a cylinder in a manner similar to the action of atmospheric pressure on the piston of steam-engines as they were made at that time, before Mr. Watt's improvements took place, the cylinders being then open at the top, and the piston forced downwards by the pressure of the atmosphere above. This ingenious application of water-pressure was the invention of Mr. Westgarth, a mechanic employed at the lead mines of Sir Walter Blacket, in the county of Northumberland.

Mr. Smeaton, with a desire to advance merit wherever it might be found, brought the subject before the Society of Arts, and obtained for the inventor a premium of fifty guineas; he also wrote a description of the engine, which was printed in the society's "Transactions." Owing to the great improvements subsequently made in the steam-engine by Mr. Watt, water-engines of all kinds were thrown into abeyance, and the water-pressure engine remained unemployed in England, until its use was revived by Mr. Trevitheck, who was distinguished by the invention of locomotive engines to be used on railways, or rather upon the tramways of his time. Mr. Trevitheck erected several water-pressure engines, and in 1804 he made one of them for a lead mine in Derbyshire, which is still working well in the Allport mines, near Bakewell. In 1841, the proprietors of the mines, by the advice of Mr. John Taylor, resolved to erect a very powerful engine of this kind to clear the mines from water: this was made by the Butterly Company, under Mr. Glynn's direction, and set to work early in the following year. It is one of the most powerful engines of this kind hitherto made: the work it performs is equal to 168 horse-power, and its useful effect was said to be equal to 70 per cent. of the theoretic power of the waterfall. The column of water in this instance is 132 feet high, the stroke of the piston is 10 feet, and the diameter of the cylinder is 50 inches; consequently, the pressure on the piston is equal to a weight of 50 tons. This engine is capable of making seven strokes per minute, without any concussion in the descending column.

A model of this engine is now in the museum of Economic Geology. The water-pressure engine, although neglected in England, has been extensively used in Germany, and drawings of some of the best German engines were exhibited to illustrate the paper.

PAYMENT FOR PARTY-WALLS UNDER BUILDINGS ACT.

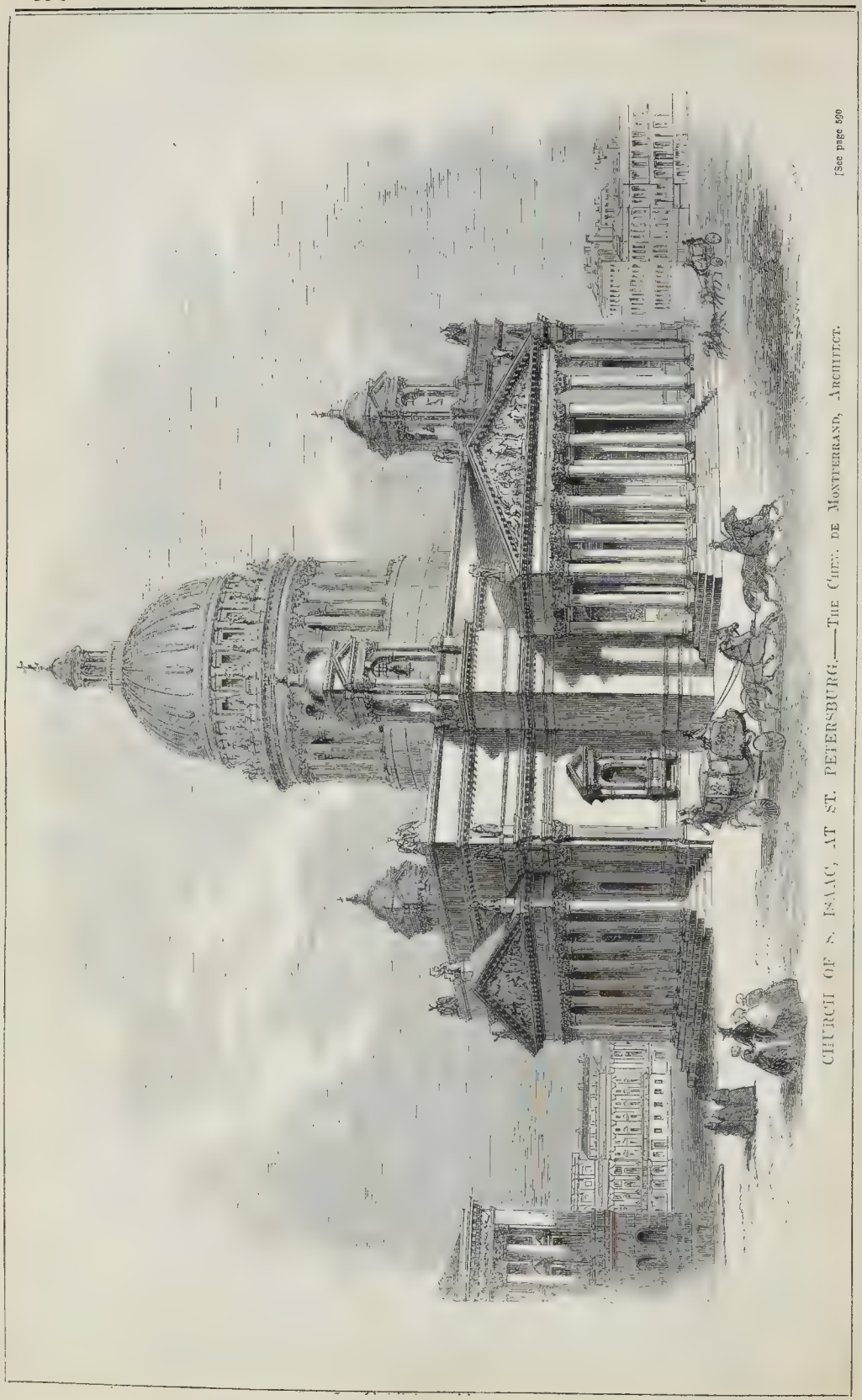
CONFIRMATION OF OFFICIAL REFEREES' AWARD.

MR. NEWNHAM is the lessee of a house in Jermyn-street, of which the executors of a person named Finch are the legal owners. The property originally belonged to the Crown, and had been demised from time to time, the lessees covenanting to build the party-walls, and Mr. Newnham's lease contained a similar covenant. Some time ago a next-door neighbour gave Mr. Newnham notice under the Metropolitan Buildings Act that he was about to pull down the party-wall between their premises, upon which Mr. Newnham gave a similar notice to his neighbour on the other side, and the walls were pulled down and rebuilt, Mr. Newnham's share of the expenses being 1,500*l.* The Act provides that the expense shall be repaid by the beneficial owners of the property, and Mr. Newnham applied to Mr. Finch's executors to repay him the money; but as they refused to do so, application was made to the official referees named in the Act to arbitrate in the matter. The official referees decided against Mr. Newnham's claim, without hearing all the evidence he had to adduce of the expense he had been put to, on the ground that he was bound by the covenant in his lease to do what he had done, and had, therefore, no claim on the owners of the property.

In the Court of Queen's Bench, a few days ago, Mr. Whitehurst, Q.C., moved for a rule to set aside this award, chiefly on the ground that the party-walls Mr. Newnham had covenanted to build were only walls such as existed when the covenant was entered into, *i.e.*, of lath and plaster, and not the solid brick walls which he had been obliged to build under the provisions of the Metropolitan Buildings Act.

The Court said, it was clear that the contract was to build such a party-wall as should be required by the law when the lessee was called on to perform his covenant, and they therefore refused to grant the rule.

LLANDILO-BRIDGE, CARMARTHENSHIRE.—This structure is completed. At the Carmarthenshire quarter sessions, Mr. E. Haycock, of Shrewsbury, the architect of the bridge, presented his report, from which it appeared that the bridge, which is the third largest in the kingdom, being nearly 150 feet span, is built principally of black marble, at an expense of about 18,000*l.*, while Gloucester-bridge cost 60,000*l.*, and Chester 40,000*l.*—*Eddowes's Journal.*

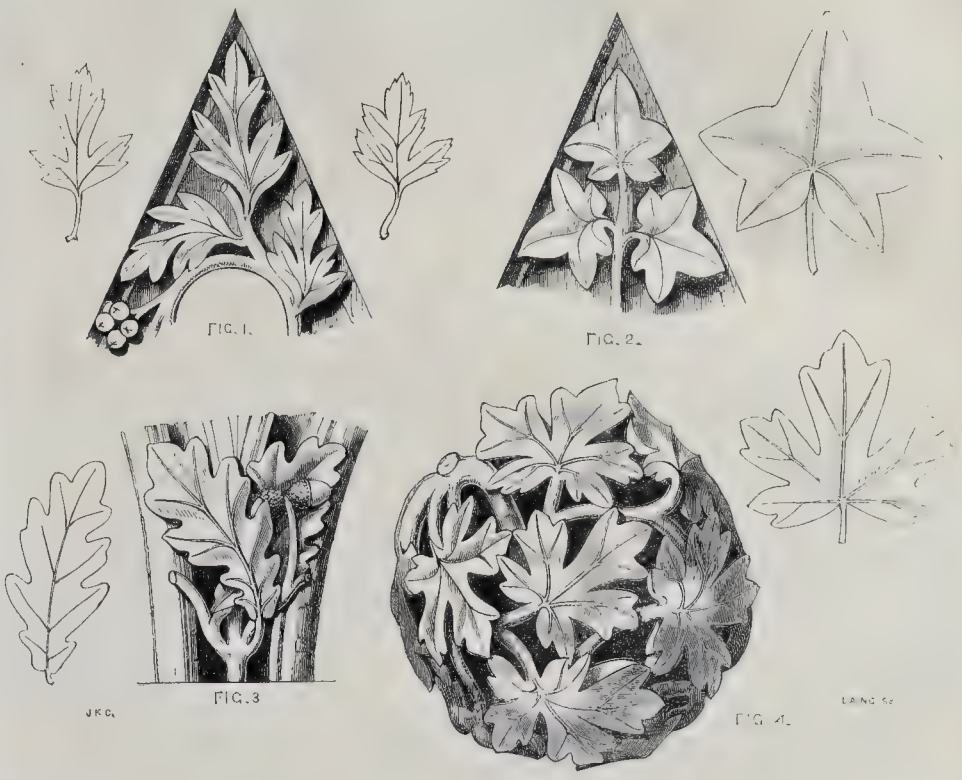


CHURCH OF S. ISAAC, AT ST. PETERSBURG.—The Chev. de Montferrand, Architect.

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ORNAMENTATION FROM NATURAL TYPES.

SOUTHWELL MINSTER.



GOTHIC ORNAMENTS FROM NATURAL TYPES.

SOUTHWELL MINSTER.

In connection with examples of ornament from natural types already given, the accompanying examples, contrasted with natural leaves, may not be uninteresting. They are taken from the beautiful little chapter-house at Southwell Minster. No. 1 is the thorn; 2, the ivy; 3, the oak; and 4, the common maple. Among these carvings, the hawthorn may be found, both in bloom and in berry; and the maple with the key seeds, which are characteristic of the species.

While sketching at Southwell I was particularly struck with the remarkable fidelity with which the natural foliage is imitated, and the extraordinary manner in which the whole of the carving is *under-cut* and made to stand out from the more solid parts of the stone.* Here, in this interesting little building, remains, as it were, in perpetual bloom, the vine, the hop, the thorn, the maple, the oak, the ivy, the strawberry, the rose, in all the freshness of a faithful imitation of nature, as left by the hands of the mason more than 500 years ago. Nor is this confined to the building I have mentioned; numerous and most beautiful examples will be found in nearly all our best works of the fourteenth century.

James K. Colling.

The Addition to King's College Hospital.—An area of 215 feet in length and 60 feet in width has been purchased for 7,500*l.* by the committee, and will allow frontages both to Carey-street and to the new street about to be formed.

* Some remarks on the extraordinary beauty of this carving, and a notice of the minster generally, have already appeared in our pages.—Ed.

THE DORIC AGE OF GREEK ART.

SCHOOL OF DESIGN, SOMERSET HOUSE.

On Friday, the 1st inst., Mr. R. N. Wornum delivered a lecture in Somerset House, on the Doric Age of Greek Art. He commenced by shewing the connection which existed between Egyptian and Greek art, and the extent to which the latter country, notwithstanding their claim to be considered the originators of every thing, was indebted to Egypt. Not alone in Greece either was this influence felt; Persepolis and other cities of antiquity were built by Egyptian artists. The account of an Egyptian temple given by Clement of Alexandria, sufficed to show the extent to which decoration was there carried. The writings of Strabo and others shewed that they were acquainted with mosaic work. When alluding to the buildings in Babylon, the lecturer referred to the decoration of the brick-work described by Diodorus, and said this was evidently encaustic. The patterns being large, the bricks must have been put together before burning to receive the decoration, and when burnt must have been again sorted and arranged,—a process of considerable trouble. Love of colour was a prevailing characteristic of the Asiatic nations, and was extensively indulged. The art of the Egyptians he estimated very low: it displayed no invention, and was wanting in every characteristic of fine art: it was simply ornamental. He attributed this to the hierarchical vassalage of the people: they were forbidden to move out of a certain course, or to do other than re-produce. Glancing briefly at the art of the Hindoos, he mentioned that the acanthus leaf as a decoration is to be found in the caves at Elora.

In tracing the progress of Greek art, the lecturer, of course, told the story of the potter's daughter and the shadow on the wall. He confined himself chiefly to what he called the Doric age, and which he defined as the earliest historic period, and within which, moreover, all the principal Doric temples were built. The constructive details of architecture he did not propose to meddle with,—they were beyond his province. Still architectural works must be so constantly referred to by the ornamentist for examples of ancient art, that were he not to direct attention to them, he should ill fulfil his duty. In architectural works we had the advantage of finding the object itself instead of a description. Ornaments found in architecture need not be confined to it, but might be otherwise applied. The Greeks adapted them to their manufactures. Early mention of Greek art was to be found in Homer,—the Greek armour displayed a great amount of decoration; and in embroidery, which was described as painting with the needle, time and skill were lavished. For one shawl as much as 30,000*l.* were paid. After speaking briefly of their painters and sculptors, Mr. Wornum referred to the Doric temples, as monuments of the civilization of past ages, and described their decorations, urging the superiority of a temple polychromatized over the lifeless imitations of Greek temples set up in modern times. In the portico of the temple at Egina the blue background threw out the sculpture in the pediment. In the antefixæ art was shewn. The apex of the Egina pediment was terminated by two figures with a large double volute between them. Relative to volutes, he said the Ionic capital had been suggested, some thought, by the ram's horns on an altar after sacrifice. Speaking of the conventional florage, he said, what we term the honeysuckle was not so called by the Greeks, or so derived. It was much used by them on tombs.

The pediment and frieze would serve as the characteristic of Greek architecture in contrast with Egyptian, which merely displayed architrave and cornice. Pediments were called by the Greeks *eagles*, because they were often ornamented with a representation of the king bird. The frieze meant literally the image-carrier; a frieze without ornament was, strictly speaking, an anomaly. Emblems were of rare occurrence in Greek architecture,—bacchanalian were the most common. With the Greeks *symmetry* was everything. All Doric friezes were ornamented with colour as well as sculpture, and in Greek works generally, the ornamental development was complete. Important, he said, is that symmetry or that decoration which arrests our sympathies and disposes us for elevated feelings; short-sighted are those who see nothing in the pursuit of the beautiful but idle pastime. When disposed to think lightly of those engaged on works of decoration, let it be remembered that Socrates was an image maker.

NOTES IN THE PROVINCES.

Plans for the new County Lunatic Asylum for Essex are about to be advertised for. The *Chelmsford Chronicle*, while admitting this to be the best course under present circumstances, suggests that as asylums are to be provided for every county, Government ought to obtain a model plan capable of contraction or expansion according to local requirements.——A new post-office is contemplated at Worcester. The Improvement Commissioners there are about to pull down a number of old buildings and open a new street leading from High-street to Birdport.——The new landing-slip on Carnarvon pier is nearly finished. It is 12 feet wide, and terminates with a flight of steps.—— The *Weston-Super-Mare Gazette* announces that improvements have just been commenced in the vicinity of Claremont. Almost the entire western face of the hill above Anchor-head is to be appropriated to building purposes, with terrace, crescents, and other forms of residence, all of a superior class, according to plans prepared by Mr. William Christie, architect. A drive is also to be cut through the woods above the town, on the south, and along this and the Channel-road a series of detached mansions are to be erected. ——A triple lancet east window in Riddings Church, Alfreton, has been filled with stained glass by Messrs. Pemberton, of Birmingham. ——The church at Waverdon, Bucks, is about to be rebuilt from designs by Mr. W. Butterfield, in the early English style, with stone, and covered in with lead. The contract is taken by Messrs. Mills and Son, builders, Stratford-on-Avon, who are taking down the old edifice. The cost of erection will be defrayed almost wholly by the vicar, the Rev. H. Burney.——The *Sheffield Times* states that the staple trade is fast leaving Sheffield. Want of capital and unions of workmen are regarded as chief causes. Nothing but the introduction of a new trade, it is thought, can save the town. The unions are still destroying tools and machinery, as they have for years been doing, and we know of one case where a firm of more than one generation's standing was broken up in disgust from this very cause, nearly three years since. The stupid and suicidal unionists therefore appear to be steadily and certainly destroying their own trade, and Sheffield is likely to afford a striking example of the malign influence of such *protective institutions*. ——A Hull paper says that there are lying in that town a piece of pine timber, of the length of 108 feet, and deals 34 inches wide.——At Newcastle on Tyne, experiments are being tried with the ordinary stand pipe and leather hose applied direct to the water-pipes without the intervention of fire engines. The pressure of the water is such that the stream is said to have played on the cornice of the pedestal of Earl Grey's Monument, a height of 120 feet. ——A close inspection of buildings supposed to be insufficient or old and ruinous is going on at Glasgow; and a great many proprietors have been summoned, and properties condemned,—the *old* sugar-house, lately gutted by fire, amongst the number. Wooden theatrical or other booths have also been ordered to be taken down, and the grain removed from a store.

ARCHITECTURAL PUBLICATION SOCIETY.

The committee have determined on issuing a series of sketches in lithography—say three parts in the year—each part containing five or more plates, and which, irrespective of their interest and value *per se*, will serve ultimately as illustrations of the Dictionary. A number of excellent collections have been opened to them for selection, including those of the Institute, the trustees of the Soane Museum, Mr. John Davies, Mr. T. L. Donaldson, Mr. John Johnson, Mr. Garling, Mr. Heneker, Mr. James Lockyer, jun., Mr. D. Mocatta, Mr. Sidney Smirke, and others.

Towards the further advancement of this branch of the undertaking, a portfolio has been prepared to receive contributions of sketches, drawings, or details of existing buildings, viewed either as matters of history, decoration, design, or construction. Further, when the subscription allows of extended operations, the committee hope to undertake a continuation of the "Vitruvius Britannicus," containing some of the numerous good buildings neglected in the editions of Campbell, and Woolfe and Gandon, or erected since the addition to that work by Robinson. Towards this object, contributions from the authors of the edifices have been promised, and several of the collections placed at the disposal of the committee will be of material assistance.

Besides these illustrations, they propose to give a certain amount of letter-press to each subscriber of a guinea annually, and they have just now issued a prospectus containing the following selection from the subjects suggested to them for treatises by subscribers:—

An Analytical Index of Works on Architecture, &c.

Architectural Botany and the Geometrical Distribution of Foliage, Flowers, &c., with references to the specimens hitherto used for architectural purposes.

Bricks, Brickwork, and Terra Cotta, decorative and constructive.

Brunellesco, his Life and Works: a commencement of a Series of Biographies.

Campanili.

Cement, Concrete, Mortars, &c.

Chimneys, their Form and Construction.

Description and Delineation of the various modes of Construction which have been adopted in Structures built or faced with Squared Stones.

Domestic Architecture, classified according to Countries, and arranged in a connected and continuous series of periods.

Entasis of Columns and Spires, and other Optical Corrections in Architecture.

Foundations, Footings, and Foundation Walls.

Geometrical Stained Glass.

Mosaic Pavements.

Pediments, their Application and Construction.

"Polyphili Hypnerotomachia," by Fra Francesco Colonna, published in the year 1499. (To be translated.)

Rorickzer's Rules, followed in the fifteenth century, for constructing Pinnacles. (To be translated.)

Windows, as to Design, Aspect, and Proportion.

Some of these suggestions are accompanied by offers of authorship, others not: and one object of the committee is to obtain the further co-operation of friends in this respect. Materials connected with these subjects, however slight, are asked for, together with references to published works or articles.

It may be well to mention, that as the number of copies printed must be regulated by the number of members, the subscription list will be closed on the 1st of January, 1849.*

An Extraordinary Blast (says the *Jersey Times*), took place on Monday last at Vercluit, on the Government works. It is said to contain 276,000 solid feet of granite, making upwards of 20,000 tons. The blast was conducted under the superintendence of Mr. Heap, and no accident whatever occurred.

* The following is a list of local honorary secretaries already appointed:—Barnstaple, Mr. Butcher; Bath, Mr. James Wilson; Bridgewater, Mr. Knowles; Bristol, Mr. Pope; Darlington, Mr. Middleton; Derby, Mr. H. J. Stevens; Dublin, Mr. G. Papworth; Durham, Mr. Cory; Exeter, Mr. Hayward; Glasgow, Mr. James Wylson; Gloucester, Mr. Fulljames; Hertford, Mr. T. Y. Rimpton; Huddersfield, Mr. Wallen; Ipswich, Mr. J. M. Clark; Lancaster, Mr. Edmund Sharpe; Leamington Priors, Mr. J. G. Jackson; Leeds, Mr. W. Reid Corson; Leicester, Mr. W. Parsons; Liverpool, Mr. J. A. Picton; Maidstone, Mr. Whichcord, jun.; Norwich, Mr. Kerr; Oswestry, Mr. R. Kyrke Penson; Plymouth, Mr. Wightwick; Preston, Mr. F. W. Tasch; Stamford, Mr. E. Browning; St. Neot's, Hunts, Mr. W. G. Habershon; Winchester, Mr. Owen B. Carter; and Worcester, Mr. Harvey Eginton.

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday, 23rd ult., at the Court-house, Greek-street, Soho-square. The Right Hon. the Earl of Carlisle in the chair.

The Serpentine River.—In answer to a communication received from the Commissioners of Woods and Forests, it was agreed, on the recommendation of the General Purposes Committee, "That the court contribute a moiety of the sum of 300*l.* for completing the diversion of the sewage water from that part of the Ranelagh sewer known as the Serpentine river."

Various works, considered to be of urgency, were ordered to be carried into effect. The whole of these works being of pipes, will be completed at the rate of 4s. 8d. per foot; and if any general rearrangement of the drainage of the districts shall take place, the whole of the pipes may be removed uninjured.

The late Holborn and Finsbury Commissioners' Dinner Bills.—An application was made from Mr. Bateman, one of the late Commissioners of Holborn and Finsbury Sewers, in consequence of the sum of 90*l.* having been disallowed by the present commissioners for three months' dinner bills at the Albion Tavern. The application was made on the ground that the Act of Parliament allowed them a certain amount for their attendance as commissioners.

The application led to a conversation, in which it was urged that this court was justified in refusing their sanction to the appropriation of rate-payers' money to the feasting of commissioners. The Earl of Carlisle thought the determination of the court should be adhered to, but that any proper expenses would receive attention. The subject then dropped.

Captain Prior, of Kensington, attended the court to complain of the want of drainage in that locality. He was requested to put the nature of the complaint in writing, and transmit the same to the commissioners.

The State of Woolwich Marshes.—A long communication, transmitted to the Board of Health by Mr. R. Rugg, of Woolwich, was laid before the court by Mr. Chadwick. It set forth that the whole drainage of Woolwich marshes is very imperfect, and in many places they are without any drainage whatever. That the amount of sub-aquatic vegetation which was allowed year after year without removal, exhales a prodigious amount of miasmata, and the result was, that the whole district was scourged with attacks of ague and intermittent fever. It also stated that during the spring months of the present year the number of attacks from ague were upwards of 4,000, and several persons had four or five attacks, the average being two attacks, consequently there had been no less than 8,000 cases of ague amongst a population of 40,000 persons. So virulent had been the attacks, that the surgeon to the Odd Fellows' Lodge had during that period no less than 500 patients; and from 150 to 200 prisoners on board the *Justitia* convict hulk had been laid up at a time with the same disease, and nearly the whole of the workmen at the Royal Arsenal. The letter referred at length to the swamps, and the mists that hung over these marshes, frequently obscuring the view of objects scarcely half a mile distant, while other objects in a direction where the marshes did not intervene were clearly visible at the same time at a distance of seven miles. It also stated that every marsh was divided by a ditch that was never cleaned out; and that although the Commissioners of Sewers exacted heavy dues from the farmers, they paid little attention to the drainage, and their chief and only attention was directed to the preservation of the river wall. The communication concluded by a hope that the Commissioners of Sewers would take the whole district under their care. The communication was referred to the committee.

The Drainage of Peckham. — Mr. Phillips, the surveyor, presented a report on the drainage of 87 houses at Peckham, which had been completed efficiently, it was stated, by tubular drains carried along the backs of the houses. The report contained the following passages:—

"The houses had been built and inhabited for a number of years, but were in a most filthy condition from the want of drains: as the basement-floors, areas, back-yards, and gardens were overflowing with soil-drainage, by reason of the adjacent ground being saturated with it from the numerous cesspools, which were quite full and had therefore become useless. During the progress of the work, two, and in some cases three cesspools were found in and about each house, varying from 4 to 8 feet in diameter, 10 feet in depth, and containing, on an average, 12 cubic yards of soil: two of them measured 20 feet in length, 16 feet in width, and 10 feet in depth, and contained together 236 cubic yards of soil. One hundred and eighty-one cesspools were found altogether; the evaporating surface of which was equal to 10,000 feet, and the quantity of soil contained within them amounted to 2,384 cubic yards or single cart loads. The quantity of soil, instead of being bucketed out and carted away, in the usual manner, which would have cost at least one thousand pounds, had been washed away, with-

out smell or annoyance, through the main lines of the sewers; a very large quantity of water having been soon afterwards discharged through the same sewers from the Surrey canal close by. The whole of the cesspools, excepting one of the large ones, have been filled up with rubbish; and that one, which is situate at the head of the main drain, has been paved, well cemented inside, and made into a water tank for the purpose of periodically letting off, with a rush, a large body of water through the drains, which, by so doing, can be thoroughly scoured out.

The eighty-seven houses are drained by main drains or sewers of glazed stone-ware pipes, carried, as before observed, along the back of the houses; the outlet being twelve inches in diameter. Four-inch branch drains, of the same material, lead into the main drains or sewers from all the water-closet pans, area, yard, and kitchen sinks, and rain-water pipes. The main and the branch pipes together measure nearly a mile in length, and the whole of the work, namely, the emptying and filling up of the cesspools, the materials and labour of the drains, sinks, traps, water-closet pans, and the making good of everything disturbed, has been executed at a cost of about 500*l.*, or 5*l.* 15s. per house.

If the same property had been drained under the recent system, large brick sewers would have been laid down in front of the houses; with fifteen-inch brick drains (the size required by the late Surrey and Kent Commission) laid into them from the houses; and the cost of the sewers and drains together would have amounted to 2,550*l.*, or 29*l.* 6s. per house: so that by the plan of draining with tubes laid along the back of the houses, a saving has been effected over the recent system of 2,050*l.*, or 23*l.* 11s. per house; and if, instead of large brick sewers and drains, fifteen-inch pipe sewers had been put down in front of the houses, with separate four-inch pipe drains laid into them from each house, the expense in this case would have been 1,150*l.*, or 13*l.* 6s. 8d. per house, being an excess of 650*l.*, or 7*l.* 11s. 8d. per house, over the plan of back drainage as executed."

The report was adopted.

Reports were also presented from Mr. Lovick and from Mr. J. Lysander Hale, assistant-surveyors, on the cleansing of streets, courts, and alleys by means of the hose and jet, from which it appeared that several of the most offensive courts and alleys in the neighbourhood of St. Giles's had been cleansed and rendered wholesome by these means. A calculation is given as to the time employed, and expense of this operation. To cleanse a court containing 150 square yards occupied 4½ minutes, and the cost of the work was as follows for an area of 1,521 yards:—922½ gallons of water, 2¼d.; four men at 5d. per hour each man, 1s. 0¾d.; wear, &c., of apparatus, ¼d.—total, 1s. 3¼d., or about 1d. per 100 yards. A calculation is also given of the expense for cleansing the parish of St. Ann, Soho, which showed that, taking the paved carriage ways and foot pavements to comprise an area of 64,000 square yards, it might be found sufficient to cleanse 42,000 yards of the parish twice a week, and the remaining poorer part of the parish three times a week. By this arrangement there would be cleansed 150,000 yards per week, which, at 1d. per 100 yards, would cost 6*l.* 5s. per week, or 325*l.* per annum. The parish contains 1,460 houses, and between 16,000 and 17,000 inhabitants; and the cost of cleansing, divided equally among them, would be to each house 1d. per week, or to each inhabitant 4½d. per annum, and this would include the cleansing of the foot pavements, which are never touched by the scavengers.

In reference to the expediency of washing the street soil into the sewers, an opinion is given, that if they are properly constructed, all refuse might be washed into them with great advantages; but by arrangements of proper flushing apparatus in the sewers, the water might be so controlled as to ensure the desired end of removing the deposit, even in sewers very defective.

Proposed Professional Club.—A correspondent says;—with regard to the proposed club, I would beg leave to suggest a "Model Lodging-house" attached, for the convenience of those employed in architects' and artists' offices. The advantages of such a nucleus would be immense. The "Architectural Association," moreover, would do well to pay for their accommodation in the same building. The architectural draughtsmen would then have but a short distance to travel from their study to their bed. The walk out to their business of a morning, and their return, would then be a pleasing relaxation. I venture to hope, therefore, that the hint will be sufficient to prevent its being overlooked by the club-house promoters. Branches might be established in the different large towns, so as to keep up a constant correspondence, and, indeed, form a mighty "family compact."

Miscellanea.

Scenery.—We have had little opportunity lately to continue our notices of scenery and theatrical decoration, little of striking novelty or more than ordinary ability having been produced in this way since the re-opening of the houses for the winter season. The time, however, is coming when we shall doubtless have to record progress. At the *Lyceum*, Mr. Beverley produced a room-scene a short time since, for a piece called, "My Father did so before me," (written to introduce the son of the late John Reeve, of comic memory, to a London audience), which without any pretence or glare, was perfect of its kind. In the revived "Merry Wives of Windsor," now playing there (revived with all that attention to costume and keeping which distinguishes the house), the same artist has introduced some landscape scenes, which are beautiful pictures. At the *Haymarket Theatre*, the decoration of which we justly praised some time ago, a clever landscape has been painted for the new and interesting drama called "The Knight of Arva." The scenery at this house, generally, has been greatly improved lately. At the *Adelphi*, where people laugh so much that they are not able usually to criticize, the Liverpool burlesque, called "The Enchanted Isle," has afforded opportunity for some pretty effects.

The Combustibility of Zinc.—Some remarks on this subject, by a correspondent, have induced us to state more particularly that, although there can be no doubt of the decided combustibility of zinc, which will enflame and burn without either blow-pipes or oxy-hydrogen lights, the degree of its combustibility is very much affected by its purity or impurity. Commercial zinc is not pure zinc, but it is undoubtedly capable of "aiding and abetting" a conflagration for all that—though not of *originating* it. Even in a common candle, impure zinc, in a *thin slip*, will gleam and burn like tinder or touchwood, and be reduced to a mere film of fine ash or oxide, that will blow away in the air like that from paper or cotton cloth. But it must not be supposed that we for a moment object to the employment of this most useful metal in house building merely on account of its combustibility. Only we think it proper to guard against its being confided in as anything like a fire-proof preventive, damper, or check to the power or progress of flames in house burning. It must not be depended on even for moderate strength or resistance at 400 Fahrenheit,—a temperature far below that of its melting point, for it is then so brittle or 'crumbly' that it may be readily reduced to powder.

Mutual Subscription Loan Assurance Classes.—Some effective plan, by which the struggling but rising tradesmen and others might rescue themselves from difficulties and dangers, has long been a desideratum; and we are glad to find such a one at last in the "Mutual Subscription Loan Assurance Classes," introduced under such respectable auspices as those of the "British Mutual Life Assurance Society." The plan is a simple one. Each class consists of twenty-five members, who agree to subscribe sums varying from 10s. to 5*l.* (at their own option) monthly, for fifty months, when of course their portions in the capital stock of the class would be respectively fifty times the amount of their monthly subscriptions. But, instead of waiting until the expiration of that period, each member has the privilege of receiving his portion by *anticipation* under the following provisions:—The aggregate of each month's subscriptions is offered to the immediate acceptance of those subscribers—that is, the extent of all the subscriptions to which they are pledged—who will give the greatest bonus for the priority of the advance, such bonus to be paid in equal monthly proportions extending over the remaining period of duration of the class. It is clear that all the subscribers might be similarly accommodated before the termination of that period; and, in the meantime, the aggregate of the monthly bonuses, with the interest accruing upon them, during each year, is divided rateably amongst all the subscribers; so that, whatever profit may arise from the bonuses bid exceeding the ordinary rate of interest, it returns at the end of the year to the subscribers themselves.—*London Mercantile Journal.*

Projected Works.—Advertisements have been issued for tenders by 2nd January for various works connected with the St. Marylebone baths and washhouses; by 18th inst., for about 270 feet of iron railing for Christ Church, Greenwich; by 18th, for alterations and additions to Cleobury Mortimer Workhouse; by a date not specified, for building a dwelling-house at Wetheral; by 11th, for erecting walls and arches for the Bristol corporation; by 14th, for a supply of stench traps for St. Mary's parish, Leicester; by 18th, for stoneware and other drainage pipes for the Metropolitan Commissioners of Sewers; by latter end of month for deepening, widening, and scouring out the middle level works (St. Ives), and for undermining and re-erecting bridges, making tunnels, culverts, sluices, and other works; by 29th, for the manufacture, erection, and setting to work of an expansive condensing pumping engine, plunger pole, tubular boilers, &c., for the Hull Waterworks; and by 26th, for eighty cast-iron lamp-posts, with wrought-iron lantern frames, &c., complete, for West Derby Township, Liverpool.

Metropolitan Street Improvements.—If what we hear be correct, a good deal of work is being cut out for the building trades in various quarters of the metropolis. The pulling down of a number of houses at Seven Dials indicates, it appears, the cutting forthwith of the new street determined on between the junction of Tottenham-court-road with Oxford-street and Crown-street, on the one hand, and Trafalgar-square at Hemming's-row, near St. Martin's Church, or foot of St. Martin's-lane, on the other. A new street is also about to be formed from the junction of St. Martin's-lane with Long-acre, through Rose-street and New-street into Covent Garden and the Strand. The Duke of Bedford contributes 2,000*l.* towards the cost of this improvement.——New streets are to be opened from Little to Great Tower-hill, and from Tower-hill to Fenchurch-street. Bell-alley, Lombard-street, is to be pulled down and widened. The widening of Cannon-street by setting the houses on the east side 20 feet back, is to be commenced immediately, by pulling down the houses between King William-street and Dowgate-hill. The new thoroughfares from Walbrook to Southwark-bridge, and from the south side of Hungerford-bridge, through Belvidere-road across Manners-street to the York-road station of the South-Western Railway, are to be commenced: and a new street and road are also to be opened from the north side of the East India Dock-road, at Limehouse, in a north-west direction to York-place, in the Mile-end-road, by which the approaches to the Victoria-park will be opened from Limehouse, Bethnal-green, and Cambridge-heath turnpike. Finally, the last remaining portion of St. Giles's Rookery—Church-lane—is to be demolished forthwith; and a new street opened from opposite St. Giles's Church to New Oxford-street. In the midst of all these thorough-going projects, the new street from Westminster Abbey to Pimlico makes but slow progress.

Electro-Telegraphic.—In England, writes an American, you have had frequent opportunities of witnessing the wondrous effects of the electric power in the transmission of details of revolutions, dethronements, wars, slaughters, president makings and unmakings, and the other such news as the neighbouring countries of Europe have provided for the well-ordered wires of the South-Eastern Railway; but it is hardly possible for the mind to realise the enormous extent, capability, and actual results of the electric telegraph of this country. Before twelve o'clock of the night of the presidential contest, the city of New York had returns of the voting in fourteen different states of the American Union; and it is a fact, that before the returns of the city were finally completed and made up, we had accounts from no less than twenty-three states. The returns of the St. Louis election were received in New York about one hour past midnight, by way of Chicago, after travelling, in a few hours, a distance nearly equal to a voyage across the Atlantic Ocean from Liverpool to New York. The clerks employed are all first-rate. American energy is no mere fable; and the electric telegraph may in truth be termed the nerves of the American republic.

Turn-out of Stone-masons on the Liverpool and Bury Railway.—For the last six or seven days the masonry work on this line has been suspended, in consequence of a strike amongst the masons. We understand that a short time ago their wages were reduced by Mr. M'Cormick from 5s. to 4s. 6d. per day, which they, considering the season of the year and the depression in trade, consented to agree to. Since that time another reduction has been attempted, to which the men would not consent to submit, and they, consequently, struck to the number of near 180. Of course, as we have before said, the masonry work in this district has been entirely suspended for more than a week, until yesterday, when a guarantee from Mr. M'Cormick for 4s. 6d. per day was granted, and they all returned to work. —*Wigan Herald*, of Saturday.

Conspiracy of Stone-masons.—Mr. Trego's dispute with some of his workmen is still in the Central Criminal Court, and as far from settlement as ever. The case has been twice before the recorder during the present session. On the first occasion it was postponed, after counsel for the workmen had, in their name, repudiated the attempts by one or two of their union members or party to intimidate other workmen from working to Mr. Trego,—acknowledged the illegality of such attempts,—and acceded to a suggestion of his lordship, the judge, that the prosecutor, Mr. Trego, who was absent, should be consulted as to his willingness to adopt an extrajudicial course that would render further judicial proceedings unnecessary. On the calling of the case on Monday last, Mr. Trego's willingness to accede to this suggestion was announced, on the merely formal condition that the defendants enter into their own recognizances to appear and take their trial if called upon, on the understanding that if no further illegal proceedings took place, no such notice would be given. To this condition counsel for the defendants, on their behalf, agreed, and the case was about to be closed on this friendly understanding, when, to the astonishment of the whole court, their own counsel and all, the defendants, when called on to enter into their own recognizances, refused to do so, one or two of them, in an excited manner, insisting on being tried. In these circumstances the recorder warned them that "on a certificate of the existence of the indictment against them, they would all be liable to be taken into custody upon a bench warrant, and would have to find fresh bail, which, after what had taken place that day, they might find some difficulty in obtaining," but in the meantime made no order with regard to a renewal of bail security. He enlarged the recognizances of the prosecutor, saying, that he must prosecute next session in any case where a defendant insisted on being tried.

The Journeymen Joiners of Glasgow have issued an address to the master joiners, wherein, first deprecating the existing want of kindly feeling between employer and employed, and the opinion that their interests are at variance, they say:—"With the view of promoting a feeling of good will among ourselves, we have for several years past held annual social meetings of our body, confined more particularly to ourselves and our families, and have found both profit and pleasure from such meetings, believing them to be well calculated for cultivating the best feelings of the heart toward one another. But our desires have a wider scope, and we feel convinced that the object of our meeting would be greatly promoted were we favoured with the presence of our employers, thereby affording both classes an opportunity of mingling together in a social way, and forgetting the difference of circumstances between them, give expression to those feelings of good-will and deep interest to each other's prosperity which we wish to cultivate, and which we are certain our employers would also wish to cherish." They therefore invited the presence of their masters at their seventh annual *soirée*.

British Museum.—A specimen of mosaic pavement has been placed in the national collection at the British Museum, in the passage leading to the gallery of Xanthian Antiquities. It is about 8 feet square, and was found in the ruins of Carthage, on the spot assigned as the site of the Temple of Neptune, and was purchased by the trustees of the Museum.

Fac Similes of Busts and Sculpture.—A mechanical process is said to have been invented at Paris, by M. Collas, whereby accurate copies can be taken to any size of even the most elaborate pieces of sculpture. Copies of Michelangelo's Apotheosis of Augustus, 7 inches high, thus taken, are said to be wonderful productions.——Mr. James Gall, of Edinburgh, long the indefatigable honorary secretary of the Royal Physical Society there, is also said to have discovered a method of taking a strictly accurate likeness in form of a bust, by means of a mask of so peculiar a kind, that sitters are able even to read at ease while the mould is being taken, and which is so light, that not a feature is falsified by its weight or pressure. We are not told what the precise nature of the substance is, but we shall venture to guess that his friend Dr. Simpson's invention of the Samaritan oil of gutta percha dissolved in chloroform, for pouring into wounds, has something to do with it. The chloroform evaporates in an instant, leaving a skin of gutta percha, which, repeated until thick and resistive enough, would form a *mask* which, at all events, we will venture to say, Mr. Gall's will not excel in either lightness and delicacy, or convenience and comfort. He, too, it appears has invented a mechanical process, or machine, for reducing a full-sized bust with mathematical accuracy to a miniature size, and if so, surely also sculpture, as in the case of M. Collas's process. We recollect, by the way, a rumour, many years since, that a Parisian had invented a machine for copying sculpture, or taking likeness-busts, which consisted merely of a crop, as it were, of needles or fine wires, so fitted into a frame, that on pressure towards the face or other object to be copied, they yielded to the form, and were then screwed tight, or fixed in the form or mould so taken, which served the purpose of a mask for reproduction of the bust or sculpture. There was here no reduction of size, however, spoken of, but that we should think was quite possible too with a modification of such a machine.

Learn to Labour.—I send you herewith an indenture of an apprentice, dated 2nd September, 1677, for a servant girl, for nine years, to be taught the art and wards of good housewifery, one Elizabeth Cutler, of St. Margaret, in Westminster, to Abraham Head and Jane, his wife; all necessaries to be provided, and double apparel at the expiration of the term. By this you will see that even good housewifery was thought worthy of being learned for a period of years, and doubtless the practice produced what is much wanted now, good servants, not above, and yet fully understanding, their duties. When I see so much written about short hours and improvement of the mind for men advanced in life, I cannot but think much more would be done for the good of society if there were more care taken in the education of young persons, and the immediate advantage of money obtained less of the anxiety of those classes necessitated to labour. As to labour, there is no crime in it, and every one ought to consider that honest industry in any occupation is praiseworthy, and it is a very mistaken notion that one trade or calling is more respectable than another. When a great nobleman was elected by his townsmen to the office of scavenger to degrade him, his reply is worthy of remembrance—"I will make the office respectable by the manner of my executing it." Pray try to convince working men that ten hours' labour a-day is no hardship; they work much longer even in the most free country in the world, the United States of America. L.

Mr. Ward's Painting of the Alderney Bull, &c.—A painting, the size of life, of the celebrated Alderney Bull, Cow, and Calf, by Mr. James Ward, R.A., is now being exhibited at the Baker-street Bazaar, in connection with the Smithfield Cattle Show. It is a very fine work of its kind, and deserves a visit.

The Metropolitan Association for Improving the Dwellings of the industrious classes have appointed Mr. W. Beck their architect. We gave the list of tenders lately for carrying out his plan, reviewed by us with other plans in competition a short time ago, but the name of the architect did not appear.

Religion and Art.—When, after the long period of darkness which followed on the decline of the Roman Empire, the fine arts began to revive, the first and for several ages the only impress they received was that of the religious spirit of the time. * * * The first great object to which reviving art was destined, was to render the Christian places of worship a theatre of instruction and improvement for the people; to attract and to interest them by representations of scenes, events, and personages, already so familiar as to require no explanation, appealing at once to their intelligence and their sympathies; embodying in beautiful shapes (beautiful at least in their eyes) associations, and feelings, and memories, deep rooted in the very hearts, and which had influenced in no slight degree the progress of civilization,—the development of mind. But, if I have not much sympathy with modern imitation of mediæval art, still less can I sympathize with that narrow Puritanical jealousy which holds the monuments of a real and earnest faith in contempt: all that God has permitted once to exist in the past should be considered as the possession of the present; sacred for example or warning, and held as the foundation on which to build up what is better and purer.—*Mrs. Jameson.*

Leicester-square.—The injunction to restrain the possessor of the open area from building has been confirmed, and now stands as—"an injunction to restrain the defendant, Moxhay, his servants and workmen, from converting or using the piece of ground and square garden, Leicester-square, and the iron railings round the same, to or for any other purpose or purposes than as a square garden and pleasure-ground in an open state and uncovered with buildings."

Mr. Sydney Cooper.—Sometime in November, 1831, Mr. Cribb, an ornamental gilder in London, was struck with a small picture—a cattle piece, in a shop window in Greek-street, Soho. On inquiring for the artist, he could learn no tidings of him; but the people of the shop promised to find him out. Time after time our persevering lover of the arts called to repeat his inquiries, but always unsuccessfully, until about three months after, when he found that the person he sought was a Mr. Thomas Sydney Cooper, a young artist, who had been for many years settled at Brussels, as a drawing master, but had been driven from that city by the revolution, which had deprived him of his pupils, among whom were some of the members of the royal family; and, unable to obtain employment in London as a cattle painter, he had, with the generous self-devotion which most ennobles a man of genius, supported his family by making lithographic drawings of fashionable caps and bonnets; I suppose, as a puff for some milliner, or some periodical which deals in costumes. In the midst of this interesting family, and of these caps and bonnets, Mr. Cribb found him; and deriving, from what he saw of his sketches and drawings, additional conviction of his genius, he immediately commissioned him to paint a picture on his own subject, and at his own price, making such an advance as the richest artist could not scruple to accept on a commission, conjuring him to leave off caps and bonnets, and foretelling his future eminence, Mr. Cribb says he shall never forget the delight of Mr. Cooper's face when he gave the order—he has the right to the luxury of such a recollection. Well, the picture was completed; our friend, Mr. Cribb, who is not a man to do his work by halves, bespoke a companion, and while that was painting, showed the first to a great number of artists and amateurs, who all agreed in expressing the strongest admiration, and in wondering where the painter could have been hidden. Before the second picture was half finished, a Mr. Carpenter (I believe that I am right in the name) gave Mr. Cooper a commission for a piece, which was exhibited in May, 1833, at the Suffolk-street Gallery; and from that moment orders poured in, and the artist's fortune was made. It is right to add, that Mr. Cooper was generously eager to have this story made known, and Mr. Cribb as generously averse to its publication. But surely it ought to be recorded for the example sake, and for their mutual honour.—*Belford Regis.*

LONDON MECHANICS' INSTITUTION.—We are asked to mention that a concert will be given here on the 12th, and willingly do so on this ground—namely, that the proceeds are to be applied to the purchase of scientific books for their library. The programme is a good one.

TENDERS

For the ornamental plasterers' work, &c., to Octagon Vestibule, University College, to be called "The Hall of Flaxman." The quantities supplied. Mr. Donaldson, architect.

Beltman	£1,163	2	0
Grimsdell	1,102	0	0
Chapple	1,075	18	8
Blanchard	992	0	0

For erection of dwelling-house, offices, stabling, and sheds, in Green-Dragon-yard, for the Commissioners of Paving, St. Giles's and St. George's, Bloomsbury.

Thomas	£1,754	10	0
Bassett	1,725	0	0
Treharne and Son	1,697	0	0
Smith and Son	1,658	0	0
Holland (accepted)	1,449	0	0

TO CORRESPONDENTS.

Received.—"Sir W. J.," "E. S." (yes), "J. B." (Westminster), "J. G.," "J. A.," "Houses, Bristol," "F. M.," "G. F. J.," "J. N. H." (we are unable to give it), "T. C. T.," "S—s," "S. G." (we must repeat that we cannot point out books), "J. J. L." (scarcely within our province), "E. S. C." (we have not time to refer), "An Architect," "Old M. P.," "Sir H. D.," "D. R.," "J. W.," "J. J.," "R. F.," "N. F.," "S. G.," "J. K." (Dublin), "J. G." (next week), "S. D." (we do not know), "E. H." (report not desired), "E. N." (simply receiving the key before rent is due will not prevent the recovery of the rent when it is due), "G. J. R.," "Quondam," "J. P. W.," "Subscriber" (though not a freeman, may execute the work there).

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

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MR. EDWARD is desirous of meeting Gentlemen who require Coloured Architectural Designs, Perspectives, &c., to undertake either, style at moderate terms. Mr. E. further begs to state that he makes a consideration in his charges, should the competition prove unsuccessful.—Address, Mr EDWARD, 15, Woodstock street, Bond street.

UNDER an ASSIGNMENT from the SHERIFF of MIDDLESEX.—To Builders, Plumbers, and Others.—To be SOLD, by PUBLIC AUCTION, on the PREMISES, WORK ON SALE—4 Cocks, 20s. per dozen; ½, 22s.; ¾, 17s. Pan Closets, complete, with white basin, 27s.; 24 Lift Pumps, of 2½ to 3 in. bore, 8s. Best Spring Valve Glass, the basin, complete, 2l. 10s. Every article warranted best London manufacture. Apply, Mr. JAMES REID, 30, Brownlow-street, Drury-lane.

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THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature but are always pliable and flexible; require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length required. Vulcanized India-rubber garden hose-pipe with screw-caps, copper branch and rose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LAYNE HANCOCK, Grosvenor mews, Grosvenor road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot water and steam pipes, and Vulcanized sheet rubber any thickness for all kinds of joints, and other purposes

FIRE-PROOF BUILDINGS—PORTER'S PATENT.—By the mode of constructing IRON BEAMS, FLOORS, PARTITIONS, ROOFS, &c., just patented by JOHN HENDERSON PORTER, Iron Building and Roofing Works, Southwark, buildings of every class may be rendered FIRE-PROOF, without the addition of not more than an increase of weight, and will scarcely exceed in cost those of the common construction. Estimates furnished, and contracts entered into, upon application to Mr. PORTER, at the Office, 9, Adelaide-place, London-bridge, City

BUILDINGS may now be CONSTRUCTED FIRE-PROOF WITHOUT INCREASING THE COST OF ERECTION.

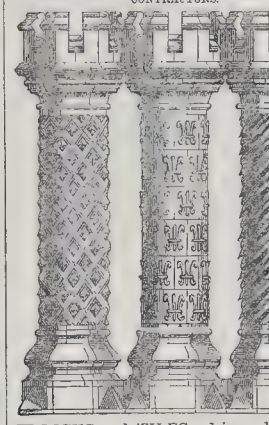
The attention of the public is especially directed to a NEW METHOD of CONSTRUCTING the FLOORS, CEILINGS, and ROOFS of DWELLING HOUSES and other buildings, invented and recently patented by Dr. FOX, of Nash-mouth, Bristol, by which they are rendered PERFECTLY FIRE-PROOF, and secured from the annoyance of vermin, and the baneful effects of dry-rot. This invention has been subjected to the test of more than fourteen years' experience, in an extensive lunatic asylum, erected by the patentee in the county of Gloucester, and unites greatly increased strength and durability with the above advantages, while the principle of construction is so perfectly simple and effective, as to preclude all liability to failure. For PUBLIC BUILDINGS of all kinds, for WAREHOUSES where valuable property is deposited; for MANUFACTORIES where hazardous business is carried on; and for all buildings which are subject to heavy rates of fire insurance, as well as for PRIVATE MANSIONS and DWELLING-HOUSES generally, this system is most admirably adapted, affording complete security to life and property. The expense is not trifling less than any other system of fire proof building, and does not exceed that of the ordinary mode of construction with timber. There is also considerable economy in capital, as the FIRE PROOF ROOFING, which effects a saving of from 20 to 30 per cent. The usual fire-proof, Further particulars may be obtained, and the flooring seen, on application to the patentees, Messrs. FOX and BARRETT, Leicester Chambers, 26, Leicester-square.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

RADIATING BRICKS for Arches, which are not so much required, sounder, and cheaper than gauging, rubbing, picking bricks and batts together, and will supersede the necessity of building over them in single brick rings, which, leaving no granulating bond of union, when any settlement or reaction takes place, down they fall. T. SANDERS will engage to make bricks suitable for all kinds of work, and erect any buildings therewith by contract.—ELIGIBLE FREEHOLD BUILDING GROUND, at Clabham, 3½ miles from Regent-park, having 70 feet to the frontage, by 270 feet deep, TO BE LET for seventy years on building leases, or TO BE SOLD in lots.—Enquire of T. SANDERS, Tottenham.

FIRE BRICKS.—WARD and HART, Hondurus Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Iron Founders, Smiths, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Water Beach Oven Tiles, Par Flour, Bridge, and Paving ditto, Moulding Sand, House sand red and white, River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c. Chimney pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.



BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Lonsdale's estate at Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth, near Waterloo-bridge, consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, dressings for windows and doors, mullions, plinths, skirtings, &c. Also arches and paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 299 and 301, of "The Builder"

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
79, York-road, Lambeth; and 28, Cross-street, Blackfriars-road

TO THE OWNERS OF SAW MILLS, PLANTATIONS, and Galleries; to Builders, Millwrights, Engineers, &c.

IMPROVED CIRCULAR SAWS, Upright Saws, for timber and deal frames; Patent Tempered Machine Plane Irons, saw files, improved engineers' files; Patent Tempered Machine knives, and cutters of all descriptions; also the Improved Stitching and Countersunk Pump Pipes, with gas-tack, by BLAKE and PARKIN, the Meadow Steel Works, Sheffield.

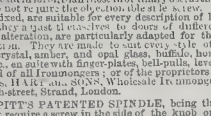
TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WE have pleasure in calling your attention to our REGISTERED CUPBOARD TURN, the novelty and simplicity thereof being universally acknowledged. It possesses the important advantage of a stop cone, a tongue, and projecting shelf to any thickness of door; the cost being scarcely if any more, than the ordinary turn, added to its utility, it will we flatter ourselves, supersede any yet introduced.

WEBB and GREENWAY, Manufacturers and Wholesale Ironmongers, York-street, Birmingham.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.



HART and SONS beg to invite the attention of architects, builders, and others, to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are constructed more durable, and more elegant in form, than those in ordinary use, as the spindles, being loose, do not require the elongation that is fixed ones. They are more readily fixed, are suitable for every description of lock now in use, and, as they cannot be drawn out of position they are to all intents and purposes, self-adjusting. They are made to suit every style of decoration in China, crystal, amber, and opal glass, buffalo, horn, ivory, ebony, brass, &c., en suite with finger-plates, bell-pulls, levers, &c.—May be obtained of all ironmongers; or of the proprietors and sole manufacturers, HART and SONS, Wholesale Ironmongers, 33, 34, and 35, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any less furniture without such side screws would be an infringement of the patent.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding crown in all exposable situations. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and on the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quantity required. To encourage the use of Plate Glass for glazing purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 3-8ths, ½, ¾, and 1 inch thick.
London Warehouse, 99, Hatton-garden, Holborn.
H. CHRISTIE, Agent.

WINDOW GLASS. — THOMAS MILLINGTON solicits an inspection of the different GLASSES he has now in stock, the qualities of which will be found to be very superior.—87, Bishopsgate street, Without.
NEW TARIFF.—Sheet in various large dimensions delivered free in London.

Common in 100 feet cases			20s. 0d.
Do.	200	do.	38s. 0d.
Thirds	200	do.	43s. 6d.
Seconds	200	do.	66s. 8d.
Best very superior do			100s. 0d.

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

¼ thick	1s. 0d.	½ inch	2s. 0d.
3-8th inch	1s. 2d.	1 inch	3s. 0d. per foot.
¼ inch	1s. 6d.		

PATENT ROUGH PLATE TILES

¼ thick	0s. 11d.	3-8th inch	1s. 7d.
½ inch	1s. 3d.	¾ inch	2s. 0d. each.

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice

C C Crown per crate 18 tables			£1 16 0
C C	do.	do.	2 0 0
Fourths	do.	do.	2 7 0
Thirds	do.	do.	2 2 6
Large Crown Squares in 100 feet boxes			24d. per foot.
8 by 6 — 10 by 8		do	30d. do.

Very superior Plate for Pictures and Windows, averaging 26oz from 1s. 6d. per foot upwards.

SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:—

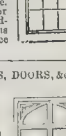
Thirds Crown, per crate 18 tables			£3 2 6
Fourths	"	"	2 7 10
C C	"	"	2 1 0
C C C	"	"	1 18 0
Horticultural, 13 oz sheet, per crate, 24d. per foot.			
Fourths,	ditto	ditto 24d.	"
Horticultural, 16 oz ditto,		ditto 24d.	"
Fourths,	ditto	ditto 3d.	"
Horticultural, 21 oz. ditto,		ditto 4d.	"
Fourths,	ditto	ditto 5d.	"
Patent,	26 oz ditto,	ditto 6d.	"
Ditto,	33 oz. ditto,	ditto 8d.	"

Ornamental Glass of very superior patterns, from 1s. 2d. per super. foot, cut to order; and in stock a cheap tariff for Patent Plate at the lately reduced prices, will be forwarded upon application

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate ¼, ⅜, ½, and ¾ inch thick.

CHAS. WM. WATERLOW,
MANUFACTURER
of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Frames, Sashes, Casements, Shutters, Sash, Glazed Goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

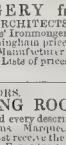




SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK,
1, Amwell-street, Clerkenwell, near the New River Head.
Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country. A full list of prices forwarded by return of post, to any part of the country.





NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLAYTH, Patent Cut Nail Manufacturer and General Factor, Pinson-street, Birmingham. Lists of prices forwarded upon application.

BUILDERS AND CONTRACTORS.
TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead, STEPHENS'S PATENT LIQUID WOOD, as a SUBSTITUTE for PAINT, for decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 51, Stamford street, Blackfriars-road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent-garden, London; at both which places may be had the proper Varnish and Size, with directions for their use.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 9, South Wharf Road, Bayswater. Works at Strat[illegible]-on-Avon and Penarth. STRONG YARD DRAIN PIPES, in hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cements, Plaster, &c., Works, HITCH STREET, Pimlico. SOLE Consignee for Atkinson's Cement.—Cement Chimney pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth, No. 1, Jerusalem Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &c.

PARIAN CEMENT, for internal Stucco, instead of PLASTER OF PARIS, may be painted and papered with the best results immediately after the work is finished, and will not be affected by damp. It is as cheap as Plaster, without the slightest difficulty. A finer quality is also prepared for ornamental plastering, or enamelling, painting, &c. Specimens of the Manufacture of the Patentees, HAY FRANCIS and SONS, Cement Works, Nine Elms, London.

KEENE'S PATENT MARBLE CEMENT forms a very hard and indestructible Stucco, which may be used for internal or external purposes, and is susceptible of a high polish, and is capable of receiving the most delicate tints and veinings.

It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, and for which purposes it is peculiarly adapted. Keene's Patent Marble Cement is also recommended for Internal Stucco of Verandahs.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Mill Wall, West India Dock Road, and Seel street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS respectfully refer to Nos. 280, 1281, pages 161 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a similar nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 280, page 161; and also Nos. 284 and 285, pages 341 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, crystalize, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the access of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Co., at the Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also at their Wharf, Dock Head, Bermondsey, Surrey.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is invited to the many advantages attending the use of these celebrated Materials, which, for their appearance, durability, imperviousness, strength, freedom from vermin, and cheapness, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shewn by the numerous testimonials they have received from eminent architects and others, and which may be seen at the Patentees' Warehouse, which has been removed to No. 2, Great PHILIP ALLEY, at the Warehouse, 22, Stedyard, Upper Thames-street.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT, REDUCTION of PRICE.—The Patentees are to call the attention of the Public that they can execute ornaments which can be cast to order this day, and delivered the next, at a price much less than has been usually charged for similar works, and has obtained for which a premium of £100 was awarded by the Society of Arts, &c., in 1847, and which is now in use in the Houses of Parliament. The Patentees, however, feel sure they will be enabled to make arrangements with the public generally, that will meet their views, and the small amount of the cost, as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STAREY and SON, at their Depôt, 3, Bridge-street, Westminster, London.

TODD'S PATENT METALLIC PEROXIDE PAINT, for Stucco Fronts, Brickwork, Iron Work, and every description of Painting. This Paint has been most highly tested, and found to be of a most durable character for use and has been most favourably noticed under the specification of Mr. Todd, by the Commissioners of the great exhibition of 1851, and by Professor Faraday. Mr. F. Todd, Patentee, 24, Dean-street, Soho, London.

PATENT MINERAL PAINT.—After three years' trial on the Stucco and Brickwork of many houses, this PAINT has proved itself superior as a preservative from damp, as well as the cause and effect of dry rot, to any of the celebrated Liquid Compositions and Paints hitherto introduced for the same purposes, and is now sold at a much reduced price, viz., in casings of 5 to 9 gallons. Brilliant black, 5s. per gallon; [illegible] 6s. per gallon.

IMPERIAL PATENT LIQUID CEMENT.

This valuable Cement possesses the property that it will dry hard as stone, and may be laid on with a brush like paint or whitewash, and forms a perfectly durable coating for Brick and Stucco Walls, Cisterns, Roofs, &c., and is a cheap substitute for Tiles, Slates, Lead, &c. It has been used for a few years, and possesses the requisite properties of the Welsh as well as Roman cement. Sold in casks of 5 gallons and upwards, at 1s. per gallon, by the Patentee, GEORGE LEAK, Oil and Colour Merchant, 16, Parish-lane, Chelsea.

COOZE'S IMPROVED MARBLE PAPERS. The Trade are supplied with these beautiful Papers, which are the sole invention of W. W. COOZE, Decorator to her Majesty. They will be found fully equal, in effect, to painting, at a considerable saving of expense. Mr. C. invites an inspection at his Manufactory, 20, Frith-street, Soho-square, where also may be seen specimens of every style of decoration which can be executed in Paper Hangings, and will furnish estimates for the same, in addition to any part of the United Kingdom. 20, Frith-street, Soho-square.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so-Lately an Inspection of his various DECORATIVE and other Hangings on the walls of the extensive range of Show Rooms, for that purpose, where each subject is arranged in a series of Paper Hangings at the cost per piece stated for best medium paper. The Plain and French Papers are the best Article, and where may be had a large assortment of a recent and very Continental Paper-hangings always on hand—Builders and large Consumers are particularly invited to the Show Rooms.

ENGLISH AND FRENCH PAPER HANGINGS

MESSRS. MARKS and CO., French and [illegible] beg to call the trade, that their [illegible] for the commencement got together and produced a [illegible] section of PATTERNS, English and French, for [illegible] at prices ranging from 6d to 6s per piece. Messrs. M and Co. are [illegible] to supply country Warehouses, [illegible] and Ironmongers, is requested at the French and English Marbles and Granites.—A large stock of

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, FOLKESTONE'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers in Contract may be supplied with the best bitumen for covering bridges and arches.

ANSTONE STONE WHARF, STANGATE.—Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which can now be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained. August 26, 1848.

ANSTON STONE, used for Building the New Houses of Parliament. W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at the Marble and Stone Wharf, Homefield-basin, Maiden-lane, King's cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27 Burton-crescent.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse

P. FOUCARD, and des Abattoirs Caen (propriétaire des Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, on the above-mentioned wharf, 50,000 feet of the best stone ready to meet the demands of purchasers.—Contracts taken for any quantities.

Orders received by Mr. BASCHET, at 26, Stoney-street, Borough Market. Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.— LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Palaise, Normandy, beg respectfully to invite attention of Archæologists, Architects, Engineers, Surveyors, Builders, and others to the above Caen Stone (so well known to the special use of Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. L. B. and Co. have for many years supplied large quantities to various parts of the continent for public works, light-houses, &c., and more lately for the Royal Engineers. Orders executed to all parts of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Buffarenge Wharf, Rotherhithe, where samples and information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the truest accuracy and truthfulness.

FONTS from £3 upwards

MONUMENTS and TOMBS in great variety of design

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Stock.

Stone-box Chimney-pieces, from ..... 19s.

Vein-Marble ..... 40s.

RESTORATIONS executed in which Branch S. C. has had considerable practice. Dairies fitted up, &c. &c.

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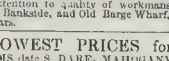
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TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"GENTLEMEN,—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the public portion of the new edifices of the House of Peers, and only regretting that the Law Courts at Westminster, that I am enabled to make the most favourable report of concerning it, and to say that it has more than justified the favourable terms in which I recommended it to the Right Honourable the Commissioners of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

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(Signed) "J. B. SERNY, M.D.,

"A Senior Member of the Royal College of Chemistry, Senior Physician to the Spinal Institution, and Author of the 'Treatise on Local Inflammation, Spinal Curvature,' and Contributor of the Articles on 'The Evidence of Two Electric Fluids,' 'The Structure of the Nerves and the Nature of Light'—*Lancet*.

"9, Nottingham-terrace, New-road, October 7, 1848."

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The Builder.

No. CCCVI.

SATURDAY, DECEMBER 16, 1848.

THE opinion that modern feelings, purposes, and wants, are to be made subservient, in the erection of modern buildings, to adherence to an ancient model, —that we should not express our own aspirations, but mould or affect feelings and views to suit ancient utterances,—that we should copy instead of think,—that instead of endeavouring to produce the best building for our purpose, with the best materials at command, we should make the best possible imitation of some preceding work, produced, though it may have been, under entirely different circumstances,—is, we are happy to say, becoming loosened, and, there is little doubt, will gradually be given up. Mr. Fergusson's new work, his "Historical Inquiry into the true principles of Beauty in Art, more especially with reference to Architecture,"* will do much to hasten this; and, by so doing, to restore architecture to its proper position as a fine art amongst us. A general notion of the tendency of this book has been already given in our pages: it wars with prejudices; answers the question we have so often put—"Are architects only to copy?" with a smile of wondering contempt for the deep absurdity of such an inquiry; pooh poohs symbolism; disbelieves both classical and mediæval perfection; condemns the miserable mis-education of the upper classes; and maintains that, as a consequence of this, there is not that he is aware of "one single individual in the upper ranks of society who really knows what art is, or is seriously anxious for its advancement!" It is a bold book, a very bold book, but withal is written in a humble spirit, and so earnestly that the reader can scarce do other than attend and respect, however much he may dissent or be startled. Seeing our superior standard of morality as compared with that of the Greeks; that our religion is nobler and purer; the extent and solidity of our phonetic knowledge, and other higher and purer sources of inspiration than former ages had any suspicion of, it pains the author—the reader can see it pains him—to find them cast aside, unused for the noble purposes they are so well fitted to promote, and their place supplied by mockeries and absurdities which degrade the name of art, and lead men to believe that it is only a hollow bauble, or a pander to our lower sensual propensities. The true object of art is to teach, to elevate, to win man to goodness, to bring him nearer to divinity,—and not simply to provide amusement for barren minds.

To rescue our arts from their present state (our author takes even a worse view of them than we do), is the writer's aim, and the principal points to which he wishes to direct attention are these:—

"The first is to restore to art its progressive vitality, or, in other words, to give up all imitation of past styles (?), and to start at once with the determination to surpass all that has hitherto been done, and to progress towards a degree of perfection that has not hitherto been reached.

The second is to enlist a higher order of minds in their practice, or at least a higher class in society than has hitherto condescended to interfere with them.

The third is to fit them with some higher aim than merely to please the *dilettante* or the connoisseur; for they must teach and elevate, or themselves suffer degradation." This, however, is taking our readers too suddenly into the middle of the book; we should first give them the author's general intentions, and for these we must turn back to the preface.

The work when completed will have three parts. Part I., which alone forms the large and handsome volume now published, consists of an introduction (involving the whole gist), an Essay on Egyptian art; on Western Asiatic art; on Grecian art; on Etruscan art; and finally, on Roman art; and is illustrated by five plates and ninety-nine woodcuts.

Part II. is intended to contain Essays on Eastern Asiatic art, Mahomedan art, Byzantine art, and Gothic art, up to the Reformation. The third part is to consist, first of "a history of the *monkey* styles of modern Europe, from the time when men first began to copy, instead of thinking, 'till the present time, when they have ceased to think, and can only copy—including all the variations of that strange art, from Seville and Sicily, to Stockholm and St. Petersburgh, together with a critique on the modern schools of art; and lastly, practical suggestions for their improvement."

At the "monkey" styles, although their connected history is left for the last part, the writer constantly glances throughout the present volume. Thus, in speaking of the amount of true history given us by the temples of Egypt or Greece, or our Gothic cathedrals, he says,—

"The buildings and works of art of a people are produced by themselves to tell their own tale, and neither are nor can be falsified by time or the errors of copyists, but stand as left by those that made them, with the undying impress of their aspirations or their shortcomings stamped by themselves in characters of adamant. We may not even now be aware of their importance in this light, because our system differs so totally from theirs, and few can get so thoroughly out of the prejudices of the present age, as to be able to look with different eyes on the past. If, for instance, a philosophical historian were to go into one of our modern towns, and attempt to apply the same rules of art to them, he would in one corner find an edifice that would convince him of our direct and unadulterated descent from the Greeks; a little further on he would find that at least a large class exhibited as pure a descent from ancient Rome; a little further on he would find a large building in course of construction that shewed no trace of these races or styles, but proved us to be true Britons, only that we had remained perfectly stationary since the fourteenth century; and this again would be corrected by finding according to another building we had not progressed since the twelfth century: in another street he would discover that we were Egyptians, Chinese, Turks, or Heaven knows what. No rule of true art will apply to ours. Yet there is history built into the walls of our edifices, as well as into those of antiquity; but it is the history of a nation that neglected all the true forms of the beautiful, and were earnest only in the pursuit of the most literal utilitarian utterances, and who were in consequence content to imitate, like monkeys, without understanding what they were doing, or why they did it, what men, using their intellect as such, had elaborated, with half our means, out of the rudest materials."

If artists once felt the degradation inherent on their present servility of copying, and were emancipated from this thraldom, he has little fear of the arts attracting a higher class of intellect than has hitherto been applied to their cultivation, and then that earnest search after the beautiful by men of a high class of intellect, could not long be carried on without the discovery being made of the direction in which it is to be sought after, and where it certainly would be found by those who seek it in truth. What is wanted is *poetry* in the mind of the artist,—poetry with which to invest the merely utilitarian, using the latter word in the confined and vulgar sense of the day, which blindly sees not the usefulness of beauty.

From those who insist on the depressing influence of the "reformation" on art, Mr. Fergusson differs wholly. "I have the strongest faith," he says," "in the common sense of the Anglo-Saxon race, and in their power to excel in art, as they have done in everything else which they have tried in earnest. And I have a still sterner and stronger belief in the superiority of honest Protestant Christianity, as compared either with Pagan classicality, or mediæval Romanticism, and cannot for one instant doubt the triumph of the former when it puts forth its strength."

He thinks that if the present race of architects were only freed from the trammels of a false system, they could easily do more than their forefathers ever did: they surpass them in knowledge, education, and refinement, "but they are now groping about blindfold, and attemping impossibilities, of course only to fail. To me," he says, "they seem like men fishing for stars, whose reflection they see in the stagnant waters of a former world." How they "got into so wrong a path, or can hug so absurd a mania," would be unaccountable, the writer thinks, "did we not know how all-powerful such an extended organization as that of the English universities and the schools under their charge and influence is, and must be, for the mis-education of the upper and most influential classes of the nation. It has been so effectual, that it has not only served to extinguish almost every race of native and progressive fine arts, and to endow us with a revival of a fossil and exotic one, totally at variance with our wants and purposes, but it has completely blinded us to what the true processes of art are, and the modes in which they should be cultivated; and till we know at least what the tools and processes are with which we are to work, it is indeed vain to hope that we can effect anything worthy of us."

Our author, in his anxiety to destroy the precedent-rule, and to shew the miserable state to which it has brought our art, goes further than can be justified, and overlooks much that is gradually going on amongst us. "To give up all imitation of past styles," for example, as he urges, would be to throw away from us the result of accumulated efforts, and to go back to the primitive hut-builders. The history of architecture is that of a continuous progress, the first step helping to the second, the second to the third. The altar built by Moses with the twelve stones about it, needed little elaboration to result in the temples of the Egyptians. The works of the latter people were

* Part the First. Published by Longman, Brown, Green, and Longman, Paternoster-row, 1849.

the foundation on which the Greeks erected their magnificent superstructure, and from the Greeks the Romans took their lesson. At Byzantium, Roman architecture, "with a difference," was practised, and the growth of the wonderful cathedrals of the middle ages out of Byzantine germs may be examined in every stage of progress.

Again, without in any way denying the baneful influence of a bad system and want of proper education on architecture, or ceasing to regret the want of proper progress, something is nevertheless being done, and an architecture, such as it may be, is being produced among us that, like the path up the mountain side, which to those upon it spreads hither and thither, and is scarcely to be traced, will be seen clear and well defined when viewed from a distance. Our labourers' model cottages, railroad stations, viaducts, lunatic asylums, prisons, workhouses, baths, residences, banks, are for the most part genuine expressions of the wants and views of the day,—the result of progressive accumulations of experience. The principle of real beauty, it is true, is but slightly developed in these, and thus they faithfully tell the feeling of the age, but here nevertheless is a distinctive frame-work which art may clothe, and consecrate to our century. Anxiously do we look to have this done, and to find in our artists a higher aim than that of copying as correctly as possible: "Freedom and hope are the first true principles of greatness in art, as in every thing else; and servility, and despair of doing better than has been done before, must cramp the noblest genius and hide the highest aim."

Our readers will find both pleasure and profit in the perusal of Mr. Fergusson's powerful and interesting work.

THE GERMAN SCHOOL OF PAINTING.

The reproduction of the German theory on the subject of the study of antiquity in your columns is a topic so important to the future welfare of art, that nothing less than a full investigation of its claims to public support ought to be satisfactory to those who adopt it. It is, therefore, without apology that I venture to address you again, not so much to contradict as to qualify the statements upon which that theory is based.

Madame de Stael, in her "Germany," very truly states that the German dominion is "the air." No German can eat, or drink, or sleep, without a theory. That enthusiastic people has ever been remarkable for brilliancy of imagination and depth of intellect, but not for soundness of judgment. It was, therefore, natural at a time when the revival of art at Dusseldorff and Munich took place, that it should be accompanied by peculiar notions, and a new theory of the beautiful. The theory was shortly, as stated by your correspondent, "An Artist," much to the following effect, viz., that the character which forms the strength of nations, as well as of individuals, is a gradual and natural development of the powers of man, which ought to be suffered to work out its own results, free from the control of systems and the bondage of schools. It was attempted to establish this theory from the history of art in Italy, and the sublime genius of the early poets and painters was favourably contrasted with that of later schools for this purpose. The cause of a decline and fall so grievous and lamentable was urged to be the prevalence of classical taste, and the introduction of Greek statues. It appears to me, I own, at first sight, that the cause alleged is quite insufficient to produce so vast a result. One German author, indeed, refines so far as to state that art obtained its greatest perfection in what is usually termed the middle manner of Raffaelle. His first style is (it is stated) a cold copy of his master, Perugino. His second shews that natural development which great powers of mind acquire by constant exercise. His third style exhibits seeds of decay and corruption. The very arabesques of the Vatican, taken as they are, in great measure, from the antique, it is contended show a predisposition to study the "outward form"—the "external decoration"—rather than the spiritual meaning or inward signification, conveyed by the work of art to the spectator's mind. There is a vast gulf, we see, between the picture of "The Transfiguration" and "The Entombment of Christ" in the Borghese Gallery. A greater knowledge of effect and colour have in the former case been purchased by the sacrifice of higher qualities—dignity and pathos.* Granting the facts to be as stated, the unfairness of attributing the result to any one cause is manifest. A correct knowledge of the life of Raffaelle, and of the social state of Italy at the time, are the best means of enabling us to ascertain the causes of the decay of art; but further, *the facts* are disputed. In many points the latter works of Raffaelle, and particularly "The Transfiguration," are his greatest performances; and if not in all points the same, it only seems to prove what I have before advanced, that as each age in man has its appropriate employments and amusements, so each age in the life of nations has its peculiar phases of character, and its peculiar developments of art. But what have been, let me ask, the practical results of this theory? To no mind did these views present themselves with greater force than to the genius of a man like Overbeck. Glowing with an ardent affection for the saints and martyrs of Fra Angelico, he was conscious (according to his theory) that it was only by throwing himself as far as lay in his power into the whole system pursued by the early painters that he could paint as they paint. His first step, therefore, was to change his religion, and renounce the idea of painting any but religious pictures. He felt the necessity of a definite course of training, and (if I may so express it) of breathing a certain atmosphere. He betook himself to Rome, where he lives like a recluse: and strangers, who annually go as pilgrims to the city of the seven hills, bear testimony to the sincerity of his piety and the simplicity of his life.

And yet the result is certainly unsatisfactory; least of all is it a style easy and natural. Setting out, as I have before remarked, with a supercilious contempt of classical antiquity, it has ended in a slavish adherence and imitation of Christian antiquity. It is a style which may be very attractive to enthusiastic men of peculiar religious views, but it does not and cannot attract the full sympathies of the age in which we live.

The general weakness of the argument which I have, I hope, fairly stated, must be apparent to most intelligent minds. It is as if a man, admiring the innocence of childhood and the vigour of youth, were to attempt to give the airs and graces of a boy to a prudent sexagenarian! or it is as if a tutor and guardian, seeing the peculiar attractiveness of an infant, were to say to his child, "You shall never learn Latin or Greek, because it will spoil the freshness of your taste. You at least shall remain a specimen of the olden time; and blissful ignorance shall be the best substitute for classical attainments." Alas, Sir, the vices and follies and foibles of the age in which we live are many, but such as they are we must try to throw ourselves into it, and educate our children accordingly. We should take advantage of every light which experience or nature can give; avoiding all exclusive systems, and distrustful of ourselves on the one hand lest with the acquirement of knowledge we lose vigour and originality of thought, and on the other, lest, by too great a confidence in our own attainments, we despise the results of experience. Had your correspondent, "An Artist," advocated the exclusive study of antiquity to the disparagement of nature, I should have argued at least as keenly in favour of nature as I now do in favour of the old masters. Over-education, it must be admitted, is a fault in the present day; but over-education is seldom felt except in the case of a naturally weak mind. Because the study of antiquity leads to mistakes—because, for instance (as your correspondent remarks), the study of Wilkie or Rembrandt leads to an inability to appreciate the works of Leonardo or Raffaelle,—is that, let me ask, a good reason for abandoning the study of antiquity altogether? Truly not so: but the moral to be drawn from such failure is rather this—that it is desirable each should only study so far as the natural strength of his capacity will enable him to go. The really great man may, indeed, take "all knowledge for his province," as did Bacon. To the ordinary run of mankind, it will be sufficient to attempt a certain branch of the arts, and in that to attain proficiency. Those who are wedded to any exclusive system can appeal to experience neither with pleasure nor profit, but those who, to minds already enlightened, add a keen love of nature and truth, it will be found that even faulty works of art may present much that is valuable in the way of instruction. It is, indeed, the characteristic of true critical skill to discover beauties as well as to find faults.

Again, the application of the German theory to literature, appears to be, at the least, as defective as its application to art. Nor is this to be wondered at. Broad principles which commend or reject the study of experience, are universally true or false, and admit of no real modification. It may, indeed, be true that some of the early poets of Italy possess a purity of thought which is lost by the taint which civilization and increasing numbers bring with them. It may be true that Tasso was a poet vastly inferior to Dante. This, however, I contend may be traced to the difference of character in the two men, rather than to any sinister influence on the mind of the former from classical associations. Dante himself, by the prominence which he gives to the character of Virgil, in his immortal song, unquestionably advocates the study of classic authors, and when "An Artist" finds fault with the selection of Pagan imagery to illustrate a Christian story, he should remember that in doing so he blames not merely this age or that—this or that system of ecclesiastical government, but the whole practice of the middle ages. "Our ancestors," remarks Mrs. Jameson, in her excellent preface to her late work, were not particular in drawing that strong line of demarcation between the classical, Jewish, and Christian periods of history that we do. They only saw Christendom everywhere, and regarded the past only in relation to Christianity." Hence we find Solon, Apollonius, Plutarch, Plato, and Sophocles introduced into sacred subjects (one of which Mrs. J. instances at length), holding scrolls on which are inscribed passages from their works, interpreted (mystically) into allusions to the coming of Christ, and pictures of the nativity are to be found where the Sibyls are dancing hand in hand round the cradle of the Saviour. The seeming profanity of such allusions is certainly explained away when we understand it as interpreted to include the comprehension of the whole universe, in a truly Catholic sense, within the pale of Christianity. And so, too, our own Milton—

"Thus Jove on Juno smil'd."—

Speaking of Adam and Eve, and of Milton, Mr. Editor, I would remark that his is a case, where experience aided genius. He not only imitated, but surpassed the poets of Italy, and his devotion to classical studies is well attested by the unrivalled excellence of his Latin versification. Pope, Dryden, Addison, were all accomplished scholars, of which their works bear ample testimony, and he is a bold man who can venture to say that they would have been, had they thrown experience overboard, and relied on the study of human nature. The two celebrated statues, Tam 'o Shanter and Souter Johnny, were specimens of what nature can teach a man when he studies her without light or knowledge. Instead of following the golden rule of taking the best things from the best men, the uneducated artist, trusting to impulse rather than to reason, attempts a matter of fact imitation of what is nearest to his hand. Those who come to nature without principles to guide them in looking at her, become servile imitators or vile copyists, but the man who comes to nature

* Two good specimens of the later and middle manner of Raffaelle, which may be familiar to your English readers, are the "Madonna delle Candilabre," purchased by Mr. Monro out of the Lucca Gallery, a late work of the master, and the St. Catherine in the National Gallery.

with experience and reading to assist him, knows what to put in and what to exclude, and his progress is likely to be certain and secure, because he always has a test whereby to try his works. Does he make a clever study from nature? Let him test its truthfulness by comparing it with the great works of the men of former times. Does he wish to avoid the mannerism which the study of the old masters is apt to, if exclusively pursued, to engender? Let him test their truthfulness by going to nature. Thus he has always a countercheck, which those who rely, as I have often already stated, on *one* great principle, are sure to seek in vain.

I conclude, Sir, with the last words of Mr. Hope, in his celebrated Essay on Architecture, as what is there said regarding architecture, appears to me still more applicable to the arts of sculpture and painting, and indeed very much expresses my own views.

"No one yet seems to have conceived the smallest wish or idea of only borrowing of every former style of architecture, whatever it might present of useful or ornamental, of scientific or tasteful; of adding thereto whatever other new dispositions or forms might afford conveniences or elegancies not yet possessed; of making the new discoveries, the new conquests, of natural productions unknown to former ages, the models of new imitations more beautiful and more varied; and thus of composing an architecture, which, born in our country, grown on our soil, and in harmony with our climate, institutions, and habits, at once elegant, appropriate, and original, should truly deserve the appellation of 'our own.'"

An Amateur.

INTERIOR DECORATION.

Simpson's Divan in the Strand.

We have lately had to record several praiseworthy attempts in interior decoration, a department of architecture to which we have heretofore devoted much attention. Considerable talent in invention, along with great beauty of effect, have been displayed, even in instances where we could not altogether approve of a departure from what we have held to be universal canons. The natural sensibility to the captivating influence of colours in harmonic combination, is no longer forgotten in the arrangement of public places of amusement; much beauty of form is exhibited on flat surface or in relief, and in all respects we are reminded of the presence of the artist rather than of the house-painter and paper-hanger. The improvement which has taken place, within a comparatively recent period, we view with considerable satisfaction after our own endeavours towards it.

The large room at Simpson's Divan, opposite Exeter Hall, in the Strand, without thinking it entitled to any extravagant praise, is one of the instances we may refer to.—The room has windows at one side and end, and a bar at the end of the opposite side near the entrance. It is entered through a passage, tastefully, though somewhat gaudily, decorated, from the street, and by glazed doors from the passage, and from Ries's Cigar Divan.

The ceiling of the room is intersected by five beams, three being grouped together, across the middle. The beams are, it is to be regretted, somewhat unsatisfactory in appearance, as some of them are supported over voids, which however we remark without knowing what may be their structural office. There is a fire-place at each end of the room: tables are arranged along one side, and the other is divided into boxes. A sideboard occupies the centre, and there is a round table at each end. Long pier-glasses and console-tables are placed between the windows. The general tone of colour is light, and of a warm buff hue, relieved by red colour, and by ornaments in various tints. The soffits of the beams are painted with guilloche ornaments, and the coves by which the beams are united to the ceiling have the honeysuckle ornament, red colour—without attempt to give the effect of relief—being employed with good effect. The spaces of the ceiling are painted with ornaments, of rather poor character in regard to design and drawing, and relieved by shading. This ornament is arranged in geometrical compartments, similar in design in each division of the ceiling, which gives some of them rather a cramped appearance, from the widths of each division not being the same. There is also a greater mixture of style in the ornament than would have been desirable: but this is a common error. The dark colour introduced in some of the circular ornaments seems to us to be too dark, giving rather a patchy appearance. The walls are divided by pilasters, and are panelled in light green colour, with a pattern of lighter tint, the whole painted in imitation of morocco leather. In the centres of these panels are bas-reliefs, much resembling in design and material those in the Lyceum Theatre. These subjects are in ornamental gilt frames, oblong and circular, and are relieved by pink grounds. The panels are defined by gilt mouldings. The pilaster panels are painted with a pattern in brick red colour, to which some of our remarks upon the ceiling would apply. The furniture is of novel character,—the round tables being particularly good. Each of them supports a large gilt candelabrum of five lights, with figures grouped round the stem, and having female figures, coloured white, branching out at the top, for the support of the lights. The general lighting is by sconces of two-lights, each supported by a figure similar to those of the candelabra,—ranged along the walls. The chimney-pieces are black, with imitation of inlaid ornament. Beneath the sconces are seen serpents twisting from the wall: these, the use of which we should have long been in doubt about, the visiters have turned into hat-pegs. We may snatch this opportunity of again urging that in every design the purpose should be apparent, and that the design should be subservient to that purpose; but the true principle, in several extensively-circulated designs, seems to be wholly unconsidered. In the present case, the thing wanted was, simply and perspicuously, a hat-peg, not something which might be turned to that office, as indeed could, excellently well, the loaf of bread with a hole cut in it, or the bottle, which Swift recommends to servants as efficient substitutes for candlesticks. The judgment expects reason and purpose to take part in design, and is disgusted with what has been called by some one, the practical joking of so-called design.

To return to our subject—the general effect of the room is good, and though we have noticed a few matters of detail that unfortunately are errors which it is difficult to avoid, with the limited time allowed in works of this nature, the design is creditable to the architect, Mr. Friend, and to the decorator, Mr. Blackburn, of Grosvenor-street, Eaton-square.*

In remarking upon the general progress observable in interior decoration, we might notice the constant introduction of new materials and forms, extending the resources of the architect in buildings of ordinary character to an extent never thought of by our predecessors, although the mechanical reproduction of these forms is, in some degree, a loss to art, from its being rendered less incumbent upon the architect to enter into the consideration of all matters of detail.

In paper-hangings, indeed, there has been so great an improvement, by the introduction of patterns printed on separate pieces, so as to be applicable in combination for panels, borders, and for plafonds of ceilings, that the architect is now not altogether dependent, as in too many other departments of his art, upon materials such as are the best that can be had from the manufacturer, and which must, therefore, in all cases where small outlay is available, be used with all their imperfections,—but he can vary, adapt, and recombine, so as to exhibit something like design in the embellishment of an apartment. At the same time, with reference to paper-hangings, whilst, of those manufactures applicable to the purposes of architecture, there is no branch which so well exemplifies the alteration which has taken place in the vocation of the architect, rendering him the skilful adapter of designs ready made, rather than the originator of every detail—and, consequently, whilst giving him increased means of embellishment, rendering it an important object for him to attend to the progress of schools of design, and other means of educating the class of designers whose works he may be compelled to use; so there is no class of production in which correct principles of design are so important, or still so far from being perfectly appreciated. The immense number of trashy designs which are exhibited, is in some degree wonderful for variety, whilst hundreds may be examined without meeting with one displaying beauty of design, or good drawing and appreciation of the forms chosen, or skilful combination of colours. The want of early education in the delineation of beautiful forms is constantly observable in the great majority of the cheap paper-hangings,—although, as it seems to us, it would not be difficult to produce designs, even with single blocks, which should be strikingly original. In former volumes we have entered at length into the consideration of the principles upon which paper-hangings, and other interior decorations, should be designed.

* We should not omit to notice the design of the street lamps in front of the building. They are improvements upon the tasteless forms which are seen elsewhere, reminding us how wasteful we are of opportunities of contributing to the pleasure which is derived from looking at beautiful works.

THE GAS MOVEMENT.

In Town and Country.

Peal after peal of not very distant thunder has of late been vibrating solemnly in the ears of the City gas companies, and reverberating as loudly throughout the provinces. Not only have the City gas consumers buckled on their armour for a coming fight, but those authorities to whose aid and support in the struggle, as advised by us, they have appealed, are now responding with alacrity to their call, and vieing with each other for the leadership. Meeting after meeting has been held by the City Sewers Commission on the subject, and in the corporation there are strenuous advocates of the diffusion of cheap and good gas. Need we say that the arguments brought forward on all hands, both officially and unofficially, are either our own or corollaries on the facts we have industriously collected,—that in short the thunders of Guildhall and Bishopsgate are but the resonance of our own lightnings? We rejoice to think that it is so, yet a shade of that positive of which pleasure is said to be but the negative might have been spared us by something like *an acknowledgment* that we *did* sow the seeds which are yielding so hopeful a crop of argumentative determinations. As it is, we must console ourselves, we suppose, with the reflection that the vanity of human ambition renders it oftimes expedient, in its display, that *the nourishing roots* of its flourishing branches—waving and glorying in all the shiny lights and airs of noonday—be quietly buried, as far as possible, underground.*

We need not, even had we space, go over all those pregnant facts and arguments brought forward at recent meetings, official and constituent, since our readers are already well acquainted with their main features. We may merely record the result, which is, that on the one hand the authorities have determined at once to apply for power from Parliament either to purchase the pipes, &c., of the companies, or to erect works and lay pipes of their own with the proceeds of a gas rate, for the purpose of reducing the price to 3s. 6d. or 4s., at the utmost, per 1,000 cubic feet,—evidence being abundantly adduced to prove that even a less sum was sufficient; and that, on the other hand, the formation of a "Great Central Gas Consumers' Company" has been announced, authorising the city gas consumers to purchase works, &c. The city gas consumers appear to be suspicious of the permanence of the good intentions of the authorities, but if mistaken, they will doubtless come to a mutual good understanding, which otherwise, indeed, they may be said to have already.†

* In the midst of the progress made in town and country during the last week or two, however, we feel in duty bound to record at least one exception on the part of both press and people, in a report, by the *Chelmsford Chronicle*, of one of a repeated series of meetings at Chelmsford, where the gas consumers are fully embued with the spirit of the movement, and at which meeting Mr. Wilder read at length, as the paper reports at length, from The Builder, a phalanx of evidence adduced to prove, from the "Companies" own returns, that reductions in price had ever increased their own profits, and, incidentally, that the local price of coals had very little to do with the local price of gas.

† Since these decisions have been come to, also, other districts of the metropolis are on the move. The inhabitants of St. Andrew's, Holborn, have already determined to "support the movement, heart and soul" and, indeed, it is clear that no leader will be voted into authority, at the ensuing elections, who will not pledge himself, not only to do so, but also to exert himself with equal energy in the attainment of an equally cheap and abundant supply of water—a cognate object to which we have also repeatedly called attention—although we have preferred a perse-

In course of the recent proceedings it was stated, on the part of the Sewers Commissioners, that they were prepared to get gas made for them at 2s. 6d. a thousand cubic feet; and that even at present the Eastern Counties Railway station, &c., are supplied at 3s. 6d. Large capitals expended on works are no excuse now for high prices, as was remarked at a numerous meeting in Bishopsgate-street, for the public have long since reimbursed all such expenditure, more especially in so compact a district as the city. As for the bugbear about the expense of coal in London, the gas consumers took the same opportunity of shewing the gas companies that they were no longer to be scared or deceived by that fallacy; but what would they have said had they known what we now for the first time tell them, that it is seriously maintained at Newcastle-upon-Tyne that even that town is not so favourably situated *as to coal* in the formation and cost of gas and coke as the metropolis is? At a late meeting of the town council of Newcastle, in a discussion on the all-interesting and fermenting questions of the price and quality of gas, one of the members remarked that "Coal, it was said, was cheaper in Newcastle than elsewhere; but this was not an advantage to the Company (at Newcastle). They paid 6s. per ton for coal and sold their coke for 3s. 4d. In London 16s. was paid for coal, and 17s. realized by the coke." Moreover, when we consider that each ton of coals produces about 12 cwt. of coke, besides 8,000 to 9,000 feet of gas (at 6s. per 1,000 in the city), what are we to think of the assertion on the part of the gas companies that the question as to the price of gas is one entirely dependent on the expense of coal?*

In fine we may state, that the movement pervades the whole country,—that, as a gas consuming correspondent of a provincial contemporary remarks, "a general and most just stir is making at this time in reference both to the charges made by the gas companies and the quality of the gas supplied."

With the electric light (which, according to its friends, is to cost something less than nothing) just seen above the horizon, the gas companies should now at all events mind their look out. Better late than never; although there is such a time as "too late."

SHIP TIMBER.—NEW FOREST.

From the great public interest awakened by the late plunder of oaks detected in this royal domain, and the solemn averments on behalf of and by the Commissioners of Crown Lands, people are actually led to suppose that timber sufficient for the building of a squadron might be cut there for naval purposes, and that the extent of at least 20,000 acres, out of 40,000, is covered with monarch oaks,—in fact, that they could "scarcely see the wood for trees."

Considering the utter uselessness of these wastes for all other productive purposes—the vast staff of rangers, verderers, and officials, connected with this and the other royal forests—the host of commissioners, secretaries, and employés, at the offices of Woods, Whitehall, and at the various localities of Free Warren, most certainly the people of England have a right to expect that so much land abstracted from food-producing tillage should at least furnish its contingent to the wooden-walls of the island. But how stands the case? Why, in fact, that you may ride for miles without seeing a tree! Here and there a few stunted pollards relieve the eye ranging over barrenness, and at fitful distances a few groves may be found on diligent search on the more fertile portions, and near the enclosures of private owners. These latter are, of course, more convenient for freebooters; and here it was that so much havoc has been made. Take, however, the expenses of public officers and servants from the produce of the timber sales effected, and we shall find but a very sorry return for national purposes.

It appears, however, that instead of being cut and sent to the docks at Portsmouth, all timber felled in the New Forest is sold without discrimination of use, and that the *contracts for the Navy* are given to *merchants by tender*, who procure their timber where they please,—and that these tenders are given, not to the lowest bidder, but to the favourite at head quarters; not one stick coming necessarily from the forest: thus the commissioners stick at nothing. Then as to the venison (for there are deer on the range), we find that 720 bucks are distributed annually amongst officers of state and bishops, and of course the Royal table is supplied.

This, then, is the whole use of the New Forest: the same may be said of the Forest of Dean, of Windsor, Epping, and sundry others.

Seeing the vast extent of royal forests (from 100,000 to 200,000 acres) and the incalculable extent of common, waste, and unappropriated land in Great Britain, viewing the wants of the people, the dearth of employment, the insufficiency of food, feeling the necessities of the times, when 300,000 souls are annually emigrating to the antipodes for a field and scope for their industry, one is struck with wonder that no better use is made of these waste lands, or that there should be any such thing in a country which is constrained to import so large a quantity of their daily bread. As to the absurd pretence of producing timber for the navy, that is too ridiculous to hold any longer—no one believes it.

Contractors now provide all timber for such uses; and the trade of our merchants can always supply the best material at the cheapest price,—much cheaper than Government can grow it; and whenever the emergency should arise, there is plenty of oak in England to be purchased in the market.

As timber and woods of greater durability are abundant in our colonies, would it not be a wise measure to export redundant humanity, and to bring back freights of timber from Australia and New Zealand? By sending out saw-mills, the choicest products of those colossal forests might be *cut into scantling* adapted to the dock-yard occasions, and be sent in return ships: by such means useful colonists might be conveyed to improve our colonies abroad, and to lighten the consumption at home; an immense tract of cultivation might be added to the insufficient breadth of crop now grown at home; a considerable saving would be effected in boards, commissioners, and fruitless expenses; and at the same time a large revenue would accrue to the state from the leases or grants at feu rents of something like 500,000 acres, which are now only used as the beat of the poacher, the walk of the warrener, of the sporting licentiates of the Commissioners of Woods, or of royalty, and the lawless province of the oak-dropper: as yet, however, no *timber-napping* has been detected in the other forests.

Suppose all the forests to be enclosed, then 200,000 acres sold at an average of 5*l.* an acre would produce a million sterling; or, let at 5s. an acre, having the first five years at a peppercorn rent, it would produce 250,000*l.* a-year!! And this land, besides employing 400,000 persons, would be immediately brought into cultivation, whilst at the same time the growing timber, if marked and *reserved under covenant* for the Crown, might still be *saved for the navy* as upon farms of private estate, thus bettering the condition of the labourer, enlarging the field of production, increasing the home supply of grain, and yielding a large profit on possessions which, as they exist, are an absurdity, a loss, and a crime!

On the other hand, the timber-carrying ships would convey away to a happy clime and scenes of plenty, a population now in misery, an incumbrance to the land: these would become the consumers of our manufactures; and if freed from the obstructions to emigration imposed by Government in New Zealand (the obstacles being the price charged for land there,—3*l.* per acre), they would become an independent colony.

The return freight, say of 300 tons in a vessel of 600 tons burden, would, as the timber is extremely valuable, perhaps pay the Government; but the deficit, if any, might be made up from the proceeds of the wastes at home.

With respect to the advantages of Australian timber, and in particular of mahogany, in the construction of ships, it is a well attested fact, that the *dry rot* will not affect it, and that in cases where deal and other woods were wasted in decay and enveloped in the destroying fungus, pieces of mahogany incorporated in the same texture or framework, had wholly escaped the infection and preserved their soundness.

Mr. Twigg, a surveyor and timber merchant of experience, previous to 1840, in a report by a resident committee at Perth, in Western Australia (see Ogle's history of that colony), states to the Government, "I have seen quantities of mahogany and also of terrart timber thrown in waste near my saw-pits, exposed to the sun and variations of five years without injury, and hardly touched by white ants, although they swarm here: these insects attack every wood except mahogany and this terrart gum-tree, both of which grow to colossal sizes, the former of various qualities, hard and soft, and well adapted for planking; and the latter for keels, kelsons, beams, and any purpose where great length, strength, and durability are required.

"In examining waste pieces, deal was first eaten by the ants, next, woods imported from England or the colonies; but mahogany they will never touch till time has destroyed its properties."

Thus we see the superiority of that species for naval uses, and at the same time we but too well know that the soundest heart oak cannot resist the dry rot; but American is the worst of all timber. At the same time all accounts from Australia testify that that vast country abounds in giant trees, both of the mahogany and gum species, to which the terrart or white gum belongs.

With the aid of saw mills these timbers might be converted into plank or scantling, according to model, so as to form stowage for return emigrant ships; or by the establishment of docks at suitable stations, the hulls might be built in the colony, if sails, cordage, &c. were sent out for their equipment: the abundance of copper at Port Philip would at the same time afford bolts and fastenings, which require no very high degree of art in the manufacture.

"The flooded or blue gum also grows to an enormous size, is of extreme hardness and extraordinary tenacity when properly seasoned; it wears to a fine polish and will not split, and is therefore admirably adopted for sheaves of the largest blocks, and for machine work."

Ships which have an immunity from the rot and the worm would be almost imperishable. Sir Robert Seppings might say to such "*sit murus aheneus esto.*"

As emigration and colonization are the absorbing themes of the day, these hints at colonization of the deserts (you may call them deserts in the oasis) at home, are dropped by

Quondam.

FIRE-PROOF TIMBER COTTAGES FOR LABOURERS.

Owing to the unpropitious weather, the attendance of the visiters of the Smithfield Cattle Show invited to witness the experiments of the Timber Preserving Company was somewhat scanty. The experiments seemed successful so far as they went. Three successive charges of dry wood shavings, weighing each about 8 lbs., were ignited in the interior of one of the prepared cottages, without any great effect; one charge, on the other hand, rapidly caught and destroyed the rafters of the cottage which was unprepared.

The company had nearly completed the erection of a labourer's cottage of two stories, which is now to be inspected at the wharf. They suggest that the expense of the present brick cottage is such, that besides the moral and physical evils arising, as at Hilton, from the disinclination of landlords to incur the outlay required, the tenant is hardly able to bear the weekly encroachment on his wages for rent. A fire-proof and decay-proof cottage of paynized timber, it is asserted, would cost about 40 per cent. less than the brick tenement, and insure a profit, instead of loss, to the owner, and a great reduction of the burthen of rent to the occupier. A correspondent suggests the expediency of the company entering into contracts to build cottages of all sizes on and near the suburban lines of railway, and

* The annual consumption of gas in London, it is estimated, is upwards of 3,000,000,000 cubic feet, while 250,000 chaldrons of coals are consumed by the various gas works.

dispose of these in freehold to industrious tenants, on the improved principle of the building societies, viz., in consideration of payment, with a fair profit, by fourteen annual instalments of 10 per cent. on the value; leaving it to the tenant to protect himself by a life insurance in case of his premature decease in the interval.

He says,—"The question is one of very deep interest, and is intimately connected with the prospects of the fire insurance companies, to whom it is as desirable to reduce the risks of fire as it is to the public: just as an improvement in the ratio of mortality, by justifying a reduction in the amount of annual premiums, has greatly extended the benefits and the uses of life assurance. If the number of conflagrations in London, for example, could be reduced from 900 to 600 per annum, it is evident that a premium of one shilling per cent. would be equally profitable with the present ordinary charge of one shilling and sixpence. A reduction in the enormously disproportionate amount of Government duty might at the same time be legitimately demanded by the companies and the whole body of fire insurers, and the practice of fire insurance would then become almost universal, tending at once to the additional security of the public, and to a large increase of business and profit to the fire companies. It is not pretended that the general adoption of the process will put an end to the ravages of fire, but its use would certainly render fires less frequent and less destructive."

The effect of *time* on timber so prepared has to be considered; and for our own parts we are anything but anxious to see a recurrence to timber houses.

A NOTE FROM SLOUGH.

Under the powers of the Disease Prevention Act, the Sloughites lately appointed, through a meeting of the ratepayers, held at the Slough Mechanics' Institute, a committee to perambulate the town, and make their report to an adjourned meeting. They did so, and at their request the guardians issued notice for the removal of all nuisance, which was instantly obeyed. The adjourned meeting determined upon petitioning the Board of Health, but to delay it till the actual approach of disease rendered it necessary. As the houses, are, in general, scattered, the cost of sewers would be enormous.

The Slough Gas and Coke Company have commenced laying down the gas mains (3-inch bore), and expect to have the first burner fixed by Christmas eve. They have also issued their circular, requesting the inhabitants to inform them of the number of burners they may require; at the same time stating the price of gas would be 10s. per thousand cubic feet, and that a discount would be allowed upon all consumers of 40,000 feet. When the shares were taken, and the Company incorporated, 7s. was stated by the Directors to be their price, and enough too: it is, therefore, looked upon as a breach of faith. The shareholders seem to say they will take none, and the ratepayers are determined to oppose the lighting the parish, unless at an enormous reduction; nay, they even threaten to build another gas work, or have it from Windsor, which they can at 7s. 6d. Gas companies, beware! or the "electric light" may spoil your dividends!!

The new branch line to Windsor from Slough is progressing satisfactorily. The abolition of return tickets by the Great Western Railway Company must or will injure them: more persons travelling now, when possible, by the third class. At the 45 minutes after nine train from Slough to Paddington on Saturday morning last, there were only *one* second-class passenger and *three* first. I have usually seen from 40 to 50, and even more.

Old Upton Church, for which you made an appeal some time ago, continues in the same deplorable state; they have, indeed, mended the roof and coloured the exterior, but the interior is daily becoming worse, and at this time is even in a dangerous condition. Now the ivy is taken away from the tower, it looks like a sheep shorn of its wool.

At the time those galleries in the new abomination were built, provoking so much discussion, and even a leading article in the *Times*, the worthy Bishop of Oxford recommended the old church to be repaired, and rendered fit for Divine service, and the new one left as it was. The advice, however, was not palatable. I really think, Mr. Editor, if you were to open a subscription, sufficient might be collected to preserve so great a national antiquity. The *authorities* would then, for very shame, lend their aid. The Bishop of Oxford would, I have no doubt, head your list.

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THE CYCLORAMA AT THE COLOSSEUM.

Under this title Mr. W. Bradwell has just now constructed and fitted up with great elegance, a large building attached to the Colosseum, in Albany-street, which can scarcely fail to attract much attention. It is proposed to answer the double purpose of exhibiting colossal moving pictures and serving as a music-hall,—much needed in that neighbourhood. The idea sought to be carried out in the arrangement of the building is that of the vestibule of a noble mansion fitted up for the performance of a masque or play, such as at one time formed the pastime of our court, and which, by a curious coincidence, her Majesty is at this moment about to revive.

The *salle* in front of the picture is divided into two parts by a deep entablature spanning the whole width. That portion of it nearest the picture, and which forms the proscenium, has on each side of it, at a short distance from the circumscribing walls, a range of six large Roman Ionic columns (2 ft. 9 in. diameter), carrying the entablature,—which, again spans the width of the building at a short distance from the picture. A flight of steps terminates the floor at this end, with four *couchant* lions on pedestals at intervals, over which the audience see the cyclorama. The walls on either side present respectively copies of Raffaelle's "School of Athens," and "Constantine delivering up his authority to the Pope." On the ceiling are figures and groups (Minerva, with Prudence, directing the arts), and the frieze of the entablature shews, in relief, "The Triumph of Alexander," the figures being white, and the background red. In the second division of the building, appropriated to the audience, a tier of boxes, of tasteful design, the front of which forms a waved line, is suspended against the back wall. A bacchanalian procession of figures in relief, in imitation of or-molu (somewhat too large), occupies the face of the boxes, which is, further, formed into panels by figures holding cornucopiæ in very bold relief. The ceiling here has a painting, "Jupiter demanding a Solemn Council of the Gods." We can only further add, that the effect of the whole is admirable, and reflects the highest credit on Mr. Bradwell for inventive and artistic skill.

The subject of the cyclorama is Lisbon and the destruction of the city by earthquake.

BENEVOLENT FUND OF THE INSTITUTE OF BRITISH ARCHITECTS.

On the 11th inst. a special general meeting of the institute was held, to receive and consider the report of a committee appointed in May last, relative to the establishment of a Benevolent Fund.

The report was read. It urged the propriety of establishing such a fund, to alleviate the wants of our less fortunate brethren, and went on to say,—"That the most convenient mode of distributing the fund, and that most conducive to the object in view, will be by placing it, for that purpose, in the hands of the treasurer of the Artists' General Benevolent Institution, *provided* that it be kept as a separate fund, to be called the Fund of the Institute of British Architects, and that the council of the institute maintain such a control over the distribution as will secure the full benefit of the fund to the members of the architectural profession." A long discussion arose, from the feeling that the entire charge of the fund should be vested in the institute, a feeling in which we fully participate. On a vote being taken, however, an amendment to that effect was defeated. The committee was then re-appointed, to take the necessary steps to establish the fund, and to make arrangements with the managers of the Artists' General Benevolent Institution to take charge of the fund; and so terminated the proceedings.

Why this good work should not be wholly carried out by the institute, we cannot see. A recipient of the fund will now have his case inquired into by the institute, and be referred to the Artists' General Benevolent Institution to receive his claim, so that his distress will be made known to *two institutions* before he *obtains relief*,—a proceeding quite unnecessary, and certainly at variance with that delicacy towards the individual which, in his unfortunate position, should be preserved. Beyond this, moreover, we are satisfied that the fund will not be supported by the profession to the extent it would be if wholly in their own hands.

NOTES IN THE PROVINCES.

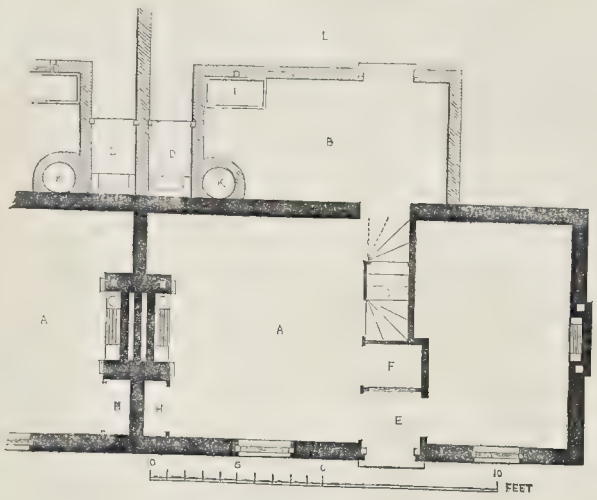
The old lectern, consisting of a massive brass eagle and stand, as represented in a view nearly a century old of the Interior of Salisbury Cathedral, has been restored to a place in the centre of the main aisle, where it has been mounted on an oak platform with steps. It had been cast aside in St. Martin's Church, to which it had been removed, probably in the time of Wyatt's extensive alterations. The expense has been defrayed by Mr. George Sutton.——The seven district churches now in progress of erection at Plymouth and Devonport, will be completed, it is thought, in less than five years.——The chancel of Banwell Church has undergone considerable repair and renovation, chiefly at the expense of private individuals. An ornamental roof, richly gilded, principally from designs by Mr. Robert Wallace, of Winscombe Court, presented by him, and carried out by an artist of Banwell, Mr. R. H. Trickey, has replaced the old plain one.——During the enlargement and restoration of Costock Church, the remains of a reredos have been discovered while taking plaster from the chancel walls. The principal picture is directly over the centre of the altar. The discovery is said to be an instructive one. A fac-simile is to be retained; and the architect, Mr. George G. Place, states that architects, ecclesiologists, or societies may have copies if they will do something for the building fund.——The committee for building a church in the Pits Moor District, Sheffield, have selected a design by Messrs. Flockton and Co., of Sheffield, out of several submitted in competition by different architects, and it is to be carried into execution forthwith. The style is Early Decorated, and the building will consist of nave, north and south aisles, transepts, chancel, and western tower, and will contain 840 sittings.——The Stafford new Lunatic Asylum is to be enlarged for four hundred paupers, and another erected on a different site for one hundred other inmates.——A writer in the *Hull Packet* says that the "corporation surveyor seems to have bestowed a great deal of misplaced ingenuity in the construction of the roof of the new corn-market. A cursory glance at it is sufficient to show that he has had a two-fold object; first, to see how much wood he could possibly place in the roof; and, secondly, how much light he could possibly exclude. Unfortunately, it is light and not wood that the farmers and corn-factors chiefly require. They had rather *see* the difference between wheat and barley, than have to detect it by the sense of touch. They have prayed the Property Committee to give them more light. That the surveyor's son, who, it is said, built the roof, should happen to be a joiner and not a glazier, is simply a curious coincidence."

Partial Opening of Portland Prison.—On 24th ult. sixty-four of the convict-tenants took possession of the building, which now consists of a principal portion, divided into four corridors, with 640 cells in four galleried stories, an infirmary, baths, gas-works, engine-house, bake-house, cells for punishment, &c. &c. Inner and outer walls, 18 feet high, enclose an area of many acres. Next year 1,300 tenants will be accommodated. The surveyor-general of prisons and planner of Pentonville prison, Colonel Jebb, C.B., designed this establishment, and his assistant, Mr. James Ottey, is carrying it into execution. The breakwater, Mr. Rendel, the Government engineer, superintends.

DESIGN FOR LABOURERS' COTTAGES.



ELEVATION.



PLAN.

DESCRIPTION OF A DESIGN FOR A PAIR OF LABOURERS' COTTAGES.*

Economy being the chief study in this design, it was proposed to erect it of flint, with brick dressings, for greater stability. Were the bricks (red and white) judiciously selected, and a little care bestowed on this arrangement, it was thought that a trifling interest would be attached to the cottages without materially increasing the expense, such as the indiscriminate use of either material would not afford them. Nothing beyond this has been attempted in the elevation above. White brick and black flint should but rarely be placed in juxtaposition; the contrast is too violent. In the above design, therefore, the red brick has been preferred, as it gives a cheerfulness to the appearance, and harmonizes well with English scenery. The white brick is used to subdue the otherwise too "fiery" appearance of the red, and is, as it were, introduced by it to the dark material employed in the general construction of the cottages.

The roof should be covered with slate.

Reference to Plan.—A kitchen or living-room, B scullery, C bed-room (thought desirable in case of sickness, &c.), D water-closet, E porch, F larder, G staircase, H cupboard, I sink, K copper, L yard or garden. The kitchen and scullery should have a lime ash floor. This is a kind of concrete, with the surface polished, and is very frequently met with in Devonshire. It is laid in a thickness of, perhaps, 6 inches, on a layer of sand over a well-rammed and level foundation. They are found to be exceedingly durable (provided the lime be properly sifted and slaked), and very cheap. Having a polished surface, they neither decoy the dirt so zealously as boards—they are not so loth to part with it—nor do they take damp in exchange, and administer cold to the lower extremities. Covering the entire surface of the room without joints, there are no upward jets of cold air, and the uneven ragged picture of stone paving is not exhibited. A range, with boiler and oven, is placed in the kitchen, and stoves in all the bed-rooms. Fire-bricks are recommended, as giving greater heat, for the lining of oven and back of range.

All the wood-work is to be sized and varnished.

The sashes to all the windows are cast-iron. They open by a portion turning on a pivot (see elevation). Further particulars of these sashes are given, together with detailed drawings, in "Loudon's Encyclopædia," where it is stated that it gained its author the first prize given by one of the north of England scientific bodies for "the best and most economical design for cottage window sashes." The cost is but 5s. for a window 4 feet wide.

The larder,—an essential to a labourer's home,—should, it was considered, be as far as possible from the scullery, or where any cleaning or washing is done. It has a window of perforated zinc, and would form, if well stocked, far from a disagreeable sight on entering the porch.

There are two bed-rooms over A and C respectively, on the first-floor. The scullery is not built over.

Under the staircase, as near as possible to either fireplace, is a closet for coals. The water-closet is contiguous to the main building, and, at the same time, in such a position as to insure the occupants of the cottage from annoyance. It was further thought desirable to place it where it would readily receive a portion of the rain-water from the roof, and where it could, without requiring a great length of pipe, receive the

* This design was submitted in competition for the premium of 10*l*., recently offered by a correspondent of the *Art-Journal*, for the best design for a labourers' cottage, under certain conditions.

waste from sink in scullery, which, besides promoting cleanliness, increases the value of the manure. Earthenware tubes of 4 or 5 inches diameter, glazed on the inside, are deemed quite effectual for the drainage, which should be conducted to a liquid manure tank, fixed away from the building. The pan recommended is that usually seen engraved in the advertisement sheets of The Builder.

A pump should be fixed where it would be mutually convenient to the occupants of both cottages. All the water from the roof should, nevertheless, be saved.

The ventilation is managed by means of a warm air chamber, supplied from without, through air bricks, at the back of kitchen range. The air should enter the various chambers through perforated zinc plates, at a moderate temperature, from the sides of chimney breasts, near the floor, and quit them through similar apertures on the other sides, near the ceiling. The air flues are carried up without communication to the top.

W. Boutcher.

THE CHURCH OF S. ISAAC AT S. PETERSBURG,

ERECTED BY THE CHEVALIER DE MONTFERRAND.*

Before continuing the notice of the building, perhaps I may be permitted to call attention to the enormous application of the electrotype or galvano-plastic process in the sculpture of this cathedral by the architect. After having made very important experiments, he was authorised to adopt this mode in the execution of the metallic sculptures and carvings for the following reasons:—

1. The identical reproduction of the sculpture without chiseling.

2. The lightness of the pieces, which enabled the architect to introduce sculptures of higher relief than any hitherto known, and to fix the pieces suspended from the vaultings, without fear of accident, or of their being detached.

3. The great saving of expense between these and castings in bronze.

The gilding also was effected by the same process, and presented equal advantages.

The seven doors of the cathedral will be of bronze and electrotype, the frame work being of the former, and the sculptural parts of the latter. Three of these doors are 30 feet high, and 14 feet wide, the four others 17 feet 6 inches wide. They contain fifty-one bas reliefs, sixty-three statues, and eighty-four alto-relievo busts, of religious subjects and characters.

There is so remarkable a departure in the construction of the dome from the systems hitherto adopted, that I shall be perhaps pardoned in trespassing further on your attention by describing, with the aid of the annexed diagram, the whole assemblage of this important feature.

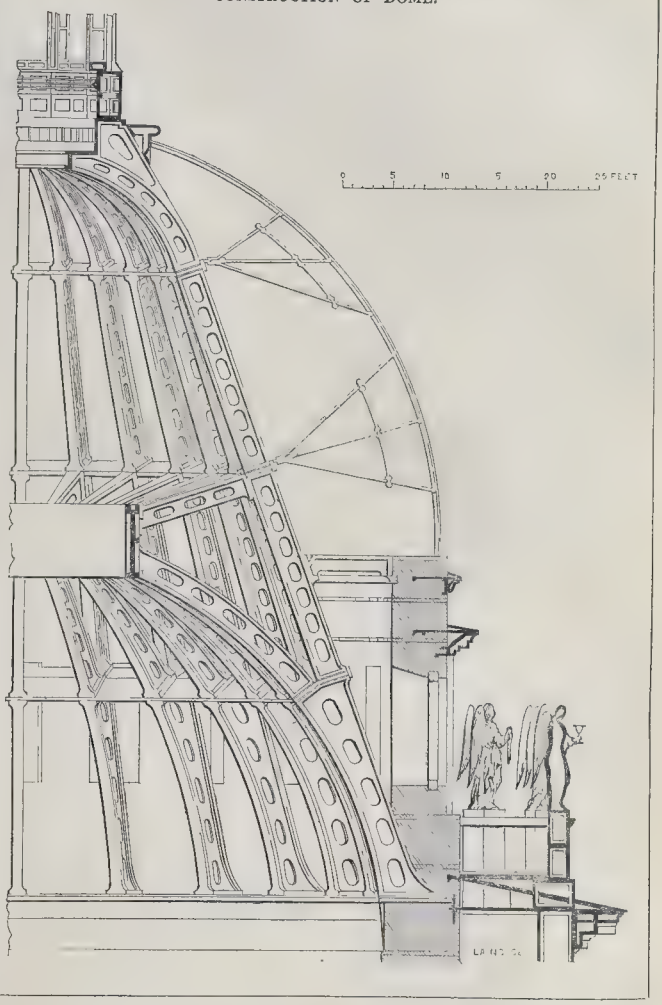
In alluding to the cupolas previously erected, the chevalier pays a just tribute to the genius of our illustrious Wren, and recognises S. Paul's "as the only existing dome presenting an irreproachable solidity." He, therefore, adopted the principle of Sir Christopher, carrying it out in a combination of wrought and cast-iron, and hollow pots.

The walls of the drum of the dome are carried up in solid construction of brick, with courses of stone bond, and are above 8 feet thick. At the level of the top of the cornice of the circular colonnade, which girds the drum, there is a series of twenty-four cast-iron ribs, 3 feet of which rest on a cast-iron plate 7 feet wide, which runs quite round the circumference. The lowest division of each rib rises to a height of about 23 feet, in its narrowest part is 3 feet 4 inches wide, in its broadest 6 feet, with upper and lower ribs, and the central part lightened by large apertures. At their head all the ribs are attached to a horizontal plate or curb, 6 feet 3 inches wide, which follows the periphery of the dome. At this height the rib is divided into two, the one part about 2 feet 6 inches deep, following the sweep of the inner dome for a height of 20 feet, at its summit bolted to a cast-iron perforated cylinder, 21 feet in diameter, and 7 feet high: this forms the central aperture at the summit of the inner dome. The other part follows the line of an intermediate cone, with a catenary

* See p. 590, *ante*.

CHURCH OF S. ISAAC, AT ST. PETERSBURG.

CONSTRUCTION OF DOME.



outline, and similar to the one in our S. Paul's: it is also 21 feet long, and 2 feet 6 inches deep, and perforated to render it lighter. At this height the heads of the ribs are again secured to another horizontal plate or curb, which forms a complete circle, and is 3 feet wide; and this curb and the ribs are tied to the cylindrical opening of the inner dome, already mentioned, by radiating beams 2 feet 3 inches deep. The conical ribs have then another length of 21 feet, and their heads are again connected by another horizontal plate, from which spring the circular ribs, about 16 feet long, forming a dome to the intermediate cone, and their heads also bolted to a cylinder, 8 feet 6 inches in diameter, and 18 inches high. But the upper portion of the ribs diverge at top, so as to form a base for the octagonal cupolino, which consists of a series of cast-iron story posts, ribs, and bracketings, inclusive of the dome of the cupolino, with its ball and cross at the apex, which last are of brass gilt. The filling in between the ribs consists of pots, the surfaces of which were subsequently rendered with plaster, and painted with sacred subjects. The sphere of the outermost or third dome, consists of a series of wrought-iron T ribs tied to the conical dome by rods. The external face of this outer dome is divided by twenty-four bold ribs, and is covered with bronze, gilt in three thicknesses of leaves of ducat gold.

The three principal gilders of St. Petersburg were charged with the inspection of the execution of this portion of the work, and rejected every leaf that had the slightest spot or blemish.

The whole entablature and flat, and the balustrade over the peristyle of the drum of the cupola, likewise consist of cast and wrought-iron framing, faced with plates of copper, to form the profiles and mouldings. The twenty-four pedestals of this balustrade carry winged angels of bronze, above 9 feet high, each of a single casting.

The quantity of metal employed in the dome is as follows:—

Ducat gold		247 lbs.
Copper	52½ tons.	
Brass	321½ tons.	
Wrought-iron	524½ tons.	
Cast-iron	1068 tons.	
	1966½ tons.	247 lbs.

The foresight of the architect has provided the following precautions against lightning, so much the easier, as the summit of each dome is in metal: at the top of the crosses of the bell towers and of the cupolino of the central dome are rods of platina, terminating in a point: each dome at its springing has isolated iron conductors, which go down to the roofs; and in the direction of the cast-iron rain-water

pipes are continued in the interior of the walls down to wells in the basement, the overflow of which discharges into the town sewers.

In justification of the system here employed let the architect speak for himself:—"We think," says De Montferrand, "the mode we have adopted superior to that of any other cupola. For what can be more absurd than those vaultings raised 250 or 300 feet in air—whose frightful weight, unceasingly in action, tends to disunite the points of support which uphold them. Our new system offers a stable combination, which allows of no disunion—which has no thrust, and which reduces to a tenth the weight of any previous combination. In our plan, the iron and bronze entablature of the peristyle of the drum is not a mere architectural embellishment: it is a solid girdle, which embraces firmly the dome, so as to give it a great stability; and can the superiority of this system be contested, when it is considered, that here is employed the material which can alone, with prudent care, brave the effects of a rigorous climate?"

The arches and vaults of the nave and transepts and the soffits of the porticoes are carried out in like manner by means of cast-iron girders, to which are attached the marble facings and decorative embellishments.

The roofing is wholly of iron, covered with copper. There are thirty-four small columns of cast-iron, resting on the walls and vaultings of the ceiling. These are tied together by a series of inverted queen trusses of wrought and cast iron mixed, about 6 feet apart, with wrought iron lathing to receive the copper. The whole presents a very light effect, and is very simple in its combination; and although the roof rises about 9 feet above the level of the attic outside, yet it is not seen unless by those at a very great distance from the building.

In determining the thickness of the drum of the cupola, M. de Montferrand has adopted the principle laid down by Fontana, of making the thickness of this cylindrical wall equal one-tenth of the internal diameter; although Rondelet and others allow a much less thickness. Notwithstanding, a substantial base for this great thickness of wall and the projecting architectural embellishments of the dome, is afforded by the pendentives, which rise from the four great piers of the dome, and form the circle for the cylinder of the drum.

The raising of the monolithic shafts of the twenty-four columns of the exterior peristyle of the dome,—each of which weighed near 66 tons,—to the height of 150 feet, was an operation requiring considerable skill. Each shaft was surrounded by a stout casing, to which were attached strong cables. It was then placed on an immense truck, calculated for the size of the vast block, and drawn by capstans upon an easy incline to a platform, which was on a level with the tops of the columns of the interior order, 42 feet high. Upon this platform was a moveable incline, 92 feet high, but with a very sharp rise, and up this the monolith was again drawn by capstans. At the summit was a large platform, 180 feet square, upon which was a moveable wooden framework, answering the purpose of a crane, with blocks and falls. There were twelve capstans around this framework. The monolith being dragged up the incline, reached the summit, and, by its own weight tilting over, reached the framework; it was then by it raised to a vertical position and gradually lowered on a granite die prepared to receive it, and which was cased with a bronze base.

As soon as one monolith was in its place, the moveable incline and the moveable platform and frame were all wheeled round ready to raise the next column; and so on the operation was repeated until the whole series were securely fixed in their respective places. It only required two hours to raise one of the shafts from the platform on a level with the capitals of the inner order, and to fix it on its base. 300 men performed this operation: the most perfect order and silence were maintained throughout, and the different movements directed by the sound of a bell. A silver rouble was placed on the base of each column in a hole sunk for the purpose.

The first column was raised on the 17th November, 1837, just eleven years ago from this period: nor was the operation commenced without prayers to Almighty God to bless the undertaking with success. In two months the twenty-four columns were completely fixed, and, be it remembered, in the very depth of a Russian winter.

The skeleton of the entablature of the peristyle of the dome is of cast and wrought iron, resting on the columns, and affixed to them by wrought iron pins, which are let a considerable depth into the shafts; and the framework is also let into the cylindrical wall of the dome, securely affixed to three templates. The cornice, with its modillions and mouldings, rest on cast-iron corbels; the caissons and rosettes of the inner soffit also rest on cast iron girders. The balustrading above is similarly framed, and the pedestals support bronze figures of angels, already mentioned, holding their attributes, each 9 feet high, and of only a single casting, weighing 1¾ tons. The balusters are also of bronze.

I may perhaps be permitted to observe that the bronze bases, capitals, figures, and other decorative details of this material on the outside are neither gilt nor painted, consequently the dark tone of these parts has a heavy appearance, and ill accord with their purpose and the stonework of the outer facing.

In the presence of such an assembly, so competent to judge of the merits of this important monument of our art, it would ill become me to offer any remarks, other than those which I have already made, upon the most striking points in regard to taste and skill, which distinguish this production of our honorary member. He has chosen the most appropriate materials, and has with considerable skill applied to his construction the improved system which cast-iron presents. I have not stopped to consider whether he has adopted all the expedients which we should consider necessary for counteracting the expansion and contraction to be expected in ironwork; particularly as regards the movement which might be expected at the feet of the ribs of the dome, and which possibly we might have regulated by rollers, and by allowing space for the development to be expected in a warmer temperature. The interval of ten years must have proved the efficacy of his provisions, and I should ill requite the courtesy of our generous donor were I to analyse with the severity of a critical eye the proportions and details of this remarkable monument. The unsparing nature of the materials employed prove the pious liberality of the emperor and the nation. The careful skill with which the architect has fulfilled his part, and the deep feeling for decorative art with which he has embellished the cathedral of the Russian capital, and the brief space of time in which he has erected the lofty pile, must ever render the Church of S. Isaac one of the most striking edifices of the nineteenth century. Thos. L. Donaldson.

APPOINTMENT OF SUPERINTENDING INSPECTORS UNDER THE HEALTH ACT.

Sir,—It seems to me desirable the public should know what very clever fellows the Board of Health have appointed, and intend to appoint, as superintending inspectors. I therefore send you the following extracts from their reply to applicants, so that you may hereafter, with your accustomed acumen and impartiality, test performance by promise. It is delightful to find that interest and personal friendship will have no weight, but that the men who understand, and have long worked in the sanitary cause without reward, may look for the advantage of these appointments.

D.

"That the board may be enabled to judge of the positive as well as of the relative ability of the candidates for employment in this service, they will require, in addition to the ordinary testimonials as to general ability and moral trustworthiness, to be furnished with proofs of a special aptitude for originating, expounding, and superintending the execution of the class of works in question. In the Public Health Act you will find set down the various duties of a superintending inspector, and, among others, that of dealing with the owners and occupiers of districts, in the way of exposition, examination, and judicial decision." * * *

"As the means of enabling the board to judge of your application, they would ask you to lay before them your views of the means of remedying the defects. To this end they would wish you to state, in the first place, the general principles which, during an inquiry and inspection of any city or town, would govern your determination of the boundaries which might be most advantageously adopted for the purposes of the Public Health Act, and then to select or suppose some case of defective house and land drainage, water supply, and cleansing, and shew in detail the way that you would treat it. Take, for example, a small provincial town or large village, or a detached suburban district of five or six hundred houses, or an undrained heavy clay or marshy site, and, it may be, affected with ague or typhus." * * * *

"In the next place, you would require to shew how you would select, gather, store, and distribute water for domestic use, for cleansing, and for the prevention of fires, with the character and cost of the works; and also to state the principles that would guide your procedure in this important department. It will be most to the purpose to choose for this purpose a town with no suitable river water at hand. The qualities requisite in water to be supplied to towns, the materials to be employed in water works, their sizes and proportions, and the amount of supply necessary for a given population, are, you are aware, all essential to be attended to. The paving of streets, of the different classes of main and secondary streets and courts, including the materials, the method of forming the foundation, the form and inclination of the surface, with the cost of work, would also require to be given, in reference to any place you might select or suppose, and also the means you would adopt for cleansing streets and courts, and for disposing of the refuse. The disposal of solid refuse from the habitations would likewise have to be provided for. You will, moreover, be expected to give a very precise and detailed account of your views as to house drainage. One of the chief objects of sanitary works being the immediate removal of all decomposing refuse soil and waste water from around, amidst, or beneath human habitations, it is desirable that you should fix upon a house, for example, one of the fourth class, or of the kind inhabited by the labouring population, and shew by what arrangements and apparatus, and with what materials, forms, sizes, and construction, and at what price you would accomplish this object. The same ought also to be done for blocks of houses. It would be requisite to distinguish between the cases of old houses and the applications that you would propose for new buildings or new districts.

You ought further to shew by what methods you would avoid the retention of solid decomposing refuse in the neighbourhood of habitations, as well as the pollution of river with soil-water, and at what expense you would accomplish these objects."

RAILWAY JOTTINGS.

The mere depreciation of railway stock about the middle of last month, was estimated by Manchester shareholders, at "upwards of 120,000,000*l.*,—that is, nearly one-sixth of the national debt!"——With regard to such formidable amalgamations of capital as those of the abandoned three Westerns, and the two Easterns, lately proposed, but referring specially to the former, *Herepath* says, "it is more dangerous to the public in other respects than mere cost and inconvenience of transport. The united capital of the three Companies is admitted to be 52,000,000*l.* excluding the shelved branches and extensions; and the length of lines which they possess and have an interest in, excluding again those put on the shelf, are 2,080 miles; and the united territory which they propose to monopolise, taking half of England, the whole of Wales, only one-third of Scotland, and none of Ireland, is nearly 43,000 square miles. With such power as this, backed by the patronage of 52,000,000*l.* of money, turning in a revenue exceeding 5,000,000*l.* per annum, which it probably will, what ministry could stand against it? *It would be like putting the ballast of the state vessel all on one side.*"——In the *Bristol Mirror* lately, there was a piece of wholesome satire in the shape of a letter from a wife, thanking the Great Western Directors for putting a stop to the return ticket system, not on the ground that it prevented her husband's returns to Bristol, but that it prevented at least one half of his flights to London altogether. She says that he used to go twelve times a year, *because* the trip was so cheap and so quick, but now she has to thank the Directors not only for keeping her husband at home, but for buttoning up his pocket, in place of leading him into the temptation of unbuttoning it that they might pocket his cash themselves, as they used to do. The whole *expense* to the Company of carrying a person between Bristol and London, says *Herepath*, is under

1s.—say, in the double journey, 1s. 6d. For going *twelve* double journeys a passenger would pay the full fare of *eight*. The Company, therefore, saves 9s., and loses two full double fares, which the traveller saves, besides collateral expenses! So much for the suspension of the return-ticket system, and the consequent economization and recruitment of the railway funds thereby.* The raising of fares is just as likely to increase their profits as this long-headed scheme appears to be.——Mr. Cox, the superintendent of the Electric Telegraph Company's works at Manchester, suggests that, for the prevention of railway accidents, the guard of every train should be provided with a portable telegraph, which, in case of any accident or emergency, he could attach to any of the wires, and signal any station for assistance. Such a suggestion has been repeatedly and long since made, but is none the worse for wear; indeed, it appears to be so feasible, and so likely to be useful, that it would probably not be easy for the railway direction to justify itself for not having long ago given heed to it. Portable telegraphs would cost something; that is the secret—though surely it should now be well known that accidents are even still more costly than would even the most abundant means of their prevention be.——The French Minister of Public Works has issued orders that for the prevention of accidents by railway, the employment of four-wheeled locomotives for passenger trains be interdicted, that every carriage do rest on six wheels at least, in order that if one of the axles should break, the carriage should still rest on supporters, and continue its course. Locomotives to be placed at the head of the train, and never behind. At least one carriage without passengers always to be placed at the head of each train of five carriages, and two carriages without passengers when the carriages in the train shall exceed five. Carriages with passengers never to be locked.——The Admiralty, at Mr. Ward's suggestion, intend having a system of dockyard railways introduced in place of teams, which cost 6,661*l.* per annum at Deptford, Woolwich, Chatham, Sheerness, Plymouth, Portsmouth, and Pembroke.——A tramway is now laid down on the pier at Southend, for which a small engine is to be provided. This pier, it will be recollected, is a mile and a quarter in length, and cost 42,000*l.*, though sold to the Eastern Counties for 17,000*l.* The Company have also been purchasing 30 acres of building ground adjoining it.——The bridge over the Witham, on the Lincoln line to Great Grimsby and Hull, is somewhat on the principle of the tubular bridge over Menai Straits. The weight of rails and traffic is supported by two girders of iron, which rest upon cross girders, extending from and fastened to two copper tubes, 6 feet in height, 18 inches wide, and stretching from pier to pier, bearing the weight of the whole. ——The tunnel (in solid granite throughout) at Killiney Point, Bray, on the Dublin, Wicklow, Wexford, and Waterford, has been cleared through. The contractor is Mr. Burke.——On the Holyhead line, the Carnarvon tunnels on the contracts between Conway and Bangor are being arched over with brick. ——About 200 men are employed on the Michelton tunnel of the Oxford and Worcester line, and a brickmaking-machine is at work on the spot, turning out 32 bricks a minute.—— Three of the arches near Bridge-street, Homerton, on the East and West India Dock Junction gave way lately and killed two men and severely crushed a third, besides killing a couple of horses and doing other damage. The shores were said to have been too soon struck. The contractor is Mr. Jackson, of Pimlico. ——On the tidal estuary of the Tay, at Broughty-ferry, below Dundee, a floating railway, or rather a railway float, is being made, with rails, and a length, breadth, and buoyancy sufficient to carry a train 500 feet in length across the estuary, by steam power equal to 250 horses. Stationary engines on either side the frith will lower and draw up the trains to the higher level of the line, the Edinburgh and Northern.——An embankment at Dumblane, on the Scottish Central, is said to have been carried away, and coaching for about seven miles rendered necessary.——A portion of an embankment on the Taff Vale line, near Merthyr, is also said to have given way; but the permanent way was soon restored.——The top stone of the Wharfdale viaduct, on the Leeds and Thirsk, has been laid. This viaduct, as we think has been already noted, consists of twenty-one arches, of 60 feet span each.——To obviate the frequent accidents from breaking of wheel-tires, a new wheel without tires, made of cast-iron, has been invented and patented, according to the *Manchester Examiner*, by Mr. R. Heath, of that city. It is cast, of course, in one piece, and "the difficulty to overcome," says our authority, "to make a wheel of cast-iron sufficiently strong, has been that of a nice calculation, so as to make it equal in all its parts, and to secure a mode of casting which ensures the contraction of the metal being equal in all parts. The test applied to try its strength was to hoist the wheel to a height of 14 feet, and then let it fall upon a bed of solid iron. The only effect upon it of this test was an indentation similar to that which wrought iron might be expected to discover. Another test was to let fall upon the boss, or centre portion of the wheel, a tup, or large ball of iron, of 9 cwt. from the same height; and this heavy mass bounded off without producing the least impression upon it. The patent wheel will be the same weight as those now in use, but may be made at a reduction of 40 per cent. in price."

* Even the first week's trial of the trick thus played upon the confiding possessors of return-tickets—and, of course, long ere they could have had time to recal previous more or less permanent arrangements founded on the faith of the return-ticket system, and thus escape altogether out of the clutches darted forth so suddenly to ensnare them,—fully justified the predictions of all common-sense people, not blinded by the unreflecting greed of an overweening self-interest. On the very day on which the return-tickets were abolished, 15 miles of new line were opened, yet the traffic returns of the following week *without* return tickets, and *with* the 15 miles of new line, were just 637*l.* 14s. 10d. *less* than they were the week before *with* return tickets, and *without* the 15 miles of new line!

STATE OF ST. MARGARET'S CHURCH-YARD, WESTMINSTER.

A more pestilential nuisance in this mighty metropolis can hardly exist than one immediately under the noses of the makers of our sanitary laws: this is the churchyard of Saint Margaret, Westminster, contiguous to the Houses of Parliament. Having undergone a few years vicinage to this locality, I may venture to affirm, from my own observation, that 300 corpses are about the number annually added to the limited area of this pest-spot. I have often witnessed scenes revolting to human feelings, when the grave-diggers were seeking an eligible space for another interment by forcing a borer, something like a huge gimblet, into the earth. An exclamation of "oh!" has escaped from their brutal lips when the iron rod broke the lid of a coffin, during this operation, and descended suddenly for a foot further in depth without exertion, doubtless piercing through the decaying remnant of some loved departed person, whose resting-place had been purchased there by sorrowing survivors with fees of gold.

And when a space is found where an addition to putrescent matter can be received, bones are turned up in heaps, with fragments of muscle attached, not yet decayed, and skulls intact. The grave-digger's spade has readily smashed these remnants of mortality, that the disgust of passers-by might not be excited. Oftentimes there are three or four of these foul cavernous openings emitting their exhalations to poison the atmosphere: on a summer's day, with the steaming vapour called up still stronger by the heat of the solar rays. As every fresh coffin displaces a portion of this highly-infected earth, it is usually wheeled off and placed in a heap against the railings on the north side of Henry the Seventh's Chapel, where it remains until the sun and rain occasion its dispersion.

I would here propose a question for the scientific inquirers of the day to resolve. Do not the mephitic odours and noxious gases arising from this immense mass of decaying human matter in the churchyard act on the surface of the stonework, which has so much crumbled on the front of the north transept of the abbey—the greater part of the balustrade above the first range of windows having totally disappeared? The disintegration of many other parts is rapidly progressing, and the more recently-renewed work of Henry the Seventh's Chapel is fast dropping off.

When the wind is westerly, the breeze is so sickening that the inhabitants of the apartments above the Rolls' Court, and in the other parts of this building fronting the churchyard, close their windows to shut it out, be the weather ever so fine. The cabmen even feel its baneful influence, and, after nightfall, urge their jaded horses, when they have taken up "a member," to gallop through the *gut*, as this part from the doors of the House of Commons to Bridge-street is named by them, that they may get quickly away from the deleterious atmosphere.

Yet this is the air which our senators respire when they leave the Houses of Parliament, with fatigued lungs after long speeches, abstinence of refreshment, or dreary hours of attendance.

As wise women say, there is no sore without a salve; and not to disturb the mementoes of the dead, the gravestones might form part of an uniform pavement, well cemented, with those added to fill the interstices at the joinings; but at least a couple of feet in depth of the earth should be removed, and a layer of concrete placed thereon to level the ground and prevent its sinking into inequalities of surface.

An Idler in London.

RUINS OF FENAGH ABBEY,

COUNTY LEITRIM, IRELAND.

Sir,—During a sojourn of some two or three months in this neighbourhood, I have had an opportunity of visiting Fenagh Abbey, one of these interesting ruins so numerous in this and the adjoining county.

Fenagh Abbey is situated a few yards off the high road leading from Mohill to the village of Ballinamore. It is perched on a slight eminence, and presents little or nothing to the casual observer beyond the cyclopean character of the masonry, and the usual accompaniment to all ruins in Ireland—the latticed ivy—now forming a rich and luxuriant marginal border on the upper portions of the walls. The traveller, however, who keeps in view "the days of auld langsyne," will be amply repaid on entering the precincts of this time-worn little spot.

The east window was of four-lights, with a circle in the head divided into six compartments, with a trefoil opening in each. One of the mullions has fallen, and this loss has caused a slight change in the tracery, by displacing the stones forming the principal or circular compartment of the window. Under the sill of the window outside, is a richly moulded belt or string course, across the end of the church, the central bead carved as rope-work, and one end grasped by the figure of a dog.

Ledwich, in his antiquities, relates an absurd tradition about the "rope and dog," making the dog a demon! which the monks of old had caught in the act of pulling down their little church during the progress of building, and as an example to evil-doers, they had the "old-boy" tied by a rope and carved on the walls of the abbey to commemorate the event.

The date is probably the close of the thirteenth century. Two sculptured heads I found in the adjoining graveyard strongly resemble the engraving of a head in page 176 of "Paley's Manual of Gothic Architecture:" these heads appear designed to receive the hood moulding of the entrance doorway, not a vestige of which now remains. About one-third the length of the church (from west end) is covered in with a rubble stone vault, in good preservation.

At half a mile north of the abbey is found one of those rude memorials of ages long past over, a "*cromlech*," supposed to have existed long prior to the introduction of Christianity into these countries.

I had nearly forgotten to mention a sedilia in the south wall, having only two seats, an arrangement rather unusual.

Mohill. J. K.

Competition.—The time for lodging plans for the drainage of Guildford has been extended from 1st to 15th January next.

Miscellanea.

The Villa Torlonia.—It is often said that the Italian princes are poor, but it may be said with great truth that they live in the finest palaces in the world. Those erected by cardinals in the fifteenth and sixteenth centuries are grand and sumptuous in the extreme. Labour was cheap, materials were at hand, and the wealth of the great was abundant. But it seems wonderful that such a costly work as the Villa Torlonia should be commenced and finished at the present day, when wealth is so generally diffused; yet in this instance it is easily explained. The dukes and princes of this family have enriched themselves by speculations in trade and monetary concerns. Their intimacy with the English has helped them to some of the secrets by which wealth may be quickly obtained. They are bankers of the Roman states; and it is said they have the monopoly in tobacco and some other luxuries, which secures to them great revenues. The Villa Torlonia is situated on the Via Pia, about two miles east of Rome—a favourite walk of the cardinals. It is built on the plan of the ancient villas, as a retreat from the burning atmosphere of a scorching city. The rooms are low and small, with floors finely wrought in Mosaics and polished marble, which run through twenty apartments. The walls are covered with beautiful frescoes, though not of Raffaelle or the Caracci, yet executed by the first artists of the present age. The costly furniture and gilded decorations surpass anything we can conceive, either ancient or modern. The portico is supported by fluted pillars, forming a lofty terrace, upon which a large company may walk and enjoy the evening air, and view the landscape presented by the Campagna, the Sabine hills, and the distant Apennines. The theatre, built of white marble, is a model of surpassing beauty. It would repay an architect to make a journey purposely to see it, if he saw nothing else. The apartments surrounding this gem of architecture are stored with every luxury that kings and princes could desire. The spacious grounds afford numerous out-door amusements. There is an amphitheatre for gymnastics; and if chivalry should ever return, the lists are ready prepared for tilts and tournaments, provided with seats for thousands of spectators. Such is the country residence of the Prince Torlonia. But the principal family mansion is the Palazzo Torlonia in Rome, occupied by his brother, the Duc di Bracciano. This also is full of all the magnificence that wealth can command. The banking establishment, so important to Englishmen, is on the front of the mansion, in the Piazza Torlonia, as you enter the grand quadrangle.—*Sights in Italy.*

The Greatest of all Ironmasters.—There seems to be some reason in the complaint of one of the 'great masters,' Mr. Crawshay, as proprietor of works at Forest of Dean, Cyfarthfa, Hirwain, and Newbridge, and merchant in Upper Thames-street, that, in the midst of the "sad state of depression" under which the trade at present labours,—with a "competition such that bar-iron and rails may be had for 5*l.* per ton—a price below the present actual cost of production," and without the power to manufacture bank notes,—he and his competitive fellows find themselves so utterly unable to compete with the Bank of England, which not only has that power, but also practises as the greatest of all ironmasters, under-selling even the greatest of all the now comparatively small masters by help of this paper note monopoly. Mr. Crawshay thinks that the privilege of manufacturing bank notes should be allowed the 'trade' in general, if the "charter to the Bank of England for note-making is to be construed to extend to making iron." He would then, he thinks, be able to compete even with it, while still paying "25,000*l.* weekly, and at the end of each month, in wages."

At Holy Rhood Church, Southampton, now in course of demolition, one of the arches lately fell while the stones were about to be separately removed, for use in the reconstruction, killing a workman who had overlifted it while putting in shores without being warned of the probable consequence.

Irish Instruction in Civil Engineering.—We have been favoured with a copy of a "Notice to the inhabitants of Dalkey and its vicinity," issued by a "Civil Engineer and Land Surveyor (late of her Majesty's Engineering Department)," who has opened a school at Skibereen. As an example of the sort of schoolmaster that is abroad, we give the learned gentleman the advantage of our circulation, without the usual charge for advertising. He says the school is,—"For the instruction *of* reading, writing, history, *dictionary*, arithmetic, geography, guaging, mensuration and dialing geometry, gunnery and fortification, navigation, with plane rectangular middle latitude and great circle sailing. Trigonometrical surveying and leveling together with several other branches *on* the mathematics *to* numerous to mention with their application to the construction of common roads, rail roads, canals harbours docks and tunnels, viaducts aqueducts improvement of lakes rivers bays &c. by drainage embankment and cultivation. Gentlemen—desirous of being instructed in an elementary course of surveying and leveling will find this a most desirable opportunity (not like as in other schools where science is neglected and practice not understood,) it shall be prosecuted with zeal and attention and on moderate terms which may be known on application to the proprietor. The school is supplied with maps of the globe jointly and severly—together with field and office instruments for surveying leveling and mapping. Testimonials of the highest refrences, &c." Alack! alack!

Liberal Encouragement to Architects.—Mr. Editor: Pray, look at the third plate in "Pugin's Contrasts," and say whether the sarcasm levelled at cheap competitions in '36 is not become, almost *verbatim et literatim*, a positive truism in this present '48? It stands thus:—"New Church: open competition.—For the best design, Five Pounds. The four next best in proportion."—*Pugin's Contrasts*, 1836. Then see advertisement in Builder, Oct. 7, 1848:—"Church of St. Thomas, Heptonstall, Halifax, &c., to accommodate *one thousand one hundred persons*. Premiums of 10*l.*, 7*l.*, and 5*l.* will be awarded." Call you this a contrast favourable to the prospects of the "youthful, unemployed, and aspiring architects" of 1848. Φ.

Royal Academy.—On Saturday, at the distribution of premiums, silver medals were awarded for drawings of the Whitehall front of the Banqueting House, to Mr. John Bidlake and Mr. Charles Augustus Gould.

The Liverpool Architectural and Archæological Society. — On Wednesday evening in last week, a numerous meeting of the members of the recently-formed but prosperous Liverpool Architectural and Archæological Society was held at the Royal Institution, in Colquitt-street, in that town, the Rev. David James, F.S.A., of Kirkdale, in the chair. A letter was read from the respected antiquary, John Britton, expressive of his good wishes, and presenting to the society several works, including a copy of his recent publication, "The authorship of the Letters of Junius Elucidated."* A cordial vote of thanks was passed to Mr. Britton, and it was unanimously resolved that to mark their sense of the value of Mr. Britton's long devotion to architectural antiquarian pursuits, the treasurer be instructed to send a contribution in the name of the society to the Britton testimonial. After the transaction of miscellaneous business, Mr. J. A. Picton read an interesting historical compilation, entitled "Ancient Liverpool in its Buildings and Architecture." We are forced by pressure of matter to postpone our own notes of a recent visit to Liverpool till next week, when we hope to illustrate them with a fine view of one of the principal buildings now being erected there, and to avail ourselves of some part of Mr. Picton's paper.

* We have long had this interesting work before us with the intention of recommending it to our readers, satisfied that, although the subject might seem somewhat out of our province, the fact of its being the work of Mr. Britton, to whom we all owe so much, would bring it there. Mr. Britton has thrown much curious light upon this vexatious and mysterious subject, and has produced a book, in which many will find deep interest, and all great gratification. It is published by J. R. Smith, of Old Compton-street. It has led to some very able papers on the subject in the *Athenæum*, *Gentleman's Magazine*, and elsewhere. Our readers will hear with pleasure that Mr. Britton's health is restored, and that he is now proceeding vigorously with his autobiography for the subscribers to the "testimonial."

Plan for increasing the Heat from a common Fire, and improving Ventilation.—The greatest portion of heat, or heated air, from a common fire, passes upwards through the flue, leaving only a small portion to be thrown off by radiation from the front. This small portion is still further diminished by the draught which is necessary to support combustion, forcing it continually back into the fire; so that, in proportion to the heat really obtained, the waste is enormous, and the constant draught of fresh air which the fire requires makes the opposite side of a large room, in many cases, colder than if there was no fire. Why should we submit to this continual waste and inefficiency, while the same fire that requires the draught of fresh air could warm it before it enters at the opposite side of the room. By making it do this, we should get more than treble the amount of heat, have it evolved at that part of the room most distant from the fire, and by this means establish very nearly an equilibrium of temperature. The warm air thus introduced would be available both for the purpose of combustion and respiration, being a continued stream not only of *warm* but of *fresh* air, without requiring the least assistance from door or window. The plan I propose is a reciprocating, or self-acting arrangement, by which a spiral current of air is formed, commencing externally by means of a small grating, or air-brick, let into the front wall, and carried through a pipe (for which a chase may be cut behind the skirting), to the side of the stove passing near the fire. The air within becoming immediately heated, is forced by the greater gravity of the cold air from without, through the continuation of the pipe at the opposite side of the fire, and from thence, by a sheet-iron tube under the floor, behind the skirting, or otherwise, to the opposite extremity of the apartment. It there emerges in a heated state, warms the whole room in its passage across to the fire again, and having supplied entirely the place of the cold air usually let in through doors and apertures, it passes through the flue, and gives place to the fresh and continued (warm) supply which it draws after it, mingles again with the external atmosphere, and completes the spiral and reciprocating current.*

F.

Stone Quarries.—Sir: To all those who may be in search for stone quarries, I should recommend a visit to the *Black Isle* in Rossshire, N.B., between Cromartie and Farintosh, which abounds in quarries of free-stone of red and brown, and is so near the sea-shore that a boat may almost go alongside the quarries, which have only been worked for the locality. A quarry extends from the parish of Farintosh to the parish of Avoch, about four miles: at Mollochey there are two large hills of granite close to the sea-shore. At the head of the river Avoch is a fine quarry of free stone, fit for foot pavement: and to all contractors who may want foot-pavement stone such as comes from Caithness, I should recommend them to visit the Orkney Islands, where it abounds in nearly all the islands, and might be made a trade of between them and France. F. Urquhart.

The State of Allington Castle.—Sir: The observation of your romantic correspondent on "Allingham (*qu.* Allington) Castle," would lead unsuspecting persons to the conclusion that some *new* desecration was in progress. Had the writer been, as his remarks would imply, much in the habit of dreaming under the oaks of Sandling, he would have been aware of the inaccuracy of which he is, doubtless ignorantly, guilty. But supposing him to be a stranger to the history of these venerable ruins, he must allow me, as a person many years acquainted with the locality, to give a true version of the story. The additions that had been made to the original walls, for the purpose of rendering the place habitable, were not of recent date—perhaps not less than a century's standing; nevertheless, the area and precincts of the castle were much encumbered with the necessary appendages of two farm houses, and its really beautiful remains hidden from view. Part of these obstructions, so far as connected with the smaller farm, have been removed,

* We insert the above, not as presenting any novelty, but because, often as the idea has been dwelt upon, it is comparatively seldom carried into effect.—Ed.

and, in so doing, every care was taken to leave the "old building" intact. These alterations appear to be referred to in the paragraph,—"This latter has been dismantled, the roof torn off, the floors taken away for cattle-sheds, the windows demolished, and the materials converted into peasant cottages;" all which is quite untrue, as far as applies to the original structure. VERITAS.

TENDERS

For building the basement of the new Wesleyan Chapel, Liverpool-road, Islington.

King	£1,025
Grimsdell	999
Piper	990
Curtis	909
Wood	887
Jeffrey	864
Smith (accepted)	829

TO CORRESPONDENTS.

"*Inquirer*" (St. Isaac's Church).—The portico with one intercolumniation of projection is the east or west portico. The portico with the deeper projection is the north or south portico.

Received.—"A Constant Reader," "T. P. W.," "G. H. N.," "W. C.," "S. T." (Holborn), "E. A.," "J. C.," "L.," "A Sufferer," "W. H.," "C. N.," "E. E.," "W. P. G.," "Bosch" (shall appear), "A Native" (Hythe), "W. T.," "W. C.," "T. L." (shall appear), "S. M.," "A Subscriber," "H. F.," "W. A. M.," "A Non-competitor," "F. S." (the mode has been given in a previous volume of THE BUILDER), "J. N. F.," "W. H." (Dover), "W. H. R." (send us a slight tracing and we will reply), "Fair Play," "R. R. B." (we have written), "W. J. R.," "R. C." (thanks), "J. D." (Norland-road), "W. C." ("Learn to Labour"), "D. R. K.," "Sir H. D.," "A Mason," "W. W.," "T. S." "The Song of Songs, which is Solomon's," Illuminated by Owen Jones (Longman and Co., 1849); "The Words of the Preacher, Son of David," illuminated by Owen Jones (Longman and Co., 1849); "Report on the City Sewers," by Messrs. Walker, Brunel, and W. Cubitt.

"*Blind Builders.*"—We are asked to say that the list of tenders under this head in the last number but one, for alterations at a house in Threadneedle-street, should have been as follows:—

Sherwood	£397
Hawtrey	394
Rider	355
Sander	338
Green	270
Waller (accepted)	253

"*Books.*"—Notices of several books are unavoidably postponed.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 40s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

2 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

4½d.	5d.	7½.	10d.	1s. 3d.	1s. 8d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 13s. per cwt.

Best Town Glue 38s. Do. Scotch, 32s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

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2 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.

£3.	£3. 15s.	£4. 5s.	£5. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 3½d., and 4d. do.

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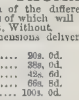
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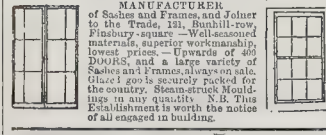


of Sashes and Frames, and Joiner to the Trade, 131, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worth the notice of all engaged in building.



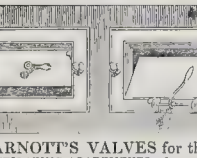
MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 23, Cross-street, Blackfriars-road.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. P. EDWARDS having had the advantage of inusing them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 30s. and upwards. A prospectus, containing every requisite information, to be had on application to F. EDWARDS, 42, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE,



For carrying off Heated and Impure Air from Bed-rooms Sitting-rooms, Counting-houses, and Apartments generally.

LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 9.
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	13 0	21 0
Brass Front	17 0	34 0

Packing Cases of reguredi. is 3d. each.

Manufactured by HART and SONS, 53, 54, 55, Wych-street, Strand, London.

BRICKS WANTED for delivery within two months after Christmas—about 500,000 good, sound, STOCK and PLACE BRICKS. Letters, stating lowest prices, delivered alongside, in Thames, and name of locality where made, addressed to R. A., Messrs. Knight and Foster, Stationers, East-cheap, City.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-cres cut, Newington butts.

N.B. Cowley and Kent Bricks of every description, and Kentish Rag Stone direct from the Quarries.

WORCESTER ENCAUSTIC TILE WORKS — The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 3d. per square foot; "Seconds," at 9½d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London at Messrs. GARVE and CHEELER'S Marble Wharf, Belvidere-road. Waterloo bridge; and in the country, at the Works, Palace row, Worcester.

FIRE BRICKS.—WARD and HART, Hondurus Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from Ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulder's Sand, Hearth and Whitening, River Sand, Ballast, Lime, Cement, Malt and Corndrying Kiln Tiles, now in such general use for malting, &c. &c., Chimney pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.



BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate at Holkham, of red, blue, and Bath stone-coloured fire-proof, plain and gauged work pieces to the accurate Blashfield's Wharf, Commercial-road, Lambeth and Waterloo-bridge, consisting of plan bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, dressings for wind ws and doors, mullions, ridges, shortings, &c. Also coping and paving tiles of an ornamental character in the same materials. The moulded pieces are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 280 and 291, of "The Builder."

SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S newly-invented SIMPLEX WINDGUARDS, which differ from all former inventions over the world (and known as DAY'S PATENT WINDGUARD), by greater cheapness and durability, impossibility of clogging with soot, and the prevention of the descent of smoke down adjoining chimneys. Price in Galvanised Iron, 25s.; Size for Kitchen Chimnies, 40s.; To be seen and tested at Mr DEARDS, the Style Depôt, 31, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country licenses for manufacturers granted.



SMOKY CHIMNEYS.—"NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale place, Hammersmith, begs to inform Architects, Surveyors, Builders, and others, that he can guarantee a perfect cure of chimneys from smoking into rooms, on moderate and equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'S PATENT CHIMNEY-POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, can be forwarded to any part of the Kingdom on receipt of Post office order. Prices and prospectuses by return of post. Licenses granted to manufacturers.

MANUFACTORY, VALE-PLACE, HAMMERSMITH, MIDDLESEX.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING,

For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and are not liable to injury when it becomes hard or stiff in any temperature but are always perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturers, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

LIGHTERAGE.—To Contractors, Builders, Stone, Timber, and Slate Merchants, or others requiring Lighterage.—CHARLES STRUTTON, Lighterman and Timber Ralter, having a large number of craft of all sizes, is ready to undertake large or small CONTRACTS at prices particularly advantageous to his employers. 34, Commercial road, Lambeth (near Waterloo Bridge), and 1, Union-street, Old Kent-road (near the Commercial Docks).—BARGES LET on HIRE.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also it kept an extensive stock of every variety of Paper-hangings, on the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and Paper-hangers are liberally treated by the above.—451, Oxford street.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VERITY'S, 3, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GREAVES'S BLUE LIAS LIME and CEMENT.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. N.B. Sole Consignee for Mr. Atkinson's Cement. Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Patent No. 9,992, dated 27th March, 1843, granted to J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial road, Lambeth. No. 1, Irongate Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster Work, Tiles, Bricks, &c.

PARIAN CEMENT, for internal Stucco, instead of PLASTER OF PARIS, may be painted and papered within twenty hours of its application on the bare walls; and rooms may be rendered habitable by its use before the materials commonly adopted would begin to dry. It is worked without the slightest difficulty. A finer quality is also prepared for ornamental plastering, for encaustic painting, &c. &c. Specimens of which may be seen at the Manufactory of the Patentees, CHAS. FRANCIS and SONS, Cement Works, Nine Elms, London.

KEENE'S PATENT MARBLE CEMENT forms a new, lasting, hard and impervious stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland for the standard list.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 3 and 351, of "The Builder" for accounts of experiments on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. It is found to be a good protection for the Iron Bolts fixed in Stone, and to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not crack, crumble, or get green; nor is it affected by any atmospheric influence sufficient to render it desirable for any purpose used for. It is manufactured to set in from five to sixty minutes, as required. This Cement is applicable for Puddling Sea-walls, Docks, Reservoirs, &c. Messrs. HOBKINS, SPOFFORTH and Co., Engineers, Fitzroy Manufactory, Northfleet, Kent, and their Wharf, Great Scotland yard, Whitehall; also by their Agent at the Depôt, Baltic-wharf, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, impervious ness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shewn by the numerous testimonials received from public bodies and private individuals of the first importance. Prices and testimonials may be had direct from the sole agent, PHILIP BARE, at the Warehouse, 23, Steel-yard, Upper Thames-street.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT REDUCTION OF PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price, and have every confidence that the public generally will have obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. Patentees however feel called upon to observe, that by its use from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 35 to 40 per cent. is effected as compared with other cements for internal purposes, showing its economy, hardness, and applicability to all plain and ornamental purposes, to be most extensive. Sold in any quantities, by the Patentees' Works, 144, Drury-lane, London, and at their Plaster and Cement Works, 14, Drury-lane, London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN, and other CEMENTS, and PLASTER of PARIS, at reduced prices, consisting of Vases, Balustrades, Chimney-pots, Tazzas, Pedestals, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-mouldings, Paterae, &c., &c., 36-inch Centre Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing. JOHN HERBERT and SON, Modellers, &c., 16, Paradise-street, Deptford.

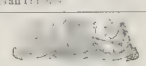
TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, Leather, and Canvas. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Messrs. Rennie, Smirke, and Stevens, the greatest eminence, orders to be addressed to Mr. B. TODD, Patentee, 19, Dorset-street, South Lambeth.

PATENT MINERAL PAINT.—After three years' trial in the field and in towns it is found that this PAINT has proved its superiority to any other kind of paint, and is now used in all parts of the country for the outside and all other adhesive matter. It is also peculiarly adapted for spouts and gutters, iron railing, felt or wooden roofs, carpenters' shops, &c., and is equally fitting for inside work. It is one-third of the usual cost, and is used in this state for 2s. 6d. per gallon. Brilliant Black, 3s. per gallon, and White, 4s. per gallon.

LIMBURN'S PATENT LIQUID CEMENT

This valuable and cheap CEMENT is so thin that it will work, and lodge in any crevice, and will adhere fastened to any substance that will stand water. It is more durable and resists more of the rust. It is protected on the walls as well as Roman cement—Sold in casks of 1 cwt. and 1 cwt. at 8s. 6d. per cwt., and less per cask. GEORGE LEAR and Co., sole agents, 16, Basing-lane, Cheapside.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, PEDDOCK'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering ridge, and tiles.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BIDDELL'S PATENT ASPHALTE, for Roofing, Terraces, Railway Arches, Tunnels, Retaining Walls, &c. Manufactured only by Messrs. OBRIEN and ARNOLD, Specialists and Inventors, 6, Gutter-lane, City; and at the offices of The Builder.

ABERDEEN GRANITE. ROCKHILL PAVING, &c.—ALEXANDER NICHOLSON, 12, Little Tower-street, London.—Agent for Forss Rockhill Quarries: A. and W. Nicol, Granite Merchants, Aberdeen; the Aberdeen Lime Company, Granite Merchants, Aberdeen; Neilson's Polished Granite Works, Aberdeen; the Herm Granite Quarries, &c. &c.

YORK STONE.—Buy your York Paving Slabs and Landings, from Brandy Hall, Fothard, Park Spring, and Harehill Block Stones, at the VICTORIA STONE WHARF, ISLE OF DOGS, opposite the Greenwich Hospital.

THE CHEAPEST WHARF IN LONDON FOR CASH.

Stone delivered to any wharf in the river in large or small quantities.

ANSTONE STONE WHARF, STANGATE. Mr. GRISSELL has the honour to inform Architects and Builders that he has made arrangements for the SUPPLY of the ANSTONE STONE for all building purposes, and which may be seen at the above wharf by application to Mr. W. G. WARDLE, of whom every necessary information can be obtained. August 30, 1848.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at Brine's Marble and Stone Wharf, Horsfall-basin, Maiden-lane, King's-cross.—Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27 Burton-crescent.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.

P. POUCARD, ainé, des Abattes Caen (propriétaire des Carrières à Allemagne), begs leave to inform Builders, Architects, and others that he has, on the above-mentioned wharf, 2000 feet of the best Caen stone in London, from blocks of parliaments.—Contracts taken for any quantities.

Orders received by Mr. BASSHET, at 39, Stoney-street, Borough Market.—Cargoes shipped to order, from Caen, to any port.

CAEN and AUBIGNY STONE.— LUARD, BEEDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at Allemagne, and Aubigny Quarries, near Falaise, Normandy, beg respectfully to invite attention of Architects, Engineers, Surveyors, Builders, and others to the above Caen Stone, as well known to merit special notice. Aubigny Stone, from its fineness of grain, hardness of texture, beauty of colour, freedom from vents, shell, and great durability, ranks amongst the first for building and engineering purposes, hall paving, staircases, sculpture, tombs, cemetery works, and general masonry. Having been for many years supplied large quantities to various parts of the continent for public works, light-houses, &c., under the patronage of the Royal Engineers. Messrs. exercise the privilege of the United Kingdom with despatch direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand, at Caen Stone Wharf, Rotherhithe, where samples and information may be obtained.—Office, 18, Southwark-square, Southwark-bridge-road, Southwark.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASON'S WORK in all its branches, is executed on the most reasonable terms, in such manner as will meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5l. upwards.

MONUMENTS and TOMBS in great variety of design.

The most Varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, on view.

Stone-box Chimney-pieces, from ..... 13s.

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RESTORATIONS Estimated for in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

Goods Landed, House, and Delivered.

ENAMELLED SLATE.—CAUTION!— Some discarded workmen of Mr. Magnus's, having pirated his invention of marble slate, and taken the name of the finish, which unfortunately are frequently confounded with MAGNUS'S ENAMELLED SLATE, until a few months' wear has shown them the true light. Mr. MAGNUS, who has expended a fortune in perfecting and introducing his enamelled slate articles (which articles have won for him the patronage of the highest personages in the realm, the approbation and support of the first scientists, and the medal of the Royal Society of Arts), deems it necessary to put forth this caution, and that of the public, and for the just fame of his invention, to caution the inexperienced against these imitations. The public are therefore requested to observe that the address is MAGNUS, PIMLICO SLATE WORKS, and all future all articles of his manufacture will be so marked.

Patronised by her Majesty Prince Albert, the Duke of Wellington, the Duchess of Sutherland, the Duke of Grafton, the Marquis of Westminster, the Marquis of Londonderry, the Earl of Denbigh, the Earl of Dartmouth, the Earl of Bandon, the Earl of Waldegrave, the Countess Wilton, Viscount Combermere, Lord Redesdale, the Bishop of London, the Bishop of Bath and Wells, the Hon. Col. Douglas, Pennant, Mr. Assheton Smith, Col. Challoner, Sir J. Easthope, Sir Francis Lees, Sir Roger Hurd, Sir Thomas Cartwright, Sir Willoughby Jones, the Hon. C. Anson, Lord Anson, and numerous other distinguished and influential patrons. Testimonials from the above, and from the eminent architects and engineers, the Commissioners of the Board of Works, and the Board of Public Works, and by the public generally.

SLATE SLABS.—Mr. MAGNUS having machinery in Wales capable of sawing and planing some thousands of beautiful slabs, is enabled to supply the public at a much lower rate than any other house not possessing the same facilities. Patent enamelled slate tops, as well as other slate work, supplied at the greatly reduced price list. Address, MAGNUS, Pimlico Slate Works.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that its confines exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

HEAL AND SONS' LIST OF BEDDING,

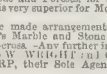
Containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he is now fitted, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, &c. &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Flooring Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.— T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Broad-street, Newman-street, Oxford-street, Vinegar-yard, SEASONED FLOORING, MATCH BOARDING, &c. FOR IMMEDIATE USE, viz.:—MOULDINGS prepared by machinery. Cut Deals and Battens, Scantlings, Boards, Mahogany, Oak, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged 2s. per hundred superficial feet. Sawing Shed, Vinegar-yard, Drury-lane. Drying Sheds. N.B.—T. A. has several lots of dry cut stuff in scantling and boards to sell cheap, previous to stock-taking at Christmas.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and craft Loose free of charge.

Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning Sawing and Planing Wood, at the Grosvenor Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to

ANDREW JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

The Company's Agents are Mr. WILLIAM LOVE, Iron-founder, &c., Manchester; Mr. THOS. MILLER, Engineer, Mr. RALPH DOLPH ELLIOT, and Co., Gas-co., Messrs. CLIFFORD and BROWN, Hull.

JORDAN'S PATENT MACHINE CARVING and MOULDING WORKS for WOOD and STONE, Belvedere-road, Lambeth, and 154, Strand. TAYLOR, WILLIAMS and JORDAN beg to call the attention of Architects and Builders to the specimens of their Machinery now executing for the Houses of Parliament, and to thank their numerous patrons and friends for the very liberal support they have lately experienced, which, they would inform the public, is the result of their constant endeavour to deserve, by giving their customers an increasing share of the advantages arising from the constant improvements in the machinery which is the sole property of the United Kingdom, and the production of the most intricate carving in Caen and other freestones, and in statuary marble.

T. W. and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large saving, both of time and money, is effected,—so great, indeed, that in many cases a well finished carved article in Caen stone for less money than it can be obtained in cement, while their wood and plaster work, in some cases, is fully one-third cheaper in competition with the best composition ornament.—For prices and estimates apply at 154, Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

To Westminster, May 16th, 1848.

"Gentlemen.—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the production of the wood carvings of the House of Peers, and other apartments of the New Palace, at Westminster, that I am enabled to make the most favourable report concerning it, and to add that it has more than justified the favourable terms in which I recommended it in 1845 to her Majesty's Commissioners of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan"

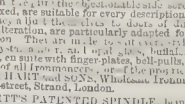
TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.

WE have pleasure in calling your attention to our REGISTERED CUPBOARD TURN, the novelty and simplicity of which being universally acknowledged, it possesses the important advantage of a stop-rose, a fast tongue, and regulating itself to any thickness of door; the cost being scarcely, if any more, than the ordinary turn, added to its utility, it will, we feel, flatter ourselves, be approved by any tradesman.

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HART and SONS beg to invite the attention of Architects, Builders, and others, to their NEW PATENT SPINDLES and PITT'S PATENTED SPINDLES. The former is a plain square bar, and the latter contain forms, that those in ordinary use, as the spindles, be no loose play in keeping the doors constantly square. They are more readily fixed, are suitable for every description of look now in use, and as they have the centres to doors of different thicknesses, without alteration, are particularly adapted for the country or for churches, &c. Also, their new patent self-acting fastening in brass, &c., en suite with finger-plates, bell-pulls, levers, &c.—May be obtained of all Ironmongers, or of the principal Metal Manufacturers. HART and SONS, Wholesale Ironmongers, 65, 66, and 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw on the side of the knob or escutcheon, the use of any lock fixture without such side screws would be an infringement of the patent.

The Builder.

No. CCCVII.

SATURDAY, DECEMBER 23, 1848.

ONE of the first places we saw in Liverpool, during our recent visit there, was the establishment of the Messrs. Holme, builders, which displays more than usual care for the prevention of fire, and such arrangements for lessening labour and cheapening processes as can be resorted to with advantage only for large operations. The shops, which are very extensive, have incombustible floors and doors, and have along the ceiling perforated pipes, communicating with a cistern 45 feet long, 12 feet wide, and 6 feet deep, at the top of the building, by means of which each apartment may be flooded with water. The substitution of steam cocks to melt glue for the usual stoves, removes a constant source of danger. A steam-engine on the premises saws timber, planes boards, works mouldings, makes up the mortar (the water being laid on up to the heap, and the lime burnt on the premises), and performs various similar operations.

Amongst other works now being executed by Messrs. Holme are the viaducts of the Liverpool, Bolton, and Bury Railway, at the north end of Liverpool, in conjunction with Mr. M'Cormack;* a line belonging to the London and North-Western luggage department passes beneath the Bury line, by a tunnel near the French prison, and here they are now turning an enormous skew arch in bricks and cement. The span is no less than 99 feet. The arch, when finished, we were told, will be 6 feet thick at the crown. The Corporation docks, at this same end of the town, are fast advancing towards completion, under the able superintendence of Mr. Hartley. The enclosure walls, river wall, a lofty clock-tower, and other buildings, are all constructed of Galloway granite, and seem built for futurity. The face of the river-wall presents, amongst the comparatively small stones with which it is constructed, occasional large masses, to serve as bonders, which give it a somewhat patchy appearance; this, however, time will lessen. The backing is of Runcorn stone.

The extent of dock accommodation now possessed by Liverpool is enormous. The length of the river-wall, which fronts the line of the docks, is said to be 4 miles, and the total water area amounts to nearly 200 acres, with a quay space of more than 14 miles. What Liverpool will ultimately become it would be hard to guess; its progress during the last fifty years has been of a marvellous character, and it yet presents enormous capabilities for further extension. Mr. Picton, in his paper on ancient Liverpool, to which we recently alluded, corrects, as an error, the existing impression that the career of Liverpool has been one uninterrupted course of prosperity and progress; for long it slumbered over its undeveloped energies, and presented no points worthy of notice.* "The Castle-street and Dale-street, of the middle age of Liverpool, were not the broad and spacious avenues which they now present. Up to the end of the last century, and in many cases till within the last twenty-five years, the principal streets of Liverpool were narrow and unsightly lanes. Perhaps no town in the world, except London after the great fire, has undergone so entire a renovation as Liverpool within the last sixty years. The commerce, and consequently the requirements of the place, had so far outgrown the contracted ideas of its aboriginal inhabitants, that a complete demolition and reconstruction of its main thoroughfares became absolutely necessary. Old Castle-street, Old-hall-street, Dale-street, High-street, Tithebarn-street, with many others, fell beneath the ruthless hand of modern improvement. We, consequently, have not here, as in Bristol, long rows of venerable-looking half-timbered houses, projecting their gabled fronts and oriel windows in amicable advance to their opposite neighbours, looking like fossilized memorials of bygone times." In the course of his paper, the writer speaking of the Exchange, mentioned that additional accommodation being required for the merchants, a scheme was set on foot to clear away the buildings behind the Town Hall as far as Oldhall-street, and erect an exchange worthy of the increasing greatness of the port. For this purpose an Act of Parliament was obtained in the year 1801. The estimated expense was 80,000*l.*, and the subscription list *was closed in three hours*, although no individual was allowed to hold more than ten shares. The first stone was laid on the 30th of June, 1803; the masonry was completed in March, 1807; and the building was opened on the 1st of January, 1809: the total cost was 110,848*l.* He considered that, notwithstanding the advance in the art of architecture, and of all the sciences connected with construction, during the last forty years, the Exchange continues to this day unrivalled—the "*facile princeps*" of the buildings of Liverpool.

The design of the Exchange is usually attributed to the late Mr. John Foster, sen., then architect to the corporation, but this he doubted, and was disposed to think that the late James Wyatt had something to do with it.

Our business, however, at this moment, is with the present, and there is no lack of subjects.

Mr. Cockerell has just finished a building for the purposes of the Bank of England here, and it is one of his most successful works. The front is similar in arrangement to his banks in Bristol and Manchester, but is more ornate and in general effect far superior.†

Separated from this only by the road, is another, and more lofty structure, in course of completion,—the Liverpool Commercial Bank, which contrasts but ill with Mr. Cockerell's structure. This presents a range of Corinthian pilasters on a very flat basement, carrying an entablature which is crowned by an open balustrade, with enormous, ill-shaped vases on the dies. In the centre of the return front is a heavy ornamental erection, that has the effect of crushing all beneath it. The architect is Mr. John Cunningham, of whose Philharmonic Concert-hall we were able, in a previous article, to speak in more flattering terms.

Relative to our notice of that building, by the way, Mr. Cunningham has addressed an angry letter to us complaining that we had "invidiously stated that the roofs were of hazardous construction," "implying doubts of the author's practical knowledge and reputation," and that if we had known more of the roof, we should then, "with such men as Jessy Hartley, Cockel, and others, have pronounced the construction anything but defective." Further, it seems that he has written a letter on the subject to one of the local papers, which is to appear forthwith.

Our notice of the Concert-hall was a complimentary one: we said it was "a building with considerable claims to attention," that it had a good effect, "resulting chiefly from attention to proportions," and that it was distinguished by a monumental character. Of this the architect gives no recognition, — nor is he singular in this. We may praise a man for a "month of Sundays," and he remains dumb: the praise is simply the statement of a *fact* which needs no acknowledgement,—namely, his ability. But only say that "Jove once nodded,"—that his work of to-day is scarcely so good as a work of yesterday,—that you think him wrong for *once*,—and if he live no nearer than the Orkneys, Monday will bring us a page of abuse. Our praise is worth nothing,— not even a penny letter: but the slightest expression of our disapprobation would seem to have a very different value.

And now, what was it we did say in the matter of the Concert-hall? Not what Mr. Cunningham puts into our mouths, but simply this, that "The main trusses are of immense size and somewhat hazardous construction;" not one word more or less. We implied no danger, no doubt of the architect's skill; and if he is anxious that we should give proof of the correctness of this expression as applied to the trusses in question, we shall willingly do so.

As we have got back to the Concert-hall, we may mention what we omitted to do when there before, that adjoining it a Unitarian chapel in the pointed style, with tower, &c., is being built under the direction of Messrs. Barry and Brown. It shews the right feeling, and promises to be a nice building; but why such a material as *Bath* stone should be adopted for the dressings, which seems to be the case (the walling is of Rochdale stone), in a locality where, unless we are greatly mistaken, a much more lasting stone is as cheaply attainable, we cannot tell.

Amongst the most important of the buildings now in progress is the Royal Insurance Office, in Dale-street, at the corner of North John-street, and of which we give a perspective view.* It was built from the design and under the superintendence of Mr. William Grellier, who, it will be remembered, obtained

* See page 619.

* The Bolton and Bury line was opened about a week ago. With the exception of the part named it was wholly constructed by Mr. M'Cormack, and cost 900,000*l.*, including the land. We understand that the line passes over twenty-six bridges, and forty-eight bridges cross the road. There are six viaducts on the line, two of wood, two lattice of iron, one of brick, and one of stone. A considerable portion of the line is horizontal, and the greatest incline is only 1 in 94. There are twenty cuttings, the deepest of which is 48 feet, and twenty-two embankments, the greatest height of any of them being 44 feet. There are eighteen stations upon it.

* "The first authentic record of the town under its modern name is found in the charter of Henry II., in the year 1173, to this effect,—'That the whole estuary of the Mersey shall be for ever a port of the sea, with all liberties to a port of the sea belonging; and that the men of Lyrpul, formerly called Litherpul, near to Toxteth, may come and go from each side of the sea with their ships and merchandise, freely and without obstruction.' It would appear from this that the conquest of Ireland was the immediate cause of the establishment of Liverpool as a port. English settlements began to be established in that ill-fated country. The convenient situation of Liverpool for the purposes of trade, and for the embarkation of troops and military stores, began soon to be appreciated. Further to encourage settlers in the town, Henry II. turned speculative builder on his own account, and erected a number of burgage houses or tenements, for which only a small quit rent was charged, called burgage rent. It is probable that in this manner Castle-street and High-street, otherwise Joggler-street, were first erected. It would appear, nevertheless, that settlers did not flow in as rapidly as was desirable, and that at that early period the town of Liverpool, like a modern port on the other side of the river, was rather overbuilt, for we find that 34 years after this, in the year 1207, King John, wishing to let his houses in Liverpool, issued a charter, which is still in existence, and forms the earliest in the series of our corporation muniments."

† We shall probably give illustrations of this, and some of the other buildings already mentioned by us, in early numbers.

the first premium in the open competition for the London Royal Exchange.

The Insurance Office in question is wholly of stone, of large size (the frontage in North John-street is about 93 feet, and in Dale-street, 52 feet 6 inches), and of highly ornate Italian character, shewing much originality in some of the details. The key-stones over the two-pair windows are cleverly carved into heads with foliage. The attic story is a little over-done; but the general effect of the whole is exceedingly good, and reflects great credit on Mr. Grellier. The doorway (in the North John-street front) is adorned with sculpture, including the Royal and Liverpool arms, firemen's axes and helmets, and the ancient crest of the city, "the liver," executed by Mr. C. S. Kelsey. Messrs. Mackarel and Co. were the contractors; and the amount expended on the building is from 17,000*l.* to 18,000*l.*, exclusive of the land, which cost about 10,000*l.* extra.

The week after we were in Liverpool the Church of St. Francis Xavier, Salisbury-street, erected from the designs of Mr. J. J. Scoles, for the Jesuits, was opened. This is a large and important structure (150 feet long and 60 feet wide, internally) in the geometric style of pointed architecture (that of the end of the thirteenth century), and has a lofty square tower at the north-west angle of the building, intended to carry a spire. The church is calculated to hold from 1,500 to 1,800 persons. We did not see it, but understand that it is a very successful work.*

When we add to what we have already noticed, that "the Sailors' Home" a large Elizabethan building, the first stone whereof was laid by Prince Albert in 1846, is approaching completion; that a depôt for emigrants, to contain some thousands of persons, is being erected; not to say any thing of a proposed Theatre; a Chapel for the new parochial cemetery about to be commenced under the direction of Mr. Picton; or the "York Buildings," in Dale-street, just emerging from the ground under the same architect, and which are to cost about 16,000*l.*—our readers will see that additions are being made to Liverpool of no ordinary extent and character.

London is certainly not England, however true it may be that Paris is France: and if a foreigner wish proof of this, he will find it in Liverpool, to begin with.

* The following description is forwarded us by a correspondent, and may be relied on:—The northern and principal front is divided into three compartments of unequal height, corresponding with the internal arrangement of the nave and aisles, by projecting buttresses of four stages. The central compartment, which is the loftiest of the three, is occupied by a window of large size, divided into two sub-arches by a central mullion, composed of clustered shafts with sculptured capitals, and each of these again into two foliated lights by a chamfered mullion with a single attached shaft. The head of the principal arch is filled with a large foliated circle, and those of the sub-arches by smaller quatrefoil circles. The gable of this compartment has a Catherine-wheel or rose window inserted, and is surmounted by a stone cross. The windows of the side compartments are smaller, and of two lights each, with foliated heads, the main arch having a foliated circle. The gables of these divisions have niches with trefoiled heads, and hood mouldings resting on corbel heads, and are also surmounted with crosses. At the north-west angle of the building a lofty square tower of four stories is placed, having its angles flanked by buttresses placed at right angles to each other and to the face of the wall, and surmounted by octagonal turrets, intended to carry crocketed pinnacles, to be added when the spire is finished. A pierced parapet terminates the faces of the tower, through which also, in the west front, is the principal entrance. This consists of a deeply-recessed doorway, divided into two arches by a clustered shaft, having four detached shafts in each of the jambs, from which the mouldings of the arches spring. The western elevation is divided into eight bays by four-staged buttresses, which terminate in pedimental heads at the parapet, which is plain. Each of the bays has a window of two lights with foliated heads. In the southernmost bay of this side is a stone porch, which communicates also with the priests' house by means of a short cloister, having narrow lancet windows filled with stained glass. The eastern elevation is similar in style to the western, except that it has a low offset running along its entire length, which is occupied by a series of seven apartments for the priests and confessionals, communicating with the interior by means of double-arched apertures. A porch, similar to the south-western, is also placed at the north-east angle of the structure. Internally it is divided into a nave of 30 feet wide, and two side aisles of 15 feet each. The latter are separated from the nave by eight pillars, having cylindrical shafts, 1 foot in diameter, of polished Drogheda marble, with high cylindrical bases and bell-shaped capitals, covered with foliage placed vertically, with the stems rising from the neck mouldings, and sculptured in the bold manner characteristic of this style of architecture. From these spring equilateral arches, with bold, well-cut architrave mouldings. The apsis for the high altar is of hexagonal shape, and lighted by three double-light windows, with richly-sculptured mullions, and foliated tracery in the heads. The doorways communicating with the confessionals before mentioned, have elegant shafts in the jambs, and foliated arches, with elaborately-cut mouldings in the archivolts. The ceiling of the nave is semi-hexagonal, and divided into square compartments by strong frame-work, which is moulded and otherwise enriched, and the whole is coloured to resemble dark oak. It is purposed, hereafter, to paint and emblazon this with stars, and various religious devices. In the aisles the timbers of the roof are visible, and stained oak colour. Over the principal entrance in the tower is the organ-loft, and a slightly projecting gallery adjoining in the aisle is appropriated to the choir.

HOW IS ART TO BE STUDIED?

In the introductory essay on the scientific principles involved in the study of the fine arts,* the efforts made were to convince the reader that the principles of art ought to be based on the sure foundation which renders other departments of knowledge productive of important practical results in the progress of mankind, and it was hoped by the more genial influence of positive science to dispel the thick mists in which art-principles are involved. Modern philosophy asked this important question—Have we any ideas independent of experience? It was answered in the negative. Mysticism was abandoned, reverie and dream passed fleetingly away, useful knowledge and vigorous action rose with the dawn. The dwellings of art alone have their begrimed casements closed and curtained, amidst the hum and bustle of the awakened world; dreams are still strong upon their idle inhabitants, who yawn at utilitarianism. Utilitarianism, the sneer of transcendentalists, is it not the great principle of the universe? Utility watches over the world, directing the smallest atoms and the great globe itself in their appointed courses. Let the investigator penetrate wherever he may into the depths of nature, anatomize the vegetable and animal kingdoms, or gaze on worlds beyond, does he find aught unnecessary, useless? Say not that utilitarianism is a low motive, when it is the great lesson taught in the works of "The Good." It is ruling in the nerves, veins, and arteries of those who decry it. Shall it be said contemptuously that a man of science dated his greatness from an improvement in spectacles? Is it no boon to mankind to have the portals of the understanding opened — the blind to receive light? The eye, the theme of the poet, the essential sense of the painter,—how wondrous in economy and utility! Inutilitarianism is alone to be feared, if such chaotic quality exists. Useless was a word invented by man as a symbol of his ignorance and selfishness; conditions which prevent him perceiving utility beyond his own immediate opinions and necessities. Even error itself has its use, forming, as it does, the threatening phalanx which keeps the army of truth organized and on the alert. Man must always have to conquer, to compel him to action: victory is more dangerous to him than defeat. The pioneers of civilization must be ever hacking and hewing in the primeval forests of prejudice, not only lopping the branches and felling the trunks, but in tearing out the insidious and entwined roots. Should men once say, "It is enough, let us seek repose," a new forest forthwith springs up and closes in upon them. Let the artist remember that wrong has had its martyrs as well as right; as utilitarianism is in the ascendant, let him not despise it and fall a victim to its power.

We have endeavoured to depreciate the study of ancient art on various grounds. It has been argued, that this is to abjure experience: if we believed this to be the tendency of our opinion, we would willingly abandon it,—but it is not the case. Let a picture or statue of a past age, assumed of the highest possible excellence, be placed before an artist, does he understand why a certain arrangement of colour, of grouping, of light, and shade, &c., in the one case, or why a certain selection of forms in the other, answer well as the mechanism of production? If so, there is no need for him to copy, for this is precisely what the authors of them knew. Suppose, on the contrary, that an artist stands before the picture or statue in the humble spirit of a learner, will the picture inform him why certain arrangements were used in preference to others,—will the statue reveal how its forms were selected and compacted? will looking at the sun inform us of the nature of its light? We should as soon expect to hear of a student being perfected in a foreign language by copying page after page without knowing the value of a single word. It is not the value of experience that we deny, but the efficacy of old paintings and sculptures to impart it: the result of encouraging their study is to produce copies,—to make imitators of a particular master, or compounders of the heterogeneous qualities of many.

In the recent instances we have assumed the works to be of the highest perfection attainable; but if there is the least room left for the supposition that we take the assertions of habit and fashion as proof of the excellence of ancient art, as suggested on a former occasion, then indeed men ought to hesitate before forcing it on the public or the student, as by this means mannerisms may be perpetuated: its very study indicates the modern artist's thraldom, and is an evidence of a negative character in favour of the ancient, at the same time that it is affirmative of want of knowledge when moderns affect to admire without understanding, and of want of resolution, if, understanding perfectly, they do not, in performance, rival or surpass it.

We have before expressed our conviction, that to become adequate judges of the perfection or defects of ancient painters and sculptors, the student must forsake the dead to seek the living,—not only the living artists, but all pervading life: nature is alone the standard by which art can be judged, a long and diligent study of her laws will alone enable him to arbitrate. Every artist has doubtless in his experience felt humiliated in the presence of this monitor, after having done all in his power to rival her, and may have observed, the more attentive he has been to her instructions the more sensible he has become of falling short of excellence; he may recollect, too, after having neglected the study of nature for any considerable period, in again contemplating his performance, which before disgusted him, while in the habit of referring to his archetypes, that he found his acuteness of perception blunted: the odious comparison forgotten, he wondered at his own power. To the thoughtful, this self-satisfied condition is a strong symptom of decay and a powerful incitement to future diligence. If we find the artist's power of discrimination falls off when the study of nature is neglected, how shall we estimate the authority and judgments of those who never receive the impetus to observe with the constant and minute attention of the practical man? It may be suggested that art may be understood in theory without the power of practice; we do not believe it possible: shadowy notions may, perhaps, be possessed; but such a theory never rises to that power of perception which appears to be an extension of sensibility, in the direction in which sense is continually exercised by the practical man. How often is wonder expressed at his subtleness of discrimination; his detection of flaws and imperfections quite imperceptible to the ordinary observer? many consider it to be only an ill-natured disposition to find fault. On the other hand, the practical man regards the want of discriminating power as blindness in those who cannot detect the subtle merits and defects which he does. A man must certainly have some sort of theory, before he addresses himself to practice, to preside over action; he must have a pre-notion of the means to attain the end proposed,—which may be right or wrong, as results will reveal to him. In his first efforts, his theories are constantly meeting with contradiction,—thus in theorising, practising, failing, practice and theory mutually act and re-act on each other, till, "dangerous" being marked on every side, he discovers a safe path between. Practical men may record; and by this means critics, perhaps, pick up a species of theoretical experience,—but it is knowledge at "second-hand:" books can never give all the ramifications nor the vitality of real experience; for, says the proverb, "experience taught is never equal to experience bought." It is amusing to hear how men of parrot information lecture those from whom they have imperfectly derived it. Theory and practice are soul and body; separate them,

* See p. 434, *ante*.

practice is dead—theory soars into impracticability.

We advocate a national collection of pictures and sculptures arranged chronologically, but not an extravagant outlay to obtain the originals of past epochs. Let good copies be commissioned of those pictures and sculptures considered the *chefs-d'œuvre* of each period of development, to teach men that art, like other emanations of life, is progressively developed. The Glypthothek at Munich is a model for arrangement. Commencing with Egyptian, the rubble on which the superstructure of Greek art was raised, the visitor passes on to view remains of Greek sculpture, which bear on them more or less the types of the gods imported by the Asiatic and Egyptian colonists; passing on to the marbles of Egina, thence to the Hall of Apollo, containing the remains of productions which more immediately preceded the age of Phidias, and in which the rigidity of former periods relaxes; and thus leading him on to the climax of Greek art, and, afterwards, to witness its decline. The contemplation of these sculptures, or those of our own British Museum—of the works of the painters, from Giotto to Raffaelle and the decadence of Italian art—do they not all inform us of an ancient and foreign influence first cast aside, then of a servile and rigid adherence to particular forms in sculpture, in painting, hair, wrinkle, and every minute individuality, and that as experience increased, handed down from master to pupil, art obtained the power of discriminating and selecting? It may be observed that art has always advanced steadily on the inductive principle—rising from particulars to generals—a system that has always been attended with good practical results. In all branches of knowledge, the final effort being to systematize the accumulation of experience into order and unity, the perfect understanding of the whole involves the knowledge of its component parts. When the study of art was substituted for the greater authority of nature, and principles for guidance were attempted to be deduced from it, art fell. Let it always be remembered that *nature was the antique of antiquity*.

The slow though certain progress of inductive attainment is opposed to the selfish and mistaken ambition of the present day, which is too often, we fear, content with the semblance of a front of strength which must be conscious of a frightful hollowness within: failing the strong skeleton and vitality of truth, the fear of being crushed is ever present. To avoid this let every man walk obedient in the path of duty for truth's sake, always with hopeful delight, reflecting that whatever his attainments may be, the next age will surpass him; recollect there is always to learn—man at his highest is but scholar, never master.

The writer protested against the archæological mania, because he believed it had missed the path of greatest utility, and that instead of diving into the past to note the errors of our predecessors as warnings both to the present and future, it has endeavoured to revive follies and embalm decay. We regret that maudlin sentimentality, that incoherent wailing over the destruction of antiquities; the violence of the grief, however, bespeaks that it will be short-lived, as it does, in some degree, for affectation and insincerity: it is not that the progressist has less feeling than the archæologist; it is not that he loves the past less, but that he loves the future more; his offspring is more dear to him than his progenitors; it bears witness to his strength of mind that he denies the less emotion to interfere with that deep-rooted love which prompts the resolve to accumulate knowledge, that posterity may inherit a richer legacy than himself. He sacrifices not the venerable fragments of the past with the savage ire of the iconoclast; he sacrifices an apparent past and present for a real future: he would sweep as a strong wind the stagnant and infected air from the face of the earth, nor stop to grieve o'er the fallen ruin—the decayed and upturn tree or withered flower, which fall, too weak to bear the strength of the remedial gust.

There is an edifice to erect requiring more skill in design than the Parthenon. Good reason has the progressist not to waste his resources on ruins when the temple of man demands all human energies to complete it.

W. C. THOMAS.

THE GREEK PEDIMENT.

Fig. 1

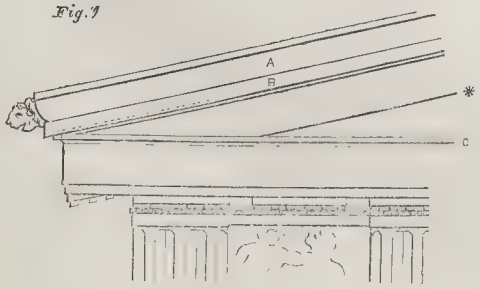


Fig. 2

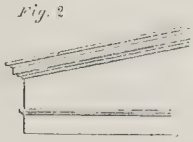


Fig. 3

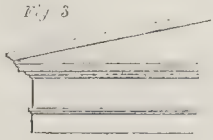
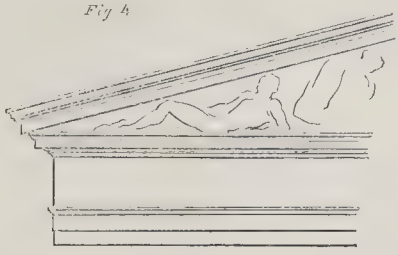


Fig. 4



ON THE ARCHITECTURE OF THE GREEKS.*

THE two papers contributed by me on this subject† ought to have been followed up by the matter of the present before now; but some reparation may be made by concisely recapitulating the extent of the discussion already overtaken.

In the first, then, after endeavouring to set the principle of regard for the Greek remains on its true and proper basis, by discarding the antiquarian veneration of mere classicism for the more discriminating and understanding admiration of merit in beauty,—I found occasion at the same time to speak apologetically of the unreasoning veneration itself, as, compared with many other unreasoning venerations in the world, founded on merit rarely to be met with,—and attempted, in conclusion, to define the limits of my own architectural delight in the Greeks, by disclaiming model, rule, and precedent, but discriminating surpassing excellence of design.

In the second part there was presented a sketch art-historical of the rise and reason of the reverence for Greek models, tracing the general picture of the "revival," and pursuing this into the more mature appreciation of Greek works which finally resulted, more in our own day; and a glance was taken at the movement in the world's progression which the Greeks made, in which I found, without qualification, an originality and brilliancy of position without a parallel in history.

The remainder of the task which I set myself is a rather more particular discussion of some prominent points in critical examination of Greek architecture; and this may be fulfilled by adverting briefly to the following subjects:—

The general design of the Greek temple.
The pediment.
The stylobate.
The absence of *base* in the Doric column.
The Ionic capital.
The Corinthian capital.
The antæ.
The sculpture.
The optical corrections and other refinements.

The general idea of a Greek temple, as regards its purposes and uses, and the ceremonial to which these applied, we need not inquire into, further than to observe here the foundation or first step of the exquisite simplicity which forms, in the whole design and every part, so peculiarly the beautiful merit of the work. The plan is the simplest conception of the sort that we know of—a mere oblong building, with an entrance at one end. Any other form of plan (speaking in general terms) would doubtless have answered all the purposes as well, or any other idea of mass and external composition; but we have to give the Greeks the credit of a choice which does vast honour to their judgment. And no less have we to award them the same merit in perhaps every part, without exception, of the work. To be sure, simplicity was with them in every thought the order of the day,—so that the eminent simplicity of the conception was in some degree the natural consequence of the manner of thinking peculiar to the nation and the time; but beyond this negative simplicity there appears to me to be observable a sort of positive simplicity,—as if we might say of them that they resisted from the first every encroachment upon severity and studied simplicity for its own inherent excellence. For it is manifest how widely their circum-

* Read at a meeting of the Architectural Association, held on Friday, December 1st.

† See pp. 15 and 99, *ante*.

stances differed from those of other nations whose simplicity arose from the deficient fancy of untutored judgment: the refined study displayed in every stage of all their works shows this. What simplicity is to be remarked in the antiquities of Egypt and India, Assyria, and Persia, so far as we know them, Mexico, and early mediæval Europe, is the crudeness of uncultivated fancy, and is frequently conjoined with dreadfully abortive efforts at more complicated design in enrichment and variety; but the simplicity of the Greeks extends into their most elaborate design, and no less their elaboration of thought (so I contend) into their most simple conceptions. The flank of seventeen columns and the front of eight in the Parthenon,—the long range of twenty-four precisely similar and simple shafts, with the unbroken line of the long simple entablature, convey to my mind an effect of *elaborate* simplicity, which, if still questioned, may be seen carried out no less in the integer of the column, or of the stylobate, or of the entablature, than in the integer of the whole temple. Mighty wealth and power, despising show, stand up in the far greater majesty of studied and severe unostentatiousness. No workmanship can be finer than their masonry, no finish more exquisite than their sculpture,—it was not poverty that restrained enrichment by cost; but their manly mind preferred for its own sake the manly grandeur of severe simplicity, and took delight—the delight of pure taste and cultivated intellect—in the native nobleness of it.

The Greek temple, then, is no more than the simple idea of an oblong edifice of well-elevated walls, covered by a roof sloping to each flank from a longitudinal ridge in the middle, the ends taking the undisguised form of the transverse section. Does not the boast of Inigo Jones, that his St. Paul's, Covent Garden, if it must be a "barn," should be "the handsomest barn in England," show in a singular light beside the simple plan of the great "barn," on the Athenian rock—the wonder of the world? But what we have now particularly to observe in this composition is the remarkable feature formed by the pediment. The formation of the pediment is by the horizontal cornice of the flanks being continued along the end, and at the same time carried raking from each side to the slope of the roof.* The triangular tympanum is then set back to the line of the entablature; and the raking cornices are crowned with an additional moulding, as a stop to the roof covering, in the first place, and in the second as a means of finish to the feature thus formed—the pediment. The prevailing characteristic of simplicity is here again the governing principle; but it is a question whether the pediment is a perfect composition, or indeed whether it can possibly be made so. There is an awkwardness in the connection of the raking cornice with the horizontal. In the pure Greek works there is not here so decided a defect as in the Roman and Italian,—from the circumstance, that in the former the corona being so broad and projecting, and the surmounting moulding so very small, the cornice is in principle almost what may be called a single bold fillet (fig. 1), a very different principle from that of late imitations; but still the presence of a surmounting moulding, however small, occasions what is at once observable as a decided awkwardness in the junction. This, however, has only to be referred to the extreme difficulty of composition in this part of the design. As a first principle, the sloping roof is what we need not pause to enlarge upon, it being simply the best possible conception for its purpose; and when the Greeks preferred the finish of this by what we may call a gable to the easier finish by the now common hip roof, I certainly think they decided judiciously, even when in so deciding they adopted all the disadvantage of the difficulty under consideration. The finished outline which is obtained for the end façade is so universally acknowledged as to be worthy of all the risk, if not even absolutely demanded, in order to complete the design upon the principle adopted in the whole composition. But it is well worthy of study to try whether any improvement could be made upon the Greek pediment. The difficulty lies in combining the straight horizontal entablature of the flank with the gable of the end. Several modes of attempting this might be conjectured; the two simplest of which would be,—first, continuing the cornice on the slope alone, and secondly, continuing the cornice horizontally alone. (Figs. 2 and 3). In the former instance, it is manifest that the triglyphed frieze could not be carried along the end; besides that the expansion of the width of the frieze in the gable, if the triglyph enrichment were even dispensed with, it would be scarcely possible to form in accordance with the general style of composition. In the latter, the naked gable above the horizontal cornice claims at once some covering; and if we supply this by such means as a raking crown moulding, it would be meagre, unless, perhaps, at least as heavy as the cornice itself, and even then would finish by no means well at the sides. Between these two arrangements the Greek idea of the pediment forms a good compromise, combining the advantages of both; but therewith involving of necessity (as I have called it) an awkwardness in the junction of two dissimilar principles. Still, there are other ideas which might yet be attempted, such as fig. 4, forming the cornice, with an under corona or fascia in the bed mould, so that it shall be separable in the pediment,—the corona and crown moulding forming the raking cornice, and the bed mould, with its fascia, a lighter base for the pediment. This, I am inclined to think, might be carried out into an improvement,—but I would, rather than affirm too decidedly, take this as my view of the question,—that the difficulties of the pediment are very great indeed, although, at the same time, I must confess a very considerable reluctance to admit the perfectness of the Greek idea.

One of the best points in the composition of the Greek temple, although the most unassuming of all, is the stylobate. The prevailing simplicity is here present in perfection, with a broad-based decision of design which cannot be too much admired. Artists less severely truthful in their judgment would scarcely have adhered as these did to the unvarying three steps (and these not determined at all, be it observed, by convenient rise and tread as *steps* to the colonnade, but by the fit proportions of such a *base* to the building): many more pretending efforts have been made to produce a stylobate—but these three simple steps are the best, because the most excellently principled of all. They give a broad, strong, severe foundation to the composition, which modern architects, if we may judge of their own practice, have failed to appreciate. The principle which we may deduce from the Greek practice, that the mass of the base should more than counterbalance the overhanging mass of the cornice (to which its purpose is to provide what may be called a balance in the composition), and which may be taken as invariably a good principle, is much less frequently to be met with in modern works than a meagre reverse—there being generally, indeed, no base at all. In the mediæval works also, although the overhanging cornice is discarded, the spreading base ought not to have been *so much* discarded with it, as we may judge from the bold and finished effect of those works where the base is heavier than usual.

The severity of design, to which I give every value in the architecture of the Greeks, is nevertheless, I think, carried too far in the Doric column, in respect of the absence of base. Just as we provide a stylobate as a balance to the cornice, so I hold it invariably requisite to provide a base for the column as a balance to the capital. The baseless Doric seems crude and unfinished. The flutings terminating upon the pavement form in the abruptness of the thing a positive eyesore. If, instead of a column of studied outline,—rounded, diminished, fluted, with necking, echinus, and abacus elaborately proportioned, it were a mere upright squared shaft, the baselessness would, in these circumstances, and these alone, be correct and satisfying as a balance for the absence of capital; but if even a tile be placed above, I hold there must be a tile placed below,—and with the finished form of the Doric column I cannot conceive how the ancients could make it baseless, and still more so when, in the very preceding idea of the work itself, the noble stylobate carries out the good principle so well.

Robert Kerr.

* It is to be remarked that the crown moulding (Fig. 1) A stops short on the side, as a mere raking coping-stone, but the fillet B is carried along the flank as a member of the horizontal cornice,—thus manifesting a desire to constitute some sort of *separation or division* of the flank or primary cornice in the two cornices of the pediment,—as if the raking cornice should take the crown, mutules and corona, and the horizontal the corona and bed mouldings. Besides this, the circumstance of the bird's mouth moulding C of the horizontal cornices becoming a smaller ogee in the raking cornice, is to be observed as additionally significant of this disposition,—making the principle of separation still more apparent.

LEICESTER SQUARE.

The decision of the Lord Chancellor being adverse to the right of any private party building over the centre part of Leicester-square, and it having thus secured to the public at large one of those spaces in the metropolis which assist most materially to the well-being of its inhabitants, by a free ventilation and uninterrupted space of light and air, it becomes a question, in which not only the inhabitants of the square but the great body of metropolitan pedestrians are interested, how such an open and neglected space could be most beneficially converted into a public use.

Green trees and shrubs and flowers are most pleasant to look upon, especially by those whose avocations confine them to the brick encumbered thoroughfares of London. But it is hopeless to expect that such green things will flourish in our sooty atmosphere. It is in evidence that no person ever walks in the enclosure; the railings are dilapidated; the walks are mud; and the trees that should be green are black. The square is in the middle of a great thoroughfare, where business and traffic are the important objects of life, and where nursery-maids and children idling or taking exercise, as they do in some of the more aristocratic squares, would seem quite out of character.

I would suggest that the whole enclosure should be cleared away, and the area flagged and paved. It might be protected with a stone curb, granite piers, and chains. The statue in the centre would give it character, and we should obtain an open handsome space, of which we have few examples in London, but which would recall to the foreigners, who here love to congregate, many of the piazzas or *places* which form conspicuous features in their own continental cities.

In a mere utilitarian point of view, this arrangement would be beneficial. It so happens that much of the pedestrian traffic through this square is upon the diagonal lines. It forms the direct communication from Regent-street to the Strand, and from Long-acre to Pall Mall, on these diagonal lines, and the open space would so far facilitate the communications.

How this unprofitable speculation can be effected I need not anticipate; but as it is evident that a private building speculation is smashed, the opportunity might be turned to public advantage by those interested in the improvement of the architectural appearance of the metropolis.* T. L.

LEASEHOLD TENURES AND FRAIL STRUCTURES.

The present metropolitan custom of letting out lands on short building leases is, as it has been, the cause of the wretched character of the edifices which form our streets, terraces, avenues, and even suburban villas.

It is not unusual for speculators (and all men who add a row in continuation to the rapidly running "Suburbæ," are speculators) to take blocks on terminable leases for 90, 80, 70, 60, 50, and even for periods so short as 20 years. In doing so they naturally look to a profit from the new erections to be founded thereon, and, of course, they must so manage the capital disbursed, as to make it return principal, interest, and profit: in order to do this, the cheapest possible mode of construction must be adopted, the worst and least costly materials selected, and the greatest celerity in the operation must be compassed. The inducement held out to the builder is an immunity from rent for the two first years, or, as it is termed, two years are free, at a peppercorn: perhaps before the lapse of one year the ground

* A similar suggestion made by us some time ago was re-echoed by many of our contemporaries with favour.—Ed.

is covered; and, in this case, the builder lets off his houses, thus receiving one year's rent before he himself is called on. The work, run up green and in skeleton, ill-completed, is plastered over, gets a surface of paint, and is tenanted with confidence on leases of 7, 14, or 21 years; and the tenant is little solicitous about the durability of the house, seeing that he can relinquish at the termination of seven years.

Before the Buildings' Act passed, and that the thickness of walls was regulated according to the scale of the structure; numberless were the instances of subsidence in foundation, and prostrature of whole ranges of houses.

Since that enactment, such accidents (if that can be called an accident, which falls out from a defective design), have been of very rare occurrence; but even since the district surveyor has been enabled by that Act to interpose his authority, several houses have sunken, chiefly through the excessive rapidity of carrying up high walled fabrics, and perhaps upon loose or mixed, or watery subsoils.

By the way, this Buildings' Act, though in most respects useful, has been discovered to be, in the working, not only harassing to the architect, expensive, and often tyrannical, but to be also very imperfect in its provisions, and prescribing in many cases general rules, which cannot be applicable in all cases—and stopping short where restriction ought to be interposed.

But this is perhaps beside the present consideration, which touches the selfish policy of grasping landlords, who on short leases, obtain the outlay of capital beyond computation on estates, that in one, two, or at most three generations, must fall in to their family inheritance.

There are many estates in the metropolis which fifty years back were worth 3*l.* an acre, as cow pasture and dairy ground, now realizing from 1,000*l.* to 2,000*l.* per acre per annum! Many within thirty years, which were brickfield roughs, now return half that rental, and in another generation these same estates on which the property of thousands has been outlaid, will, in some instances, yield, to the colossal proprietors, from 100,000*l.* to 500,000*l.* per annum!

Throughout the continent of Europe, no men are to be found so prodigal of their families' substance as to build upon a terminable lease—no, not even in Paris—for every founder of a house will have *his own freehold*, and will build on no other. No, this custom is purely English, and as even in the rural parts of the country it is not usual to build on leases, but only in towns, it may be called the *borough* English custom. It is true that much English territory is in the hands of the Church, and here, as no title in perpetuity can be given, we sometimes find a flimsy structure run up, or an inconsequent repair performed: indeed, the general aspect of Church property is, on this account, much inferior to the surrounding country; for it is a bane to all solid and intrinsic improvement.

We cannot argue that the lessors do any actual wrong to the foolish builders, who, perhaps, may have counted the cost and all contingencies, but we can infer that a wise and paternal Government should throw the mantle of protection (a phrase in which many of our magnates delight) over the people who are, or ought to be, the object of their cares.

The lapse of a lease, on which a sum of 10,000*l.* has been expended by a father or grandfather, is the absolute *confiscation* of so much property to the heir of inheritance. In most cases, preference is given to the lessee in possession, but this is not always so, even at a rack rent, and often a renewal will not be granted on any terms, until the lease may have lapsed to twenty years, or to the period for extorting an inordinate sum, amounting to a fee simple purchase for renewal!

If the buildings generally in London are of a character as to solidity inferior to those of Paris, Italy, or, indeed, of any European civilized city, the occasion of the evil is not that John Bull likes a crazy tenement, but because the landlord class have systematised the custom of granting short leases;—it is because the landlords are the legislators, and, taking advantage of the growing value of building sites in a great trading community, they hedge about their heritages with indefeasible rights, and find it easy to draw from liberal prosperity the earnings which are so largely amassed. The Buildings Act itself is an emanation from the landlord class; it is calculated for their interests, which its operations tend to strengthen. It aggrieves the poor builder and the humble tradesman, and it results in the consolidation of aristocratic wealth. It may be alleged that there is no remedy for this species of transfer of the wealth of the community to the privileged class. Such is not the fact. Let the case but touch the Legislature, how soon a remedy is discovered for an abuse or a grievance! *Ex. gr.:* The landlord proprietors held large tracts of land, about ten years back, on *copyhold tenure*. Such titles to estates are commonly encumbered with fines and heriots on death or alienation; and although the fees were ordinarily fixed, or at most a year-and-half's rent of the estate so held, yet the levy of heriots, on the best lease (and I have known estates of only *five hundred* acres to be saddled with as many as *thirty*), was found to be irksome. Well, straightway a Bill was brought into Parliament to *enfranchise copyholds!* This was done in the year 1839, and it was carried,—for the legislators were landholders!

It may not be amiss here to mention a fact which occurred in a home county. A law lord, the holder of some copyhold land, being ill, was reported dead; the lady of the manor sent in directly and marked his coach-horses, his nags, his fine bred cows (for lords are great breeders), and the choicest of his herds; his lordship, however, recovered—an apology was made by the lady, who, of course, was rejoiced at the resuscitation. The heriots were released; and the judge, for such he was (and no bad judge), lived long enough to lend a helping hand to the exoneration of copyhold tenures from those iniquitous exactions.

Thus it is that some lessee legislators should aid the people in obtaining the *enfranchisement of leaseholds*.

No measure of the executive could give greater satisfaction to the householders of England than by enabling them to liberate their habitations from the grasp of the leviathan lord. There could be no injustice in enacting that a lessee should have the right of purchasing his house or houses at an equitably fixed amount, according to the value of money and the extent of his tenure: the landlord would have his money and the tenant his house.

Many would purchase on such terms, if it were made compulsory on the landlord to capitalize his interest on the requirement by a tenant to purchase; and although perhaps not one-fourth part of the occupiers of houses could buy their leases, yet those laying out money on building plots would, under such state of the law, very rarely expend large sums in erecting new buildings of a good description on leasehold lands at all, seeing that the value in fee of the building site could be bought at comparatively immense advantage.

When men build on their own *terra firma* they pay due regard to solidity, and by consequence to the architectural elevation of the tenement, which is then destined for posterity, as well as for the convenience and surety of the designer.

As at present, under the evil of transitory property, men build against time, not for time. A practical builder can calculate his erection for the range of 30, 40, 50, or 90 years, just as an engineer may the range of a *shell* which is intended to explode at the termination of a given parabola.

By such a measure architecture must improve; the security of the public must be increased in their habitations; it would repay amply to make houses fire-proof, more solid, and more ornamental; but, above all, such a law would put a stop to the growing *sin* of the rich, who are "adding house to house, until there shall be no place left,"—who are monstrously absorbing all the property of the towns and cities of this empire, and by unhallowed accumulation erecting their family possessions into principalities of unnatural wealth, widening the gulf already too broad between the great and the poor; whereas, by the proposed system, a large class of proprietors must arise on the basis of property, which will be as it has been always increasing, and the interests of the many must finally tend to the safety of the State, and of those institutions which it is always the interest of property to defend.

Having before alluded occasionally to this plan, it is submitted, as the more appropriate source of such a scheme, to The Builder, by

Quondam.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

At an ordinary meeting on the 18th inst., Messrs. C. Beasley, G. Judge, jun., and E. Paxon, were elected associates. A letter was read from Herr G. Hetsch, of Copenhagen, with lithographs of buildings, and a volume of ornamental designs engraved in outline. Amongst the donations was a MS. volume from a Dutch architect, containing notices of 100 Dutch architects, from the middle ages to the present time.

Mr. Burn commenced a discussion on the merits and defects of sea sand in the formation of mortar, and expressed his opinion that an analysis then laid on the table bore out his own feeling, that blown sea sand was not a cause of damp in houses. Mr. W. W. Pocock mentioned, that in two houses in the Isle of Wight near the sea, built simultaneously on sea sand, covering a stone foundation, saline to taste, one finished with pit sand was perfectly dry, while that in which the ceilings were worked out with sand brought from the sea-shore gave water out to the extent of dropping. He added that a chemist supplied a powerful wash, applied boiling hot, which at once removed the evil; and appealed to Dr. Dickson on the subject. Dr. Dickson mentioned that sulphuric acid in an earthen vase placed in a damp room would soon absorb the vapour: and Mr. C. H. Smith suggested alum might have been employed. Mr. Donaldson pointed out that sea sand could be considered useable only in cases of *blown* sand, *i. e.*, when well washed by the rain.* The honorary secretary then read a communication from Messrs. J. and T. Smith, of Darnick, on the use of Whinstone rubble in construction of bridges, with details of one lately built over the Tweed at Ashiestiel, price 1,200*l.*, 131 feet 6 inches span; 16 feet wide in the middle,—versed sine in proportion: usual construction, except 40 feet in middle solid.

Mr. Burn cautioned the junior members against the impression that this was a good material for construction.

Messrs. Fox and Barrett's patent floor was explained, and a plan of Northwoods was exhibited.

ON THE MARBLES AND ORNAMENTAL MASONRY OF THE BRITISH ISLANDS.†

The following account of the marbles and ornamental masonry of the British Islands has been composed, simply, with a desire to direct attention to a subject which has received the undivided study of the writer for some years, and in the hope that the advance in this department of English manufacture may be more extensively known and appreciated as one of the most interesting to the admirers of British works.

It is not intended to enter upon a classification of the different substances known as granite, syenite, porphyry, sandstone, marble, alabaster, &c., nor to examine their distribution in the geological series or their mineralogical constitution or chemical composition (all interesting in their several places), but simply to give an account of our native marbles, and other substances, which have been, and those which may be, used for ornamental purposes.

The mineral productions of our native country cannot fail to occasion surprise and delight, arising from their wonderful variety and adaptability to use.

However, before directing your attention to the ornamental masonry of our own land, I will briefly refer you to some places, both ancient and modern, where such work has been practised.

It will be observed that, from the earliest

* Our own views on this subject have been already stated at some length. See p. 361 *ante*.—Ed.

† The following paper is the substance of a lecture delivered to the members of the Western Literary Institution in Leicester-square, by Mr. Robert Henson.

periods, both marble and other stones have been used, either as contributing to utility or administering to luxury; and this remark applies not only to those substances of a soft nature, easily to be worked, but to those of adamantine hardness, such as porphyry and granite, which are most difficult to cut. In visiting the Egyptian Saloon in the British Museum, the interest and astonishment produced by those sublime fragments of the ancient Egyptians, is greatly increased by the knowledge that these substances resist the finest tempered steel. The intense hardness of some may be judged from the fact of a workman having once been employed to make a hole in one of them; but after spoiling some dozens of drills, and wasting several days' labour, he was compelled to abandon the attempt.

But although a workman at that time did not succeed in so small a matter, works are now being executed in a material equally hard and durable as the Egyptian stones; I allude to the sculpture in Scotch granites. In various parts of the world at this time the different substances found in their several localities are worked into form, some of them of intense hardness; for instance, in Sweden porphyry is worked into pedestals, vases, &c.; in Germany, agates, jaspers, and bloodstone, are cut and polished in the most surprising manner. In some mosaic-work lately brought from the East-Indies, flowers, fruit, and other devices are formed with bloodstone, jasper, cornelian, agate, and other coloured stones equally hard, and inlaid in antique statuary marble: they formed cornices and pilastres in the buildings whence they were brought. The green carbonate of copper, known as malachite, is much esteemed; it comes from Siberia, and the Russians manufacture it into some most elegant forms. It is worthy observation that until recently this substance was found only in Siberia; but now it is found in considerable quantities in South Australia.

The rock of Gibraltar, by the soldiers garrisoned there, is made into a few simple forms, the most usual being models of mortars and cannon, some of which exhibit the stratification of the stone very beautifully. The stone of which the island of Malta consists is worked by the Maltese into a number of very elegant devices; but those most worthy attention are the models of architectural ruins, which they execute with surprising accuracy of detail, the stone being well adapted for such kind of work. In the lava obtained from Mount Vesuvius, the Neapolitans manufacture very beautiful cameos, intaglios, and other ornaments.

The Egyptians were remarkable for cutting small ornamental objects; and in the Egyptian-room (British Museum) upwards of twenty different kinds of stone are exhibited. In the sacred writings the terms crystal, agate, precious stones, costly stones, pleasant stones, and such like, occur frequently, and under such different aspects, that it scarcely can be supposed they were only used for jewellery purposes or personal ornament. The Prophet Ezekiel speaks thus of Tyre:—"Syria sends her traders to thy markets, and brings thee purple embroidered work, fine linen, rubies, coral, and agate."

When speaking of the materials collected for the building and embellishment of the temple, David mentions, onyx stones, and stones to be set; glittering stones, and of divers colours, and all manner of precious stones and *marble stones* in abundance; therefore, as the precise use of these stones is not mentioned, perhaps it will not be presuming too much to suppose, that the most skilful artizans were employed to produce ornamental works in marble of the most elaborate description to adorn the temple, thereby adding to its magnificence and grandeur. It cannot be doubted, that ornamental marble-work for interior decoration was much used; and in the book of Esther, inlaid pavement is particularly mentioned,—a pavement of red, and blue, and white, and black marble.

British Marbles.—The marbles of the British islands, until recently, have been almost disregarded, and this without any satisfactory reason being assigned. One reason, probably, why our own productions have not been more used for useful and decorative purposes may be, that the stone is not found in sufficiently large masses: but this remark does not apply to all, for some are obtained of a size adapted for pillars, tables, and chimney-pieces,—and in the new Houses of Parliament, for internal decoration, where marble is intended to be used, the whole will be the production of the United Kingdom. The importance of introducing into general use marbles the production of this country has long been recognised, for on reference to a report of the Society of Arts, so far back as the year 1806, they offered prizes for specimens of British marbles to be sent in to their museum.*

In the minds of many, an extraordinary prejudice exists against English marbles, and no difficulty arises in the attempt to shew them that their views are groundless. Their feelings may, perhaps, have arisen from the fact that no place existed where a view could be obtained of a collection of native marbles. It is worthy of observation that the British Museum, with its splendid galleries of minerals, does not possess a perfect collection of British marbles. But this chasm no longer exists; it has been filled up in a manner alike honourable to its founders as to those gentlemen who are bringing it to so high a state of perfection,—I allude to the Geological Museum, in Craig's-court. This museum has been formed for the purpose of shewing the mineral wealth of the kingdom; and in it may be seen examples of metallic ores, building stones, granites, and marble.

Spar.—In England, ornamental masonry appears to have been carried on the longest in Derbyshire; which county is singularly rich in mineral productions; yet, notwithstanding the great variety, it is remarkable, that with the exception of alabaster (to be noticed hereafter), the masons in that part never directed their attention to any other substance beyond fluor spar. A work, published nearly fifty years since, upon the minerals of this country, mentions thirty varieties of spar, and, in his description, the author says, it is "impossible to account for the great variety and singular disposition of the veins and sudden contrast of the finest colours which occur in this substance.

The objects originally made of spar were urns, vases, columns, and obelisks, but generally they were solid lumps of stone, and from their great weight, most inconvenient to move about. But later works, besides being copies of the most approved forms of the antique, are manufactured very thin and light, so that a taper placed within displays the most extraordinary and richest colours in the mineral world. Apart from its splendid veins and hues, this substance is valuable from its being peculiar to this country.

A prodigal waste of this stone was once carried on when abundance could be obtained from the mine, but now it is extremely scarce and expensive, the price having risen from 14*l.* to 60*l.* per ton, and even larger sums have been given for very fine specimens. The spar, or blue-john, as it is locally termed, is not found very large; some pieces, however, have been obtained about a foot in thickness, but are very rare, the usual thickness being only three or four inches. Some persons imagine that the fluor spar is obtained from a quarry of that substance, but this is not the case, it is only found in detached masses, in holes or fissures of the limestone rock.

The first mill that was built for Sir Thomas Lombe, at Derby (who introduced the manufacture of silk into that town), was at a later period converted into a manufactory of spar goods, and being by the side of the Derwent, all the lumps which were considered useless were thrown into the river, but, as before mentioned, the spar having become scarce, when the water is low, persons go and dig in the bed of the river to obtain some of those pieces which were thrown away forty or fifty years ago: they make them into smelling-bottles and other small objects, and, as the finest stone was found at that time, these articles are most beautiful specimens of the substance.

This stone is highly esteemed on the continent, and the larger specimens are considered worthy of a place in the galleries of continental monarchs and nobles.

Among other writers, Sir Gardner Wilkinson, in his history of the ancient Egyptians, supposes that the Murrhine of the ancients was certainly fluor spar, and he arrives at this conclusion, not only from the accounts given of it, but from the circumstance that wherever a representation is attempted, it appears to aim at producing those peculiar colours and wavy indications which are seen in these transparent and veiny specimens.

Few subjects have excited more discussion among the learned than the question of Murrhine; what it *really was* being the great and still undecided point; this view of it, however, makes the fluor spar more interesting, and it will further rise in the estimation of all who remark its extraordinary beauty.*

* Vols. 27, 28, and 30.

NOTES IN THE PROVINCES.

A CHURCH with chalk columns, pillars, &c., not even seasoned, has of late been in course of erection at Prestwood, Bucks, according to the local *Chronicle*, and got on swimmingly till the frost began to operate on the moisture in that celebrated "absorbent," when the columns, pillars, &c., split, of course, and crumbled into pieces; and, besides a damage to the amount of at least 100*l.*, it is said, on this 'cheap material,' will occasion the additional expense of a replacement in stone, making good the old proverb,—'penny wise, pound foolish.'——The restored Norman Tower at Bury St. Edmund's has been opened to the public as a thoroughfare through the area, and as the bell-tower of St. James's Church. ——The new Savings Bank at Cambridge has been opened. It is in the Italian style, with two fronts, and contains a hall, 18 feet square, bank room, and actuary's residence. The architect was Mr. John Smith, of Cambridge. ——The new County Gaol at Winchester, which is progressing towards completion, is compared by a contemporary to a "huge barrack of water-closets," a circumstance attributable, we presume, to the fact of its being a building of comparatively confined dimensions, carried out on the separate system, and unjust, if intended to reflect on the architect. It is concentradiative in form. "Gas is laid on to every cell, and the whole building is warmed and ventilated by means of nine large boilers placed round the central portion, immediately under the shaft or tower which forms so conspicuous a feature of the elevation." The chapel and exercising grounds are also of course concentradiative.——The octagonal font in St. James's Church, Taunton, has been restored and removed out of the mural recess in which it was concealed. Two of the figures on it correspond with those remaining in the niches of the tower, and it is believed to be coeval with the church, which was built in the thirteenth century. Mr. A. A. Clarke, of Taunton, an artist, has made drawings of it, which, it is said, are to be lithographed.——A number of workmen, says the *Liverpool Albion*, are engaged laying down in the grand vestibule of the Town-hall a floor of encaustic tiles.——The Woods and Forests, says a Carlisle paper, have, with characteristic taste, roofed Lanercost Abbey with blue slates, and have thereby succeeded in making it look very like a tithe barn.——Christ Church, Penrith, is nearly completed. It is built of red freestone, and is Gothic in style, with a great octagon dome on the west end, tapering to a point. The interior consists of nave, chancel, and two side aisles. The distance from the chancel to the west-end is 100 feet, and the width from north to south 45 feet. The nave is separated from the side aisles by a number of pillars, supporting Gothic arches, which extend east and west, and are formed of white freestone, from Lammonby Moor. An arch, 27 feet in height, spans the nave on the east, and separates it from the chancel. A stove-room is to heat the church by means of iron pipes. The pulpit is to be of white freestone. ——The Glasgow Association for the establishing of lodging-houses for the working-classes, have opened their new lodging-house in Low Green-street.

BUILDERS' BENEVOLENT INSTITUTION. —A subscription ball is to be given at the Freemasons' Tavern, on the 9th of January, in aid of this institution.

* The remainder hereafter.

lation and mismanagement merit no immediate benefit even from immediate repentance.——We are much mistaken if the following practice, systematically adopted on various lines, do not also prove to be a miscalculation. A traveller on the Great Western complains in the *Times*, that finding himself and his family in a second-class carriage compartment with a man and woman who were both drunk, and complaining to the guard of their indecent and insulting conduct, he was very smartly turned over to the tender mercies of a madman who had been forced into another second class carriage by a keeper and left alone! The complainant was thus compelled at length to 'stand and deliver' the first-class fare, for want of which he had thus suffered the practical joke of being 'turned out of the frying-pan into the fire,' till 'done' to a turn by roasting, failing frying.——The Torquay extension of the South Devon line has been opened, so that this "queen of western watering places" will now be placed within five and a half hours' journey from London.——On 13th inst. the large cylinder of the hydraulic press intended to be used at Bangor to raise the tubes of the Britannia-bridge was cast at the Bank Quay Foundry, Warrington. This cylinder weighs about 25 tons. It will have to sustain a pressure of upwards of 1,000 tons when at work.——The final operation of lowering the second tube-bridge at Conway, and the placing it on its permanent bed, has been effected, and the tube is now in use for the transit of trains.——Railway property has followed, in America, the same downward course as in this country.——Throughout all British America there do not exist 20 miles of railway; in the United States there are 8,000 miles.

LONDON BUILDINGS.

THE BRITISH ALMANAC AND COMPANION FOR 1849.*

The companion to the British Almanac contains its usual large amount of general information, including a valuable paper by Mr. De Morgan on the first Six Books of Euclid; an account of the Ordnance Surveys; an essay on the Progress of Organic Chemistry, and others. Under the head of legislation and statistics, abstracts of important public acts are given. The section on Public Improvements contains interesting notices, under separate heads, of churches, public buildings, stations, &c., and from these we make the following extracts:—

Alterations at the Bank.—"On first hearing that something was about to be done to the exterior of the Bank, with the view of giving it greater loftiness, we hoped that Mr. Cockerell had been instructed to reshape the centre of the south front, and there introduce an order upon a larger scale than that of the wings; and could he there have applied some of the ideas shown in his design for the west front of the Royal Exchange, the centre of the Bank, now the most unsatisfactory part in the whole edifice, would have been materially improved. As it is, very great improvement has been effected with very slight alterations, and those confined entirely to the upper part of the building. To the centre portion of the façade nothing more has been done than giving it a better and richer cornice, and adding a handsome balustrade, crowned with vases; yet even this slight change is one greatly for the better. In the wings, improvement shows itself more decidedly: there the attic has been raised several feet, and is made to form bold masses over the end pavilions of each wing, connected together with a balustrade, behind which the intermediate portion of the attic is set considerably back, whereby a most happy sort of variety is produced, together with play of lines and of light and shade. The advanced portions of the attic are admirably treated, and display some successful novelty. The window, for instance, which is introduced into each of these masses, and which is altogether so different from the usual character of windows so situated, produces an effect as pleasing as it is singular; and while it prevents that appearance of heaviness which might else have attended the increased height of the attic, the opening there serves to set off and render more apparent the solidity which prevails in the lower part of the edifice."

Christ Church, Highbury, "which has just been completed and consecrated, is a work highly creditable to the taste and ability of its architect, Mr. T. Allom. The building displays itself well, it being so situated that it can be closely approached and inspected on every side; and as unity of character and attention to finishing have been observed for the whole of the exterior, it is marked by an equality of merit rarer than it ought to be. The exterior, which is of Kentish rag, with Bath stone dressings, shows a cruciform arrangement, with a tower and spire within the re-entering angle formed by the nave and transept on the north side, so that it recedes from the west front. The spire has gabled and crocketted lucarnes rising from its base, and other lights of similar form, but very much smaller and plainer in its upper part. Internally the plan is equally novel and commodious, for in the centre, or at the intersection of the transept, it becomes an octagon of four wide and four narrower sides, with as many open arches, the smaller ones being on the diagonals of the plan. Besides producing pleasing perspective combinations from every point of view, this disposition allows the pulpit and reading-desk (placed against the pillars of the chancel arch), to be seen nearly equally distinctly from all parts of the church."

New Coal Exchange, Thames-street.—"If any thing can excuse the unaccountably queer taste shown in the new Coal Exchange, it must be its situation in such a defile as Lower Thames-street. The building was mentioned in our last as being then about to be commenced, and, with the exception of the campanile over the curved loggia at the south-west angle, nearly the whole of the exterior is erected, and fairly astonishes us, so anomalous and incoherent is it in every respect. Not only is it full of incongruities as a general composition, but many of the features and details are not merely poor and bad, but absolutely barbarous and indescribably grotesque, and apparently for the very purpose. One of the unlucky singularities in the design is, that while the other windows are comparatively plain, those of the third floor—for there are no fewer than three upper stories, which occasions a very lodging-house look—have pediments which come immediately beneath the general cornice; and, instead of resting upon string course, or dado, or being left without any thing beneath them, there is beneath each of them a nondescript something, which is meant, perhaps, to belong to them, and also to serve as ornament over the second floor windows. This must suffice, by way of specimen of the deformities here heaped together, it being quite impossible to explain forms and fancies so *outré* that architectural language has no terms for them."

Baths and Washhouses, Orange-street, Leicester-square.—"The front, which exhibits a ground floor and upper one, has three arched entrances, viz., one at each end, and another in the centre break. These doorways are wholly of stone, with Doric pilasters and entablatures, in the Anglo-Italian style of the 16th century. On the upper floor there are three large square-headed windows, on each side of the centre break, making, together with the one there, seven windows in the length of the front: all of them are divided by mullions into four lights, and are besides double transomed. The elevation finishes above in a series of small ornamental gables (some angular, others curved), corresponding in number and situation with the three windows on either side of the centre. Another and novel feature, although it does not belong to the front, it being in the rear of it, is a large chimney or funnel, which shows as a slender square tower rising up from the building, and may be seen from Leicester-square."

* C. Knight, Fleet-street.

Fire-proof Stairs.—Might not staircases be constructed of slate slabs and ⊤ angle iron, which might be masked by a moulded string-board, and the stairs painted and carpetted, as well as wood; and would not the roof of a second or third, or even a fourth-rate house, be light and durable if constructed with angle-iron rafters and strutts and rod-iron ties, covered either with slate or metal?—D. R.

ANTIQUITIES IN CHESTER.

BRITISH ARCHÆOLOGICAL ASSOCIATION.

It is finally determined to hold the next congress of the Archæological Association at Chester in the month of August next, requisitions to that effect having been previously forwarded to the association by the dignitaries of the church and the local authorities of the city. A committee has been formed, consisting of the mayor, Sir E. S. Walker (chairman), and other influential gentlemen of the town, and Mr. W. Ayrton is appointed honorary secretary. The proceedings, there is no doubt, will prove more than usually interesting, as the city and neighbourhood abound with antiquities which will fill the lovers of antiquarian lore with food for reflection and discussion.

The excavations that are at present going on for the drainage of the city present a favourable opportunity for observation, as relics are repeatedly dug up, or antiquities laid bare, of ancient British or Roman origin, which are worthy of preservation or of record. Last week, as the workmen were employed in digging a drain at the back of some houses in Northgate-street, they discovered an ancient urn and other relics, which are generally supposed to be of Roman origin. The fragments that were found in the urn were supposed to be the bracelets of a Roman lady whose ashes it contained. The rings also found in the urn are supposed to be the ring-money, such as were used by the ancient Britons, and described by Julius Cæsar as being in use when he effected the subjugation of this country.

The fragment of a cannon-ball, which weighed 11 lbs., and which appears to be about one-third of one, and supposed by some to be a chain-shot, has probably lain there since the city was bombarded by the Parliamentary forces under Oliver Cromwell, in Oct. 1645, when the East-gate was severely cannonaded. A subterranean passage has also been discovered passing under two of the principal streets: this is hewn out of the solid rock and sandstone, and it is just wide enough to allow one person to go along, with wider parts at intervals, used, no doubt as passing places. This passage has been opened before, and it appears its internal dimensions are 16 feet high by 5 feet wide, and divided by planks into a double roadway, one above the other, each 8 feet high. This subterraneous passage has never yet been explored; its object has been, there is no doubt, either for defence or religious purposes.

In excavating for a sewer in Eastgate-street, two pavements were found, the one 3 feet and the other 6 feet below the surface, made of round stones, carefully sorted and set in a durable manner. It may be considered that, originally, the streets were level with the rows, that they were afterwards excavated, probably for greater security in time of war, and since then, at two intervals of time, they have been raised to improve the entrance to the city, and the paving stones were not thought of sufficient value to have them removed. The rows now are from 4 to 9 and 10 feet above the level of the streets, and the ground at the back of the houses maintains its original level. The rows are thought by some parties to have been intended and used for the purposes of defence in time of war; by others it is stated they were intended as vestibules to the houses of the wealthy, and as such were used by the Romans.

Tiles have been discovered having the stamp of the imperial legion (LEG. V. V.) upon them, also tiles apparently impressed with the armorial bearings of some mighty Romans. The 20th legion, according to history, garrisoned Chester in A.D. 61. It is to be hoped that the meeting of the association in this city will be the means of preserving their antiquities from desecration, restoring those that need restoration, or, if that is impossible, establishing records of them for the benefit of the present and future generations.

Portable Letter-Copying Machine.—Wells and Haverson, of Gresham-street, have given us the opportunity of trying their portable letter-copying machine, which forms simply a short roll, easily put away in the travelling bag, and is very inexpensive. We find it answer the purpose very well.

METROPOLITAN COMMISSION OF SEWERS.

A Court was held on the 14th inst., the Hon. Fred. Byng, in the chair. On the recommendation of the General Purposes Committee, that works of emergency in the Surrey and Kent divisions (the whole being pipe drainage to the amount of 1,950*l.*) be adopted, Mr. Chadwick expressed his opinion that stoneware pipes could be obtained from a person (whose name was not heard), at a great saving on the present cost.—The Clerk said that Mr. Phillips had made a report that experiments were in contemplation for making cement pipes, to supersede the use of stone pipes, which would be a great saving.

Mr. Leslie inquired what difference would be made in the price of cement pipes? What sort of cement had been used?

The Surveyor said the price would not be above half that of stoneware. No cement had been used at present, as the moulds were not ready. When they were, they proposed to use every kind of cement, with concrete and dry rubbish. These pipes would be made in three feet lengths with sockets.

The Chairman said immediate measures were pressing for the health of the population of the district. The condition of the population in this district was truly frightful, and demanded an instant remedy.

Dr. Southwood Smith said he knew from his own knowledge that in these districts fever and cholera existed to a great extent.—Mr. Broderip deprecated the saving of a few pounds in such a case on the ground of economy. Economy was very good in its way, but economy here was not to be bought with delay.—In answer to a question, the Surveyor said he had laid down a twelve inch pipe in a most offensive drain at Hickman's Folly, Bermondsey, which before this contained soil upwards of 3 feet in depth. It was now quite clear and free from any offensive matter.

Mr. Bullar then moved that the works proposed by the General Purposes Committee, be agreed to, the surveyors making such modification from time to time in the expense, as may be deemed expedient. Motion agreed to.

There appears to be still a legal difficulty to prevent the issue of the commission under the new act.

Miscellanea.

Grimsby Docks.—The first division, as it may be called, of this undertaking, has now been brought to a close by the completion of the embankment, wharfs, and coffer-dam, which, together forming a continuous line of a mile and a half in length, enclose one hundred and thirty acres of land between high and low water, now reclaimed from the tide. Some difficulties arose in the construction of one of the piled wharfs, owing to the weakness of the foundation at that spot—a soft silty clay; but they have been entirely surmounted. The coffer-dam, which is fifteen hundred feet in length, and which stands in a very exposed position, consists of a triple row of whole sheet-piling, backed at close intervals by buttresses or counterparts of sheet-piling, the first application of the kind, it is believed, to the purposes of a coffer-dam. Minor improvements in the system of bolting have also been introduced. The piling was principally driven by means of two stationary steam-engines, giving motion to winding-drums, whence the chains were led to ordinary pile-engines, which were sometimes removed four or five hundred feet from the source of power. For the interior constructions forming the second division of this undertaking, considerable preparations have been made. The works to be performed comprise two locks, one of which will be sufficiently large to receive any vessel afloat, and a dock of nearly thirty acres. For these a considerable quantity of material is already provided and prepared, steam mortar-mills are erected, and various other provisions made. The consulting engineer is Mr. Rendel, and the resident engineer, Mr. Adam Smith.

Signs of the Times.—The great corporation of London have at length agreed, at the very last sitting before St. Thomas's-day, to cause their property at Lambeth to have a communication with the common sewers. For more than twenty years they have required their tenants to pay their sewers rate, without their having any drains whatever. Can we wonder at typhus and cholera breaking out at Lambeth? What have their bridge-masters and surveyors been about? If they were only paid for the work they do this inquiry need not be made.—A Sufferer.

Projected Works.—Advertisements have been issued for tenders by 3rd January, for the erection of the new church of St. Paul, Derby; by 22nd January, for the entire completion of the Tyne Docks of the York, Newcastle, and Berwick Railway Company, with works connected therewith; by 26th inst., for the supply of twenty-five new goods-waggons for the South-Eastern Railway Company; by 26th also, for the supply of about 420 tons of cast-iron pipes, 48 inches in diameter, and 150 tons 24 inches in diameter, for the Manchester Corporation Waterworks; by a date not specified, for about 60 tons of cast-iron gas-piping for the Southport Improvement Act Commissioners; and by 2nd proximo, for the execution of the boilers, pipes, and fittings connected with the baths and washhouses near the Yorkshire Stingo Tavern.

Wavendon Church.—It will have been seen by a notice in our pages, that the parish church of Wavendon (misprinted Waverdon) is about to be rebuilt. The following notes of the old building, as it is about to be pulled down, may not be uninteresting. It consists of nave, with aisles, clerestory, and south porch, tower at the west end, and chancel; general style very early Decorated: the piers and arches to the nave are very good, and by an unusual arrangement of the pews, which are all confined to the aisles, their full proportions are well seen. There are some very excellent two-light windows in the north aisle, and one of three lights at the east end of the same, equally good: the south aisle, the roof (which is of oak, with carved topes), and also the tower, are good Perpendicular. The chancel is now being rebuilt under the direction of Mr. Butterfield: if this be a faithful restoration, there was a fine decorated arcade on the south side. Assistance is much required in the other parts of the church, as the aisles are fast falling away from the nave.

Fleet Ditch.—From a paragraph in the London papers, it appears that about ten or more people residing at Gillingham, in Kent, have fallen victims to the Asiatic cholera. Their residences were on the banks of a creek, continually being stirred up by the tides. Now, at the last visit of the cholera in London, more genuine cases occurred on the line of the Fleet Ditch than in any other part of the metropolis; and it does seem to me that the attention of the Commissioners of Sewers might be humanely directed to that abomination, the existence of which (nearly wholly uncovered from Peter-street to Ray-street, Clerkenwell, a distance of 1,000 feet) is not known to the public in general. I feel assured, that if you can cause the ditch to be covered you will add another laurel to the many you have already gained. In addition to the Fleet Ditch being always open, and the soil and filth from the north of the metropolis always passing through it, the most obnoxious trades are carried on, and the whole neighbourhood is poisoned by continued stenches.—W. P. G.

The New Statue of the Duke.—The marble statue executed by Mr. Milner has been placed on its granite pedestal in the Tower, between Traitors' Gate and the White Tower. The figure is about 8 feet high and the pedestal 10 feet. The drapery is chiefly a cloak with cord and tassel.

The Benevolent Fund of the Institute of British Architects.—Sir: I felt great astonishment at the result of the meeting on the 11th inst.—viz., "that the fund is to be distributed by the treasurer of the Artists' General Benevolent Institution,"—than which, I think, a greater mistake could not have been made, inasmuch as it will prevent the members of the profession taking that interest in it which they properly should do. I could not attend the meeting, but I understood that the intention was to place the fund under the control and distribution of the council of the Institute, and it would then with certainty have the support of all the members of that body. Besides, one great object in having funds for benevolent purposes attached to the different professional societies, is, that relief may be rendered to deserving persons in a private and delicate manner, otherwise the unfortunate may as well apply to one of the various societies for the general relief of the unfortunate, to which most of us subscribe, or to their parish authorities.

Chas. Lee, Fellow.

Society of Arts.—On the 6th inst., Mr. N. Holmes read a paper on the present state of electricity as applied to telegraphs. After giving a short history of the subject prior to Volta's discovery of the voltaic current in 1800, overcoming the difficulties presented by the use of free electricity, he dated the progressive advancement of the science from Orsted's grand discovery in 1819, of the rotatory influence exercised by an electric current upon a magnetic needle, which was immediately followed by that of Arago's, in the formation of the electro-magnet. The introduction of the telegraph into this country took place in the year 1837, at which time many persons were engaged in the practical carrying out of the idea; but it was not until Professor Wheatstone's researches in the more theoretical portion of the science that the requisite perfection was obtained. After alluding to the numerous variety of printing telegraphs and alarms, Mr. Holmes exhibited his new signal, in place of the old clock-work bell, producing the sound by means of an air-whistle.

The Chichester Competition.—Sir: We are indebted to you for the letters which have already appeared on this subject. I, also, sent for particulars, and at the foot of my communication asked the following queries:—1. Do the Committee intend giving one or more premiums? If so, the amount. 2. Will the author of the selected design be employed to carry out the works at the usual commission? These questions, Mr. Editor, I think you will say were *fair*; mark, then, the reply. "With regard to the payment, the Committee have not come to any decision about it; I think (*think*) they will enter into some arrangement with the successful competitor as to the amount (!!!) of commission for which he will undertake the superintendence, &c." Lucky dog the successful competitor! He ought to go down on his knees and thank the committee for the blessings intended.—Sufferer.

Sawing Timber in Curves and Bevels.—In a case at Nisi Prius, the Queen against Mr. Julius Smith, instituted on the ground that the Crown was deceived in granting him a patent for an alleged invention of a foreigner, such invention not being new, Mr. Justice Wightman, in summing up, stated, that "on 3rd June, 1843, Mr. Smith took out letters patent for certain improvements in machinery for sawing wood. The claim was for mounting the saw in an interior frame, supported within a saw gate, and enabled to slide laterally, and of guiding the saw with a fork guide lever. The most complicated part was the bevelling, which was contrived by three processes—the sawing process, the process for turning the log, and the process determining the angles to be given to the levelling." The judge then left twelve questions to the jury, who gave such answers that the verdict was directed to be entered for the Crown on several of the issues, and for the defendants on the remainder; the latter with leave for the Crown to move to enter a verdict. Scientific evidence had been adduced on both sides, and working models exhibited in court.

Charcoal as a Deodorizer.—The Irish Amelioration Society seem to contemplate the extensive manufacture of peat charcoal for this as well as other purposes,—"peat charcoal, so prepared (by a patent process), having on many trials been found to be a most complete deodorizer, immediately by admixture converting feculent matter into a dry inodorous and portable manure, of highly fertilizing properties, and fit for immediate use." They propose selling it "at a price which will allow of its being used for deodorizing the sewage matter of London and other large towns." Charcoal is a well-known deodorizer. It seems probable that the dry inodorous portable manure, proposed to be manufactured by a "French Count and his engineers," at Birmingham, on terms with the Town Council, would have been thus prepared.

The Royal Academy.—Mr. Cockerell will commence his course of lectures of architecture, to the students of the Royal Academy, on Thursday, the 4th of January. The following gentlemen have been admitted students in architecture:—Messrs. John Robinson, Charles Nathaniel Williams, Francis Freeman Thorne, Francis George Widdows, Henry Simpson Legg, Edward Middleton Barry, George Payne, and William Francis Gom.

RESTORATION OF HEREFORD CATHEDRAL.—The *Hereford Journal* says that the following important resolution has recently been determined upon by the dean and chapter of that cathedral, from which beneficial results may be confidently expected to follow, not only to the decoration of the cathedral by specimens of the art of glass-painting, but its preservation from the disturbance and injury of its walls and floors. The resolution alluded to is as follows:—"That in future all burials in the cathedral church shall be charged with the payment to the fabric funds of one hundred guineas; in the lady arbour and cloisters, of seventy guineas; in the churchyard, of fifty guineas. That none but flat stones shall be laid in the lady arbour, cloisters, or churchyards,—for each of which twenty-five guineas shall be paid. That no monuments shall be admitted into the cathedral but such as are strictly of the same character as those coeval with the fabric, the charge for which shall be one hundred guineas, the design to be first submitted to the dean and chapter. Should such monuments be of special character, the dean and chapter will consider what amount might be remitted; that they will allow, instead of monuments, the erection of painted glass memorial-windows, provided the design and artist be approved of in writing by the dean and chapter, upon a small payment as acknowledgment for the permission."

ABRIDGING A STORY.—Messrs. Bull, silk-throwsters, having bought a large silk factory at Congleton, found it necessary, from the instability of the upper portion of the brick-work, to reduce it from a four-story to a three-story building. To pull the roof to pieces, reduce the walls, and then reconstruct the roof would have been very expensive. Thomas Shepley, an ingenious mechanic, who had long worked for Messrs. Bull, offered to lower the roof without taking it to pieces. After preliminary preparations for conveying the bricks to the ground, he lifted, with long levers, alternately, the beams which supported the roof, and supported them with small blocks of wood, whilst he lowered the walls one course of bricks at a time, so that the roof was gradually and imperceptibly lowered about eight feet to the top of the third story, without the least accident occurring, and without the breakage of a single tile, or crack in the roof.—*Bridgewater Times.*

FALL OF RAILWAY ARCHES.—A correspondent, alluding to the fall of arches, urges the use of wedge-shaped bricks now made by several parties, and says many of the accidents occur through men of all trades being allowed to take the several contracts. "What person in his senses," he writes, "would employ a carpenter to make a coat? without it was a box coat, and then it would be better to go to a furnishing undertaker."

THE ELECTRIC LIGHT.—Messrs. Staite and Petrie delivered a lecture on their electric light, at the Western Literary Institution, Leicester-square, on Monday last, and had a crowded audience. They declined to enter into any explanation of the construction of the apparatus until after the 14th of January, when the patent will have been specified. We have still to remark on the very brief space of time during which the light is allowed to remain visible.

THE CHURCH OF ST. MARY-AT-HILL, LONDON, is being restored internally, under the direction of Mr. Savage. Mr. Rogers is executing the carvings. The pulpit is new, of oak, and profusely enriched with carved fruit and flowers; a new organ and gallery front has music trophies, branches of palm, oak, and garlands of flowers; the principal pews have wreathed and perforated panels. Works in this style for a church are a novelty now-a-days.

MATHEMATICS.—Mr. H. B. Browning, architect, of Stamford, has advertised "An Algebra of Ratios, founded on Simple and General Definitions."

IMPROVEMENT OF LONG-ACRE AND QUEEN-STREET.—Sir: The present state and contemplated rebuilding of the house at the corner of Great Queen-street and Drury-lane, seems to afford an excellent opportunity to improve the connection with Long-acre, so often talked about, and so long needed. Surely the parish authorities could be induced to move in this. A. A.

PANORAMA OF POMPEII.—Mr. Burford, assisted by Mr. Selous, has completed a panorama of Pompeii and the surrounding country, which will be exhibited next week at his building in Leicester-square. We shall refer to it.

CONFLAGRATION CAUSED BY UNSLACKED LIME.—A recent fire in Little Portland-street, Regent-street, is supposed to have been occasioned by some unslacked lime on the premises getting wet.

TO CORRESPONDENTS.

Received.—"R. F." (we are unable to speak of the filter in question), "W. A. M." (see below), "Constant Subscriber (complains that one of the drawings to which the Royal Academy awarded a medal was not *accurate*), "J. P.," "J. T.," "A Subscriber," "C. D.," "G. H.," "W. F." (Derby), "Fair Play," "P. D.," "One who thinks Idleness a Curse," "Well-wisher to my Neighbour" (declined with thanks), "W. C." (the general question of heating has been often, and is constantly treated of in THE BUILDER), "T. W.," Chelmsford (the statements in question were from returns to Parliament, made by the Companies themselves), "J. L.," "F. C.," "B. B." (next week), "J. W." (we regret to be obliged to postpone; send us a memorandum of the theatre), "W. C. T." (shall hear from us), "E. S.," "J. D.," "N. D.," "J. K." (Mohill), "Enquirer" (we are not disposed to point out the most proper person for improving the navigation of rivers), "Your Constant Reader," "Churchyard of St. Margaret's, Westminster" (letters on this subject deferred), "Burnes against Troup" (note came too late; we shall be glad to have particulars), "A. B. F.," "J. H. E.," "W. C." (Bromley), "An Architect," Leeds (letter needs substantiation). "Original Treatises, from Twelfth to Eighteenth Centuries, on the Art of Painting, with Translations, &c.," by Mrs. Merrifield, 2 vols. (London, Murray, 1849); "State of the Lincoln Lunatic Asylum."

"Note."—"A Trap to Catch a Sunbeam" (published by Wright, Pall-mall) is a charming little story, inculcating the folly of despondency and lethargy, and the importance of exertion. Our correspondent will find it just the thing for his purpose. Let him give away fifty. "Pictures from English History" (Whittaker, London; Burns, Bath) is an excellent and instructive work, well calculated to impress some of the leading facts of history on the minds of children, and to make them think.

"Books, Prices, and Addresses."—We have not time to point out books or find addresses.

ADVERTISEMENTS.

CHRISTMAS HOLIDAYS.

ROYAL POLYTECHNIC INSTITUTION.—A Lecture on the popular subject of the Electric Light, by Dr. Bachhoffner, on Tuesday, Thursday, and Saturday evenings. Popular Lectures on Chemistry, with brilliant experiments, by Dr. Ryan, daily, and on the evenings of Monday, Wednesday, and Friday. First exhibition of an entirely New Series of Dissolving Views in Mexico and Switzerland, with Historical Descriptions. Childe's Phantasmagoria, with very curious new effects. Mornings and Evenings. The Microscope at One o'Clock daily. New Chromatrope. Diver and Diving-Bell. Working Models explained. Music directed by Dr. Wallis.—Admission, 1s.; Schools, half-price.

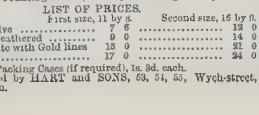
ROYAL CYCLORAMA and MUSIC HALL.—The new extensive building annexed to the Colosseum, Albany-street, OPEN on and after DECEMBER 26th, with a COLOSSAL MOVING CYCLORAMA, representing Lisbon and Destruction of the City by the Earthquake of 1755. Designed and produced under the direction of Mr. William Bradwell; painted by Messrs. Dawson and Son. The views will be illustrated by appropriate Music by Mr. Pittman on the New Grand Apollonicon, producing the effects of a full band. Open Daily, at Two—first representation at half-past Two; second ditto at Four. Evening at Seven—first representation at half-past Seven; second ditto at Nine. A Grand Overture will precede each representation. Admission, 2s.; reserved seats, 3s. Children and schools half-price.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. F. EDWARDS having had the advantage of making them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 20s. and upwards. A prospectus, containing every requisite information, to be had on application to F. EDWARDS, 42, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.



For carrying off Heated and Impure Air from Bed-rooms Sitting-rooms, Counting-houses, and Apartments generally.

LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 8.
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	15 0	21 0
Brass Front	17 0	24 0

Packing Cases (if required), 1s. 3d. each.
Manufactured by HART and SONS, 53, 54, 55, Wych-street, Strand, London.

SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S newly-invented SIMPLEX WINDGUARDS, which offer the following advantages over the well-tried invention, known as DAY'S PATENT WINDGUARD; viz., greater cheapness and durability, impossibility of clogging with soot, and the prevention of the descent of smoke down adjoining chimnies. Price in Galvanized Iron, 25s.; Size for Kitchen Chimnies, 40s.; To be seen and tested at Mr. JEAKES, the Sole Proprietor, 51, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country licenses for manufacturers granted.



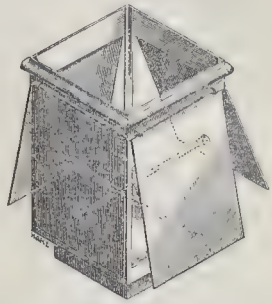
SMOKY CHIMNEYS.— "NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale place, Hammersmith, begs to inform architects, surveyors, builders, and others, that he can guarantee a perfect cure of chimneys from smoking into rooms, and on the equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'s PATENT CHIMNEY-POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, can be forwarded to any part of the Kingdom on receipt of a Post-office order. Prices and prospectuses by return of post. Licences granted to manufacturers.

MANUFACTORY, VALE PLACE, HAMMERSMITH, MIDDLESEX.

CABLE'S FUMI PORTÉ; or, improved CHIMNEY-TOP and VENTILATOR.



The best and cheapest invention hitherto discovered for curing smoky chimneys. Sold by the Inventor, at his agents, Lawrence and Co's, 55, Parliament-street, London.

N.B. Licenses granted to the trade, by Labels at per dozen, according to circumstances.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

STOKES'S ANTHRACITE FIRE-BRICKS. These superior Fire Bricks can be supplied at the Wharf, 3, Lower Shadwell. Samples may be seen and particulars known of JOHN THOMPSON, Sole Agent, 16, Billiter-street, London.

FIRE BRICKS.—WARD and Co., Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Winsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.



BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate at Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth (near Waterloo-bridge), consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, dressings for windows and doors, mullions, ridges, skirtings, &c. Also roofing and paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 290 and 293, of "The Builder."

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in 42s.; 3 ft. 6 in., 44s.
Self-acting Hanges, with Circular Oven and Back Boiler, 4 ft., £3. 10s.
Best Wrought Bars and Bright Fittings,
3 ft., £2. 18s. 3 ft. 6, £3. 7s. 4 ft., £3. 15s.
Best Patent Cut Clasp.
4½d. 6d. 7d. 10d. 1s. 2d. 1s. 8d. per 1,000.
4½ 5½ 6½ 8d. 10d. 2s.
Best Sliced Floor Brads, 3s. per cwt.
Best Town Glue 38s. Do. Scotch, 32s. per cwt.
Best Patent Sash Line.
4s. 3d. 5s. 6s. 8d. 7s. 6d. 1 s. 12s per gross.
1 2 3 4 5 6
As F. R. WILLIAMSONS IRONMONGERY and STOVE WAREHOUSE, 49, Chancellor-row, Birmingham.
Lists of Prices half-a-sheet, postage 1d. Warehouse closes at 7 o'clock.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory 18, Cross-street, Walworth.
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.
Black Registers, from 6d. per in. and upwards
Bright ditto with Black or Bronzed Bars, 8d. per in. and upwards
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright, -
3 ft. 3 ft. 6 in. 4 ft.
2l. 12s. 2l. 7s. 2l. 15s.
Elliptic Stoves, 3d. per in.
All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in accordance per post.

TO BUILDERS, CARPENTERS, AND OTHERS
BENJAMIN WALMSLEY, Wholesale Ironmonger, Brass-founder, Stove-grate, and Kitchen-range Manufacturer, at the Park Works, London-road, Southwark
Self-acting Ranges, with oven and boiler, and 12 inches shelves complete.
3 feet, 2l. 10s. 3 feet 6 inches, 3l.
Register stoves, from 4 in. inch and in. wide.
Elliptic stoves, with double backs, 3d. an inch
Washing-coppers, 1s. 3d. per lb.
Sash pullies (iron bd.), 8s. per gross. Sash weights, 6s. per cwt.
Cast butts, per dozen pair.
2 inch, 10d. 2½ inch, 1s. 3d. 3 inch, 1s. 9d.
Best cut clasp, per thousand.
4d., 5½d.; 6d., 7d.; 10d., 1s. 3d.; 20d., 1s. 7d.
Every description of ironmongery, brass-foundry, &c., adapted to the use of builders, upholders, cabinet-makers, bell-hangers, smiths, wheelwrights, and others, of quality and at prices that defy competition. Iron and spring steel.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS upon improved and novel systems, which can be recommended for its peculiar effects for the Warming of Mansions, &c.
They fit up Laundries with Hot Water Apparatus for Drying in a friendly, expeditious, and safe manner. They also fit up BATHS with close and open stoves, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments

TO ARCHITECTS, BUILDERS, &c.
REDUCED LIST OF PRICES.—R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges with Back Boiler and Oven, and Wrought Bars:—
3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
£3. £3. 10s. £4. £4. 10s
Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
£3. £3. 15s. £4. £4. 5s. £4. 15s. £5.
Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNGS, 18a, Oxford-street. Every article equally low. Orders executed upon receipt of remittance or a respectable London reference.
2 2½ 3 Inches.
Cast Butts..... 5s. 3d. 7s. 6d. 11s. per 6 dozens.
Cut..... 4d. 6d. 10d. 20d. 1 per
Clasp..... 5½d. 7d. 1s. 2d. 1s. 8d. 1,000.
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Patent Line .... 6s. 6d. 7s. 3d. 9s. 10d 12s. per gross.
2 2½ 3 Inches.
Rain Pipe ..... 1s. 1d. 1s. 3d. 1s. 5d. per yard.

PATENT SUSPENSION STOVES.—As a precaution against cholera, the Board of Health strongly recommend warmth and ventilation. For the attainment of this end great value of the PATENT PORTABLE VENTILATING SUSPENSION STOVES were expressly invented. They are fitted in bed-room, and tens of thousands are now rejoicing in the security and comfort which these stoves afford. Sizes suited for any situation, from the smallest bed room to the largest hall. Prospectuses and pamphlets on detail may be had of GEORGE and JOHN DENT'S, 33, Kirby-street, Hatton-garden, London. Trade Price lists and estimates, &c., forwarded by post free.

BUILDERS and CARPENTERS' IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading out of Baker street, Portman-square. Lists of prices may be had on application, post paid. Brother,
JOHN HEDWIN YOUNG, Proprietor.

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of Builders, Engineers, Architects, and others, to their Patent Galvanized Iron, which possesses in a high degree, for ROOFING and BUILDING PURPOSES, especially in the present state of the timber trade, the following advantages, viz.:—It is cheaper and more durable than zinc, lead, tin, or any other metal, combining lightness and strength. The application of material has been used for roofing the new Houses of Parliament, shipbuilding, under-ground railways, and many of the principal railway stations, as well as for other purposes. Its peculiar adaptability to sheltered or exposed situations, for the most part, renders it admirably adapted for the construction of conservatories, fire-proof buildings, chain cables, and numerous other purposes. Testimonials, &c., can be seen at the Office of the Company, No. 3, Mansion House Place, City - London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

TO ARCHITECTS, CONTRACTORS, BUILDERS, AND OTHERS.
WE have pleasure in calling your attention to our REGISTERED CUPBOARD TURN, the novelty and simplicity thereof being universally acknowledged. It possesses the important advantages of a stop rose, a fast tongue, and regulating itself to any thickness of door; the cost being scarcely, if any more, than the ordinary turn, added to its utility, it will, we flatter ourselves, supersede any yet introduced
WEBB and GREENWAY, Manufacturers and Wholesale Ironmongers, York-street, Birmingham.

TO ARCHITECTS, BUILDERS, &c.
GEORGE JENNINGS, Patentee of the SHOP-SHUTTER SHOE and FASTENER, INDIA-RUBBER TUBE COCK, &c. &c., 29, Great Charlotte-street, Blackfriars road.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one third less room than any other shutters made. Harcourt Quincey Patentee.
CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STAPLE and HARD PLATES, &c. &c., in cast, copper, and zinc. WROUGHT IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description in connected with our lines. Steam engines, mill-work, and machinery. CLARK and Co., Engineers, 29, Charlotte-street, Blackfriars-road. Models can be seen and every information obtained at 451, Oxford-street, and 4, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.
Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, and glazed with best plate glass. Strong moulded sash bars, uncommonly engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.
B. and C. challenge competition as to either quality or price.
Designs furnished and estimates given.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.
SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.
Office of the Patentees, 36, Lombard-street, London; and at the Works, Deptford, Kent.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET, and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Hanging and Lowering Shutters, without Machinery, &c. Also for Hinging and Sheathing the Edges of Wood Laths with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, with or the use of cog wheel worm and screw gear, or any other complicated machinery employed by other makers.

PAPIER MACHE AND CARTON PIERRE ENRICHMENTS MANUFACTORY.
49 & 50, RATHBONE-PLACE.
GEORGE JACKSON and SONS beg the attention of Architects, Builders, Decorators, and others, to their large assortment of ENRICHMENTS in every style, executed in the highest class of art. Enrichments for ceilings of every description of simple Gothic, Elizabethan, pointed or flat. Louis XIV. and Louis XV. and every class of cost. Diamond and Greek Mouldings, and every description of enrichments for the first house, and from designs of architects of the highest eminence; wall dressings, rich panels of every period, rich Elizabethan and Gothic Doors in many designs. Door caps, mouldings, sunk dressings.
A large assortment of Gothic Bosses to many varied intersections of all sizes, tracery and panel headings for church works, organ dressings, of most periods, and faithfully executed to the traits of each.
The general decorations of Drawing and Dining Rooms, Libraries, &c., of very considerable extent, and of the most varied and unique character, and the whole range of the Enrichments for Reception Rooms of the first class, as well as more subdued
The facilities and repeated enlargement of these works enable GEORGE JACKSON and SONS to announce that the above descriptions in these advantageous materials at a cost considerably below any known method, while for quality, relief, and finish, they flatter themselves they stand unrivalled.
DESIGNS MADE FOR ANY WORKS.
PAPIER MACHE AND CARTON PIERRE WORKS, 49 & 50, RATHBONE-PLACE, LONDON.

CUNDY'S PATENT IMPROVED OPEN FIRE-PLACE, HOT-AIR, VENTILATING STOVE.
TESTIMONIALS AFTER LENGTHENED TRIAL.
From the Rev. Wm. Rogers, D.A., Incumbent of St. Thomas's, Charterhouse.
99, Charterhouse square, Monday, Feb. 17, 1846.
Dear Sir.—The stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now as regards warmth and well ventilated. I shall be most happy, on any occasion, to bear testimony to the efficiency of your stoves, and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.—I remain, Dear Sir, yours faithfully, WM. ROGERS.

From the Rev. W. Garratt, M.A., Incumbent of St. John's, Fulham.
St. John's, Fulham, 2nd May, 1848.
My Dear Sir,—I have very great pleasure in giving my public testimony to the efficiency of your stove, as combining the highest degree of warmth and ventilation with the smallest consumption of fuel that I have ever seen in any church, and which in theory all that could be desired, and I can honestly say that I have in practice realized all that in theory promised. The church is now perfectly well ventilated, and although the external temperature has been at times as low as 20 degrees of Fahrenheit, the thermometer in the church has never fallen below 60 degrees, and frequently has risen to 70 degrees, without any inconvenience to the congregation. The area of my church is computed to be nearly 200,000 cubical feet, and though a second stove will be required, the one already erected has fully answered all that has been expected from it, and realized all that was to be desired. Its efficiency was abundantly proved on the second time of trial, when the external temperature was 20 degrees of Fahrenheit, and the thermometer in the church never fell below 60 degrees, and frequently rose to 70 degrees, without any inconvenience to the congregation. The cold being such that the second stove, which is included in the above letter, was put up.

Letter from the Rev. Matthew O'Brien (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., King's College
Upper Norwood, 22nd June, 1846
I beg to certify that one of Mr. Cundy's patent stoves was put up in my lecture-room at King's College, last year, in place of a common stove of Arnott's construction, I believe. I have no hesitation in saying, from actual experience, that Mr. Cundy's stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without perceptible currents of air, or close smell. MATTHEW O'BRIEN.

Letter from Professor Bradley.
King's College, London, July, 1846
Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling room; which is entirely avoided by your arrangement.
I am, Sir, your obedient servant,
THOMAS BRADLEY.

From the Rev. Dr. Turner, Incumbent of All Saints', St. John's Wood.
College Villa, St. John's Wood, Oct 12, 1846
Sir, Perhaps there are few of your patrons who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have had in use. The upward draught, and the freedom from smoke, as well that I have introduced them into All Saints' Church, St. John's Wood, I consider peculiar merits in the stove of that church. Exemption of effluvia, the emission of a great body of pure warm air, the perfect ventilation, the saving of fuel, and last, but not least, the great economy of fuel. All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall have no hesitation in stating that you are the person of all my friends to do the same.—Yours truly, ED. THOMPSON, D.D.

From the Rev. W. H. Ingram, B.A., Incumbent of St. James, Norland.
St. James's, Norland, February 21st, 1848.
Sir,—I have much pleasure in certifying that since our stoves were rectified and completed, they have given in all respects the greatest satisfaction. By a good attention to dampers, I would say we can at all times command any degree of warmth to 70 degrees, with the two large stoves and two small ones in our church, which, it is to be remembered, is very large. The air is very pure and agreeable throughout, and the warmth sustained by them is most pleasant and healthful. I am, yours truly,
W. H. IBOTSON.

From the Rev. J. D. Fraser, B.D., Minister of St. Paul's, Wilmington-square.
Wilmington-square-hill, October 23rd, 1848.
Dear Sir, After one winter's experience of your stove in St. Paul's Chapel, I feel no hesitation in saying that it may fairly claim a place in the first rank among the inventions for warming churches. Before adopting your stove, I made extensive inquiries both as to the different kinds of stoves in use, and also as to the hot water system. Inconveniences of one kind or other I found practically experienced under the various systems which I witnessed; but I really have not one inconvenience or objection to allege against your stove. I believe it to be more powerful than any stove of the same dimensions and expense; and it is far more agreeable in a church than any other with which I am acquainted.—I remain, dear Sir, yours truly, J. D. FROST.
P.S. I should strongly recommend those who adopt your stove, to use the Derbyshire coal. The "Fresh Air Channel" with which your stoves is supplied, serves a very useful purpose during the summer months in assisting the ventilation of the church, without occasioning any unpleasant draught.

From the Rev. A. Brandram, M.A., Rector of Beckenham, Kent.
Dear Sir,—I have much pleasure in stating to you that I consider your stove to have answered, and very satisfactorily too, every reasonable expectation; and I do not hesitate to recommend it strongly to the attention of those who are intending to introduce a warming apparatus into their churches, or other large buildings, for the first time, or who have reason to be dissatisfied with stoves hitherto employed.—I am, yours faithfully, A. BRANDRAM.

From the Rev. Dr. Vivian, Minor Canon of St. Paul's, and Rector of St. Peter-le-Poor, Old Broad street.
Sir,—I have no hesitation in bearing testimony to the excellency of your stoves; in producing an *equal* degree of warmth over the whole of a large building, and in promoting ventilation, I consider them unrivalled. They are also the most economical I have ever met with. My church, which was notoriously one of the coldest in the metropolis, has, since the introduction of your stove (one of 6-feet), not only been thoroughly warmed, but become perfectly warm and comfortable. I am, Sir, your faithful and much obliged servant, J. W. VIVIAN, D.D.

From the Venerable Archdeacon Sinclair.
Vicarage, Kensington, 1st Nov., 1848.
Dear Sir, Having suffered much inconvenience on various occasions from hot water apparatus and other plans for heating large buildings, I had much satisfaction in hearing of your stove. I considered it to be constructed upon sound scientific principles, and having been found of many cases in which it had been tried with success, I recommended it to the churchwardens of this parish. In Kensington Church you had great difficulty in obtaining a sufficient draft in the flues, but your stoves have been a great improvement upon the one previously in use; and I am confident that the alterations now in progress will give the church, in respect to warmth and ventilation, every advantage we can desire.—Believe me to be, yours faithfully, JOHN SINCLAIR.

PATENT TORRENT WATER-CLOSET.
AUSTIN'S PATENT.
This much approved and admired Closet is strongly recommended to those Architects and Builders who have not yet tried it: it is SELF-ACTING, THOROUGHLY CLEANSES the basin, is always TRAPPED, and requires no CISTERN if it can be connected with the water-main.
THE STOVES AND WATER-CLOSETS ARE MANUFACTURED ONLY BY MESSRS. DOWSON (LATE OF 69, WELBECK-STREET), STINGO IRON-WORKS STINGO-LANE, LONDON.

The Builder.

No. CCCVIII.

SATURDAY, DECEMBER 30, 1848.

THE close of the year and of the current volume has always been made to afford us an opportunity to express our acknowledgments to friends for continued support, to point out modestly the efforts we have made to deserve their favour, and to endeavour to establish such kindly feelings between ourselves and our readers as should lead them to give us their confidence and esteem. We are not disposed in the present instance to let this opportunity slip; and the less so, because we venture to think that on no previous occasion could we with equal satisfaction appeal to the result of the past year in support of any promises that we may make for the year that is to come.

The merest glance through the present volume will shew that it is by far the best we have yet issued, as we promised it should be at the close of last year, and that it contains a mass of useful and interesting information and a large number of important illustrations, as well of modern buildings and works as of fine ancient examples suggestive of new forms and combinations.

The list under the first head will be admitted by all to be a rich one. Just remember. It includes views of the Kensington Union Workhouse; the Palm-house at Kew (with plan, section, and details); designs for parochial schools, lodging-houses, and labourers' cottages; the Church of *La Villette*, Paris (with details); the new Throne in Canterbury Cathedral; St. Augustine's College, Canterbury; the Font in the *Madeleine*, Paris; Bloomsbury Baptists' Chapel; the Imperial Insurance Office, London; many examples of Street Architecture, foreign and homebred; the Corn-Exchange, Edinburgh; the Hotel *Lacarrière*, Paris; South Hackney Church; a Congregational Chapel, Plymouth; the London Fever Hospital, with plan; the Pilot House, Dover; St. George's Roman Catholic Church, Lambeth; Bridgewater House, London, with plan and details; the Museum of Economic Geology, London, with section and details; the Smallpox Hospital, Highgate, with plans; the Church of St. Boniface, Munich; her Majesty's Marine Residence, Osborne, with plans; St. Isaac's Church, in St. Petersburg; the Royal Insurance Office, Liverpool; Queen's College, in Cork; and other structures,—examples of the art of thirty living architects.

Then, under the other head, will be found, views of Oundle Church, Northamptonshire; the North Porch of Wells Cathedral; the South Porch and the Chapter-house, of Lincoln; Titchmarsh Church, Northamptonshire; the Parvise of Lemington Church, Somerset; the Hall once in Saffron Walden; and the *Pesaro* Palace, Venice; Sedilia Holy-cross Abbey, Tipperary; Arm-rests; Bench-ends; Ironwork; Lectern; Fonts; Windows; fine decorative works of the *Renaissance* period; and illustrations (with an ulterior view) of the use made of natural types in ornamentation by the mediæval artists.

Something might be said, too, of personal visits of inspection to the Anston, Caen, and Aubigny stone quarries; and to various parts of France, Edinburgh, Glasgow, Lincolnshire, Bristol, Worcester, Manchester, and Liverpool, for the information of our readers; of experiments on girders, cements, &c.; of the results of our efforts in respect of design, decoration, sanitary improvements, and gas; and of numerous excellent essays, by writers of acknowledged eminence, which are scattered throughout the volume.

We must not, however, risk the good will of our readers, or the imputation of egotism, by dwelling too long on what we have done. It concerns them more to know that we shall commence the coming year with renewed energy, and a determination to leave no means untried to improve the character of our work, and render it more and more worthy of the objects to which it is devoted. In endeavouring to effect this, we need and we seek the assistance, consideration, and sympathy of all our readers. Maryatt, speaking of newspaper literature, and the weight of an editor's task, says—"it is not the writing of any one article itself, but the obligation to write articles every week, whether inclined or not, in sickness or health, in affliction, disease of mind, winter and summer, year after year, tied down to the task, remaining in one spot. It is something like walking a thousand miles in a thousand hours. I have a fellow feeling, for I know how a periodical will wear down one's existence. In itself it appears nothing—the labour is not manifest, nor is the continual attention which it requires. You become, as it were, the publication. One week is no sooner corrected and printed than on comes another. It is the stone of Sisyphus, an endless repetition of toil, a constant weight upon the mind and spirits; demanding all the exertions of your faculties, at the same time you are compelled to do the severest drudgery." Now, without seeking commiseration for what is to us, though a task, ordinarily one of gratification and delight, we quote this in support of our claim to the kind consideration of readers, and would ask them further to remember that a paper cannot be printed for the special benefit of one. Our readers are of several classes, distinct though connected, and it is our constant study to provide all in their turn with information in their particular walks, and further to lead their attention to those which adjoin and illustrate.

The acquirement of knowledge generally we never cease to advocate, having no agreement with those who fear the "organic changes" which this spread of knowledge is to work. With the Dean of Ripon (at the recent *soirée* of the Leeds Literary Society), we would ask,—Can there be a single subject of Great Britain—a single inhabitant of our country or member of society, who directly or indirectly is not benefited by the general improvement in the morals, and manners, and minds of his countrymen? "Take it as a common principle," said the reverend gentlemen, "and if you call it a change—if you call it an organic change—I have no objection to the use of the term; but I do assert that there must be a universal benefit from efforts which enlighten, and civilise, and educate, and make happy, the multitude upon whom the peace of our country—upon whose industry the wealth of our country—must always exist."

While urging our younger readers to get *knowledge*, we have not omitted to point out the greater importance of WISDOM. Earnestly we exhort them so to shape their course that they may have every inducement hereafter to say with the old man in Mr. Dickens's new story, "Lord, keep my memory green," and so find in the retrospect of a well-spent manhood a source of pure enjoyment in old age.*

ON THE MARBLES AND ORNAMENTAL MASONRY OF THE BRITISH ISLANDS.†

Alabaster.—The present workers of this material call themselves very absurdly *petrifactioners*. This stone has been worked for a very long period; indeed it would appear to have been the only English stone at one time employed in sculpture: many of the old monuments in our cathedrals and churches are partly made of it. The statue of Stowe, the historian, in St. Andrew's-under-Shaft, Leadenhall-street, is sculptured in it, and there are specimens in existence executed 800 years since.

From the accounts of the early working of this substance it appears that the objects made were really of an elegant design, from which they have degenerated; while, in other productions of a harder and brittle quality, the workers have advanced in skill and execution. These petrifactioners, as they call themselves, appear to have retrograded so much as to be incapable of producing a design which will not annoy a person of taste by its unsightly appearance; and yet the material itself is most favourable for the workman's tool and the chisel of the sculptor.

Although of a soft nature, lumps are frequently found of a harder and closer texture, and formerly were much used for architectural purposes, forming columns, pilasters, and mouldings. At the present time, however, this production is little prized, and this has probably arisen from the little attention paid to those works executed in it, and not to a dislike of the material itself. The Italians have their white, yellow, agate, and granite alabaster, each of which they take care to present to us worked in the best forms they can procure, and, to judge from the great quantities imported, must find a ready sale among the English.

An Italian alabaster merchant lately visiting England, expressed his astonishment at the little use made of this stone for ornaments of a higher class, adding the sentiment, that he wished the quarries were in Italy, for then they would shew what could be done in works of a superior kind.

Black Marble.—The alabaster and spar, it will be seen, were the two principal substances which had occupied the attention of the Derbyshire masons: the former (a sulphate of lime) doubtless was brought into use principally from the facility with which it could be wrought; but this remark does not apply to the latter, or black marble, which now awaits attention.

Of the marbles found on the estate of his Grace the Duke of Devonshire, all (with one exception) may be freely purchased and worked by the masons: the exception is a red marble of fine colour, which is not suffered to be used save for the purposes of the noble owner, for whom, at times, it is made into elegant ornaments for presentation to his friends. In colour, it surpasses the famed roso-antique.

To this nobleman belongs honour for the high state of perfection to which ornamental masonry has attained in this country; for under his patronage have been executed the most difficult and beautiful designs.

The manufacture of black marble into ornaments has now existed about forty years; but so high did prejudice obtain in the minds of the spar and alabaster workmen, that those who were interesting themselves to introduce this very beautiful mineral production into use were exposed to some most severe remarks and annoyance: it was said they were bringing ruin upon the people in that part. I need scarcely say, as it is pretty well known, the result has been just the opposite; for, in addition to the workers of alabaster and spar, numbers are employed in quarrying, sawing, cutting, and working into various forms the black marble.

* An Index has been prepared, and, with the title-page, will be presented *gratuitously* with the next number. A title-page in colours may be obtained on application, also gratuitously, by those subscribers who prefer it to that which accompanies the index. Covers for THE BUILDER may be obtained at the office, price 2s., or the publisher will undertake to bind the numbers at 3s. per volume.

† See p. 618, *ante*.

An interesting feature connected with the manufacture of black marble is the depicting, by the application of an acid, representations of figures, flowers, Egyptian hieroglyphics, and other objects upon a polished surface.

The method employed in doing this kind of engraving is similar to that pursued with respect to copper, viz., by first tracing with wax or varnish upon the marble the object intended to be represented; then, when the preparation is perfectly set, with a point marking in the finer parts of the figure. It is then covered with an acid, which bites off the polished surface of the marble which was not covered with the preparation, leaving those parts which were covered standing in slight relief: the wax is then cleaned off. Thus it will be seen that any one with a knowledge of drawing could practise this part of the art; not so, however, with regard to another style of engraving on marble, which I will mention, and which is peculiarly English, such productions from abroad being unknown.

There is no preparation of wax, or application of acid used here, the entire process is done by gravers' points, and diamonds, hence called the "diamond engraving." It must be observed, that for effect in this work the artist is confined to a most limited space, viz., from a black polished surface to a grey ground, the natural colour of the marble before it is polished.

Mosaic.—Many of the marbles of England are now presented to the notice of the public, not only in their native and single state, but displayed in all the varied combinations of mosaic work, which, notwithstanding its being the art *last* introduced to the English ornamental masons, is by no means the least successful. Considering the beauty and durability of mosaic work, it is a matter of surprise that it should for so long a time have escaped the attention of our native artizans.

Sir Christopher Wren, alive to the importance of having a tessellated pavement in St. Paul's, executed a beautiful work under the dome, which, when seen from the whispering gallery, has all the appearance of a delicately inlaid table.

Mosaic work may be divided into three classes:—1st. That which is composed of small pieces of coloured glass, and so much used for jewellery purposes. 2ndly. Works consisting of coloured marbles. 3rdly. That which comprises harder stones, called "Pietra Dura," and is mosaic in "high relief;" but it is to the second division to which the English masons have directed their attention.

I would mention in passing, respecting mosaic in glass, that a writer in treating on the subject states that the workers have 750,000 different tints.

For some time after this kind of work was practised, not many were found to give the workers that credit which they really deserved for the progress they were making; and they were frequently discouraged by ill-natured remarks of others, who said that the attempt was useless—English mosaics could never bear comparison with the Roman work.

Yet these are often sold by the Italians themselves as superior works, thus shewing that they think more highly of the English mosaic than do some of our own people.

Among the marbles is one of singular stratification and appearance, which has obtained the name of rosewood marble, and is particularly adapted for ornaments of every description.

The marbles of Devonshire and the west appear boundless in variety. The greater part belong to the class of Madrepores, and as specimens are interesting.

Among the importations from Italy is a material known as *Verde de Prato*, or the green marble of Prato, which is wrought not only into vases, but is elaborately sculptured into figures and animals, and is much esteemed. Now, among the serpentine marbles of the west, is a substance resembling the imported stone, but altogether superior, both in texture and colour: and yet, notwithstanding this fact, scarcely any thing has been attempted in it.

Sir Henry De la Beche, when speaking of this class of our native mineral substances, observes, that hitherto it has been most strangely neglected: this is the more strange, he says, because much of it is extremely beautiful, and the variety of tints almost endless.

Now, however, there is every probability of this stone being successfully introduced to public notice, a quantity having been consigned to me for the purposes of manufacture.

If space permitted, the marbles of the different counties of the British islands might be mentioned, which would fully bear out the statement, that there is scarcely a district of any extent but presents features of interest.

From Babbacombe, Chudleigh, Plymouth, and other parts of Devonshire, are obtained blocks (sufficiently large for pedestals, &c.) of marbles, some resembling the foreign jasper, others not unlike the Seracolin, a variety like some specimens from Belgium, others with a dark green ground not unlike lava; other specimens, again, have somewhat the character of the French griotte and marble from the Alps, and some specimens from Ketley Park of a greenish tint, very much resemble some of the Derbyshire stalactites, which are extremely beautiful.

The Dolomite, a cream-coloured marble, from the Hebrides, and the flesh, or rose-coloured marble, are very attractive.

The black marbles from Ireland are well known, from their containing so great a number of fossil remains, and are interesting; but the most approved are the beautiful varieties of green serpentine, mixed with carbonate of lime. There are numerous other specimens from that country, and from the locality known as the Twelve Pin mountains, upwards of thirty varieties, of different colours and amalgamations, have been procured.

From Wales the most usual marble is black, with shells and marine substances imbedded: and from Glamorganshire a variety of the magnesian conglomerate is found, which is rather interesting, and capable of being wrought into ornaments.

The Oolite series of limestones, of Somersetshire, which are very beautiful, are beginning to claim that attention they deserve; but at present the manufacturers in that part have put forth only the most meagre description of works, but the material itself is well adapted for making into forms.

From Clifton and its vicinity alone, above a dozen varieties are obtained, all very beautiful when wrought and polished—the most prominent being a *breccia* called conglomerate; the Bacon stone, as exhibiting clear lines of stratification, whence its name; and the very pretty substance from Cotham, named landscape marble.

The Oolites themselves are very interesting: some of them exhibit traces of a moss-like appearance, on a minute coral ground; some are nearly white or grey, requiring the closest examination to detect their oolitic formation; others again are nearly a dark brown.

From the Mendip hills, in the same county, come specimens of a black limestone, with shells and marine remains, others with veins of white.

At Frome most interesting specimens are obtained of similar substances, but differing in variety; and from

Wrangton, in the same county, is obtained a singular Breccia-looking marble.

The *Blue Lias* limestone, unpolished, from Langport, Somersetshire, would rival a volcanic substance imported from Italy, known as lava, but which really is not that substance.

The Isles of Man and Anglesea abound with marbles of a most interesting description; and from

Dorrington, near Hereford, some very pretty specimens have been obtained.*

Neuber's Liquid Glue.—For repairing anything short of a kingdom out of joint, or a broken constitution, this "Improved Liquid Glue" seems quite up to the mark. We have tried it on a china dish, a wooden box, and a meerschaum pipe, with equally satisfactory results. In the workshop, if (as stated) it can be used at as little cost as common glue, it would seem to have many advantages.

* We have been led to print so much of Mr. Henson's paper, as well on account of the interest and originality of the subject as in the hope that the matter may receive the attention it really deserves. Illustrated as the lecture was by a great variety of specimens (upwards of 300), it would seem worthy the attention of mechanic and scientific institutions.

THE ORDERS.*

If there be any class of works which we could especially indicate as having contributed to the mystification of the subjects which they profess to elucidate, that class would be "elementary treatises." We speak not of a considerable number of books in which the word "elements" appears in the title-page, whilst the work itself expounds the whole matter of a science, and can be referred to with advantage by all. Such are the elaborate treatises on chemistry by Turner and Henry. We refer rather, to the class of productions, which have till recently, formed the matter of encyclopædias, and popular works, generally written by men who could have no practical or professional knowledge of the subjects they attempted to explain, and from which, serious mis-statements have been put forth as accurate, and have passed unquestioned where previous information might have been expected.

Yet we have ourselves argued in favour of the acquirement of that knowledge which might be called *superficial*. The ingredients of knowledge are being diffused throughout all channels, and what is needed is the framework on which to arrest them. But to prepare this demands the hand of a master, not of one who is not himself accurate in his knowledge of elements. To Mr. Leeds, as an expounder of the subject in which we now meet with him, our objection, long since registered, as to the false notions inevitably promulgated by non-professional writers, does not apply; since he has not, like some who deal with another style of architecture, forgotten *art* in its mere grammar, nor allowed the opportunity to go by of exploding some of the old fallacies, under which classical architecture has so long laboured. The extra-architectural world may indeed be said to have learnt, some short time since, that architecture comprehended something more than "the orders," but if he had only shewn this more perspicuously than others, we should give him credit. He may rest satisfied that we (whatever he may say of others), are not amongst those who would deny the advantage to the art, and to architects, from popularizing the study of architecture.

Mr. Leeds is careful to show that the ancients did not observe that adherence to unvarying forms and proportions which the popular notion of five orders has attributed to them. He shows that not only are there distinct peculiarities of character in one order—for example, the Ionic—almost as much entitled to separate classification as the generally recognised features of the orders, but he reminds us that it is in the works of modern architects alone that any attempt at the reproduction of an example can be found.

Allowing that a general classification into orders is obvious, at least in the case of the Doric, Ionic, and Corinthian, he proves the great variety of which each of these is susceptible, by showing that there is greater resemblance between Tuscan and Doric, than between such examples as the Corinthian of the Temple of Jupiter Stator, and the variation of the same order in the Temple of Vesta at Tivoli,—and he thence deduces that the orders should be rather in the light of styles, than, as they are commonly, considered as unvarying, and five in number.

Our author has contrived to explain much of the details of the orders, although not very fortunately seconded in regard to illustrations, and his attempt to discover, what he defends himself in calling, "æsthetic principles" is in many cases the occasion of much ingenuity. Although the writer brings to his subject a perfect knowledge of the orders, he has, we regret to find, not taken the opportunity to do more for the improvement of the nomenclature, a subject for which he was so well competent. For example, to call the moulding in the raking cornice of the Grecian Doric order "cymatium," when the section is that which elsewhere is called "echinus," and when he, in a third place, says that the "cymatium" is a moulding whose section is convex below and concave above, seems to us perpetuating one of the old difficulties to the student, which we have already referred to.

The author has, too, we think, erred in some cases, by that which he studiously avoids else-

* Rudimentary Architecture for the Use of Beginners:—The Orders and their Æsthetic Principles. By Mr. W. H. Leeds. Weale.

where, *viz.*, generalization. For example, when he states that the angles of the Corinthian abacus are cut off, he states what is the general rule, but which, told as if there were no exception, would, to a student who referred to "Stuart's Athens," create some little difficulty. In like manner the same student reading that pilasters "are never placed consecutively," and having one of the plates of the "Erectheion" before him, might entertain an erroneous opinion of the writer's knowledge of his subject.

Mr. Leeds has examined most of the theories current on the orders, and has generally mentioned with fairness such as he disapproves of, and certainly he has in many cases given very plausible explanations of some difficult questions. He is not altogether just to the labours of those who have investigated the curved lines of the Parthenon, and we so far differ with him, as to consider that the antæ, which he states do not diminish, had their actual, though slight diminution, given them for important optical reasons. But we can fully agree with him as to entire misconception apparent in most supposed copies of Grecian architecture.

For his theory of the derivation of the Corinthian from the Grecian Doric, for which argument is derived from the capitals of the porches of the Tower of the Winds, he might have found additional reason in the presence of a Grecian Doric order in the interior of the same edifice. The recessing the faces of the antæ, in the Erectheion, which he finds difficulty in accounting for, was, we have always thought, in order to obviate the effect of width, from viewing two faces of an anta obliquely, as in the antæ of the temple of Theseus—although it may have been the general method to make them of more unequal width.

But, notwithstanding we have noticed a few points in which Mr. Leeds seems to give impressions which were not intended, we have said enough to show that his work is really an important step towards the education of the public in architectural subjects, and contains matter of great interest to professors of the art.

LONDON HOUSES AND FIRE-PROOF STAIRS.

It is evident that the inhabitants of the great metropolis are almost ripe for an innovation on the present mode of constructing their houses; and the two grand reasons why such should take place are, 1st, the inconvenient extension of the suburbs, away into the country, and, 2nd, the great want of security against fire.

The obvious means of providing for the former evil is the adoption of the French and Scotch system of piling house upon house, the whole reached by one common staircase, and each occupying one floor, of adequate size; that is, for the intermediate floors, the ground-storey house having, where found expedient, the benefit of a front door and a portion of the sunk basement, and the uppermost square storey having the attics in addition; the remainder, or back portion of the basement, being set apart for a washhouse common to the several houses, and for coal-cellars for each. Having had long experience of the various modes of living in London, as regards house-taking, and suffered all the inconveniences attending those who have not occasion for solely occupying a large house in town, which may be mainly thus enumerated—

1. Taking the whole as tenant, with the chance of getting no sub-tenant, or what is worse, getting a bad one;

2. Taking a portion as sub-tenant, with the risk of becoming liable for the rent of the whole;

3. Taking a house, suitably small, in some suburb at an inconvenient distance, and with the fair chance of an uncongenial neighbourhood;—

I may be supposed competent to give an opinion as to the desirableness of a new class of dwellings springing up in London of the description to which I have alluded, and which opinion I do not hesitate to express in their favour. In doing so I am only adding my humble testimony to a mass of able arguments already brought forward from time to time in The Builder.

As regards the second evil I have mentioned, many people in the north must have very vague ideas on the subject of those ingenious contrivances, the "fire-escapes," of which they meet with descriptions in the London papers,—for there they have always been used to preventive instead of curative provisions; and it does seem that it would be more sensible, when legislators are laying down laws on such matters, if, instead of enacting that builders shall provide for the escapade of obese citizens and dowagers, unused to gymnastics, over the tiles (I speak felinely), they would strike at the tap-root of the evil, and prohibit the use of wooden stairs, so that people might take a shorter and more decorous way of reaching terra-firma in safety. Were they to do so, we should soon be surprised and delighted with the competition which would arise amongst the inventive faculty.

London builders should be made acquainted with the external "turnpike-stairs" of Scotland. They are odd-looking things somewhat, but have yet a smack of good sense about them; and I should not fear to put them forward in competition with the internal "dog-legged" scala of the south. To my point, then: I would propose that in lieu of the usual two-flight wooden stairs which now occupy a portion of the posterior part of ordinary houses, the passage from the entrance door be extended through to the rear of the house, and lead to a projecting cylindrical staircase; this to be built of, say, 9-inch brickwork and the steps to be of stone, with a 5-inch solid newel wrought upon them; a quadrantal landing at the level of each floor; a door leading out at one side in the ground-story; and a window in each revolution, looking towards the garden: such a stair might, with comfort, be as small as 3 feet 6 inches in the clear from the newel. It will be seen that with such stairs the back apartments would be of the same size as the front ones; or, as the cost of the house would be somewhat greater, the depth from front to rear might be subjected to a little reduction; since, what has to serve now as the length of the back apartments would become then their width.

It might be anticipated that were such a system to obtain, ready-made stone steps would become a commodity in the mason and stone merchant's trade; and they would by no means be confined to that trade, for they would come within the scope of the glazed earthenware manufacture, in which they could be made hollow, and ornamented under the nosings with panels containing flat arabesques, &c.

I may here mention a stair of this form which I had occasion some years ago to contrive, and which was carried successfully into effect. It was of a smaller size, and for a more ordinary purpose than that which I have above proposed; the steps were treads only, having the risers open for light and air; they were formed of Caithness flagging—an exceedingly hard stone, known in town as Rockhill paving, and used in thicknesses similar to Valencia or Bangor slate: they had only to be outlined to the radiating shape, with a circular part, say 4½-inch in diameter for the newel, and the centre of this part perforated for an iron rod, say 1 inch square: the newel was made up with short pieces of 4½-inch cast-iron pipe, one of which, with a tread, making the height of a step. From the foundation-stone of the newel, at the level of the floor, sprung the inch-square rod, and over this were let down a piece of pipe and a tread alternately, until the required height was attained, when the standard of the iron railing at top landing was screwed on to the newel rod, with a washer intervening, the whole being thus rendered staunch and complete. The pieces of pipe were secured in a position coincident with each other, and concentric with the rod, by means of wooden plugs: the building of the cylindrical stair-wall progressed with the setting of the steps. How simply and economically could a stair for common purposes be thus made with earthenware treads and newels, and 4½ inch walling of well bricks!

I do not wish to occupy space with irrelevant suggestions, but would merely further state my conviction on these subjects, that no other course will lead to any practical reform, but to "agitate—agitate—agitate."

James Wylson.

SCENIC EXHIBITIONS.

The Cyclorama of Lisbon.—We have already described the fine hall erected by Mr. Bradwell, adjoining the Colosseum, in Albany-street, for this exhibition, with its painted ceilings, Ionic columns, friezes, mural decorations, and elegant boxes. Since then we have had the opportunity of seeing the colossal moving picture of Lisbon, and the destruction of the city by earthquake. A fearful event was that, which occurred now nearly a hundred years ago (1755), and right forcibly is it brought before the eye and mind of the spectator in this very clever work, painted by the Messrs. Danson, from Mr. Bradwell's designs. The Tagus, calm and beautiful; the Irish Nunnery, St. Jerome's Convent, the Carmelites, and the city in all its elegance, open to view, and we are reminded (with Byron)—

"What beauties doth Lisbon first unfold,
Her image floating on the noble tide,
Which poets vainly pave with sands of gold."

How the sky is obscured, the vessels are hurled to and fro, the city falls, and all is made to seem one mighty chaos, we will not pretend to describe. Suffice it to say, that it is a most effective production, and almost as exciting as the fearful reality itself. The principal buildings in the city are beautifully and forcibly painted, but, if we must be critical, we would say that the distances would be the better for a little more air, and the figures which enliven the streets for a little more body.

Burford's Panorama. Pompeii.—While Mr. Bradwell gives us the inhumation of one city, Mr. Burford brings before the London public the exhumation of another. Buried 1769 years ago by the ashes from Vesuvius, Pompeii has been preserved, a fly in amber, for our examination and study; and those who have not been there themselves have reason to thank Mr. Burford and Mr. Selous for giving them so truthful and vivid a representation of this wonderful place. It would have been better if Mr. Burford had indicated the extent of the recent excavations, instead of making the present view an exact repetition of that which was exhibited by him in the Strand in 1823, the description and engraving of which we happen at this moment to have before us. Still this is perhaps of little real consequence, and shall not lead us to qualify our admiration of the painting. In the large gallery, (Pompeii, we should say, is in the small one), Vienna (a charming view), is still exhibited.

The Lyceum Theatre.—The production of Mr. Planché's Christmas extravaganza "The King of the Peacocks," one of the most signal and deserved successes which even this fortunate as well as able author ever achieved, has given Mr. Beverly another opportunity to display his ability as a painter. The opening scene "The Chateau de la Beauté, in the verdant valley," has that beautiful effect of atmosphere for which so many of Mr. Beverly's pictures are remarkable. Some glimpses of the sea in after scenes are exceedingly clever, and the "Old World's End," though "a view beyond the bounds of probability," is an artistical "thunder and lightning" sketch, shewing no ordinary knowledge of effect. The last scene, as a piece of stage mechanism, with a view to the production of beautiful combinations of form and colour, has never been surpassed.

The Haymarket Theatre.—Here, too, for the Christmas piece, "Camaralzaman and Badoura," a very clever burlesque of a well known story in the "Arabian Nights' Entertainments," the painter, Mr. Phillips, has been at work, and in some cases very efficiently. The sky and distance in the second scene (to go no farther), are most artistically treated. It interested us to find throughout the piece the reflect of many of those views it has been our duty to urge and spread. Joking allusions to the value of good drains; the absurdity and danger of retaining a cattle market in the city; the manner in which the Vernon Gallery has been put into the shade; and the importance of opening public monuments to the people, were at once seen and marked by the audience.

Fires in New York.—On the 19th ult., 22 houses, with 20 omnibuses, and 154 horses, were destroyed by fire, with a total loss estimated at 200,000 dollars.

ILLUSTRATED WORKS.

Studies of Ornamental Design; by C. J. Richardson, F.S.A., Author of "Architectural Remains of the Reigns of Elizabeth and James." &c. London: Weale, 1848.

Mr. Richardson has produced, unaided, a very charming and useful book, which deserves to have more buyers than we fear it will find at this moment. He has "fallen on evil times:" political and commercial changes have greatly affected the home market for such works, and in France and Germany, where, as we understand, the sale of his other books was considerable, few purchasers are now to be found. We mention this simply as a reason why those amongst us who have means and are personally interested in such works, or see their value in aid of the efforts now being made to adorn and enrich our manufactures, should the more quickly give to it their support and recommendation. It consists of eleven large plates (several of them coloured), including a longitudinal section, transverse section, and plan, of the Theatre of Parma, from some Italian drawings of a century or a century and a half old, now in the possession of the author. "Writers on the subject of theatres have attributed the design of this of Parma to Palladio and Bernini, to Giambatista and Aleotti. The drawings themselves, which, from the care bestowed upon their execution, must be considered as of good authority, give us the name of the architect, Donino Ferrari." It was built in 1618, and is very interesting, as forming a link between the revived classic theatre and that of modern form.

Stucco work from the circular saloon at the Villa Panfili, Rome (built 1644, from the designs of Alessandro Algardi, a Bolognese sculptor); fresco ceiling in the Verospi palace, Rome (painted by Francesco Albano, at the end of the sixteenth century); a fine specimen of old Italian jewel embroidery; old English diapers; an ancient vase of blue and white glass found at Pompeii; and statuettes in silver, designed by the late Thomas Stothard, R.A., are the subjects of the principal plates. The preface plates include antique vases, cups, and figures; and the title plate is from a cast of a dish in Sir John Soane's museum, known (why, the author cannot tell) as Michelangelo's dish, forming an exceedingly elegant border.

The description of the plates includes an able and erudite essay on the Roman glass vase by Mr. Arthur Ashpitel. We cordially and strongly recommend the work.

The Preacher. Illuminated by Owen Jones. Longman and Co. 1849.

The Song of Songs. Illuminated by Owen Jones. Longman and Co.

"The Alhambra" has made Mr. Owen Jones's name everywhere synonymous with colours, gold, and decoration. He has created for himself a path of his own, and is walking it bravely. The books before us, which are in the missal style, displaying a varied border to every page, coloured capitals, and gilded initial letters, may take their stand amongst the most magnificent specimens of modern typographic achievements, and must be universally admired, even if their actual usefulness be doubted.

The author of a paper on "Ornamental Art applied to Ancient and Modern Bookbinding," read at one of the societies last season, observed that,—"Since the beginning of the eighteenth century, we have arrived at the greatest possible pitch of mechanical skill; and although we are unable at the present time to exhibit any very high standard of excellence in ornament, yet the improvements which have lately been made, and the attention which is now generally directed to ornamental art augur that it will not be long before we shall join artistic merit to our perfect execution. It will be said, that books are much better bound now than they were formerly. Granted. The mechanical execution is better—the books open more freely, are more truly folded, have the squares more even, the headbands much handsomer, and the sides and back richly enough gilt; but where is the ornamental art of the fifteenth century? Now and then we have good copies of the old designs re-produced, and occasionally a good original design, but we have no style whatever that is worth perpetuating."

This is too true, and not merely as to bookcovers;—but we must not forget one thing, and which is a characteristic of the age;—we have, by the mechanical skill alluded to, brought much that was once kept exclusively for the enjoyment of the rich within the reach of the multitude; and the works before us afford a good illustration of the truth of the assertion: they excel many ancient missals (we are not speaking of the first class) for which as many pounds have been paid as shillings are asked for these. The paper, ivory-like, and the bindings,—all concur to render these beautiful specimens of Mr. Owen Jones's art, in decorative typography, and of Messrs. Longman's enterprising liberality, most appropriate for presents at this joy-wishing and gift-giving period of the year.

L'Allegro and Il Penseroso. By John Milton; with Thirty Illustrations, designed expressly for the Art-Union of London. 1848.

Thirty artists and eighteen engravers on wood have concurred to produce a truly beautiful edition of these immortal poems. Amongst the most successful drawings may be mentioned those by Mr. Frost, Mr. Huskisson, Mr. Leitch, Mr. Topham, Mr. F. Goodall, Mr. Tenniel, Mr. H. K. Browne, Mr. Armitage, Mr. Marshall, Mr. W. C. Thomas, Mr. Wehnert, Mr. Warren, Mr. Phillip, Mr. Gilbert, Mr. F. R. Pickersgill, Mr. Duncan, Mr. Hulme, Mr. E. M. Ward, and Mr. J. D. Harding. As specimens of wood-cutting, many of them have never been surpassed.

When it is remembered that *in addition* to this volume, each subscriber had for his guinea an excellent line engraving—"The Prisoner of Gisors," by Bacon, after Wehnert, and that after all *more than half the amount of his subscription was applied in the purchase of paintings, bronzes,* &c. distributed by lot amongst the subscribers generally, the advantages of this association, even in a commercial point of view, become strikingly obvious.

On the first day appointed for the delivery of the book, about *eleven hundred* copies were handed to applicants in the London office, and 6,000 copies, with as many engravings of the "Prisoner," reports, almanacks, prospectuses, receipts, &c., were sent simultaneously to the various local secretaries, to be spread east, west, north, and south, all over the united kingdom, and in our colonial dependencies. The extent and perfectness of this organization, the magnitude of its operations, and the amount of work involved in them, are scarcely comprehended beyond its own doors.

ON THE STUDY OF DESIGN, FROM PAINTINGS, &c., IN HAMPTON-COURT PALACE.*

In noticing the great hall, the reader said that it was one of the most interesting places in the palace for the student. An interior of magnificent extent and proportions, the roof designed with the flowing freedom of the early revival, an oriel window elaborately constructed, with mullions, and intricately groined canopy, filled with beautiful tracery,—the music gallery and the tapestries each offer many lessons of a superior order. The details of the roof served to illustrate the difficulty of carrying out or continuing the spirit and purity of the style of a previous era in art, when the mind is impressed by the association of daily intercourse. In this case we may observe, it was said, the engrafting of a growing fashion upon an early and distinct class of design. The construction and design being in the manner prevalent at the end of the fourteenth century—gothic, and the details upon the spandrils and pendants, beautiful in themselves, but not in keeping, being Italian of the florid character of the sixteenth century,—it was pointed out that the taste which had directed the selection of one style, frequently permitted or introduced innovations which are justly considered by many to be inconsistent; yet without such innovations it was contended there could be no progress in art.

After describing several principal parts in the construction of this roof, it was stated that it had recently been repaired, and in the opinion of many beautified.

The reader said he was again perplexed to explain or conceive what had been intended in the singular application of colour and gilding upon this roof. He could not perceive the utility of working mouldings, sinking panels, introducing a deep hollow here, and a bold projection there—of attempting to express well considered forms with light and shadow—when the decorator's man makes quirks project by gilding, and dark parts of the picture light by paint—that which was solid, broad, and massive, to be cut up into lines, apparently on some such rule as "dot and carry one"—gild one member and leave the next, *ad infinitum.* The pendants, it was said, therefore resemble toys, and the spandrils appear in difficulties, under the mask they wear. Glitter and reflected light destroy projections, and the roof of oak is painted in other parts a puerile imitation of itself. He did not disapprove of gilding upon oak, if judiciously applied, as he considered it had been at the Madeleine at Paris. It was, however, an addition to be sparingly used in such a place as Wolsey's Hall, because the light upon the roof is reflected, and not a direct one. As a *rule,* it was said those parts may usually be gilded which contrast with other parts in shadow.

The tapestries then received attention. In eight large tableaux, within ornamental borders, they represented the history of Abraham. It was remarked that these are extraordinary productions of the loom, and defects may be attributed to the nature of the fabric, rather than to the designs which enrich it. They are rich in subject without being extravagant, and in some parts simple without being monotonous. Everything introduced appears to have a proper purpose, and to be carefully and artistically executed. They are of Italian origin, and the composition, details, and arrangement of the borders, give evidence that they belong to the period of Raffaelle. After commenting upon the expression and dignity in the figures, the rich ornamental devices on the costumes, a chandelier of fine form, a coffer filled with elegant presents, in Cellini feeling, water-vessels, money-bags, and other Italian accessories, it was observed that artists at that period must have worked greatly in concert, and conjointly developed and multiplied beauties in art,—that it was an age of enthusiastic brotherhood; hence the difficulty in distinguishing, at all times, the particular artist,—that we owe much to the friendship which prompted them to bestow advice free from the dross of selfishness, to encourage the desire to learn, and to welcome success in others.

At the farther end of the great hall, is the withdrawing room. It has a ceiling with moulded ribwork, in geometrical device, bosses heraldically emblazoned, and pendants of a good form. A fine oriel window is filled with modern stained glass, in tolerably good taste; there is a small portrait of the cardinal, painted on oak panel, above the fireplace, and the walls are hung with dark dingy-looking tapestry. Mr. Dwyer directed attention more especially to this tapestry, with its sombre groups, the ghosts of former beauties. Little, he said, at a first glance, serves to please the eye, or even to arrest the imagination. It is necessary to remain, to forget the gilded hall, and all outward things, to look only at the tapestries, and to think only of them. Nothing is satisfactorily known relative to their history, and they must be read, like many an old book without a title page, with suggestive doubtings. There are six tableaux, illustrating, allegorically, the influence of destiny, and the triumph of Virtue. The character of the composition is essentially German, of an early school. The figures are quaint and formal, the costume is simple, elegant, and carefully considered, and the arrangements of varied drapery, would not, it was remarked, have done discredit to the pencil of Flaxman. Many of the head-dresses are treated with much elegance. The armour displays a fine artistic feeling, and some of the helmets are elaborate, with bold and effective enrichments; but there is no distance—perspective being then unknown, or vaguely attempted. He thought that these tapestries were probably designed, early in life, by Albert Durer, whose great talents as a designer are well authenticated. His drapery was invariably well drawn. That he was an excellent ornamentist has been shewn by his engravings on wood and on copper, and the details of these

* The following is a continuation of the notice of Mr. Dwyer's paper. See p. 571, *ante.*

tapestries are very similar to many of his designs for ironwork and armour: a triumphal car on these tapestries is, it was said, a striking example of this similarity in its florid German Gothic character. The inscriptions in the French language would not, he considered, influence this view, as it was the court language of the time. The notice of these extraordinary productions was concluded by suggesting the necessity for repeated and close examinations, in order to become acquainted with their time-worn and faded excellencies. The bright light of a sunny day, it was said, is now requisite to unfold some of their many admirable qualities and superior attractions of form, but in taking any portion separately there would always be found merit amply repaying the trouble of investigation. Other tapestries under the music gallery in the great hall were alluded to, and it was stated that, for the study of drapery, there cannot be found a finer collection, containing, as it does, representatives of almost every school, from the angularity of early art to the round freedom of a Rubens.

After some remarks on the painted decorations upon the walls of the Queen's staircase, the celebrated frieze by Andrea Mantégna, illustrative of the triumphs of Julius Cæsar, was referred to: it occupies the entire length of a gallery on one side of the fountain court, and consists of nine distinct compositions. Owing to the limited width of this gallery, the whole cannot be adequately estimated, as scarcely more than a third part can be seen at one view. It was designed to be placed considerably above the eye, and hence it is arranged without a perspective plane—two circumstances offering useful hints to the painters of the frescoes in the new House of Lords. The subjects, it was stated, exhibit excellent studies for the historical painter, the designer, and the artificer. The reader alluded to the perfect manner in which various portions have been embodied; and he contended, that, in every figure and ornament there is something to admire: the refinement of sculpture, with the richness and freedom of colour, are evident, each figure being impressed with the motion and business of the scene; the conceptions generally being vitalized with an air of truthfulness,—the groups follow each other in a picturesque manner—the victor's spoils are borne in triumphant display—instruments of war jostle those of peace—the warrior and the musician, men, women, and children, form, in natural array, an excited throng, and this long train of figures terminates with Cæsar seated upon a magnificent car, and wearing an expression of serene dignity and absolute power. Attention was also directed to the ornamental devices which enrich the armour, trappings of elephants and horses, trophies, costumes and vases, as being all well drawn, with the spirit of a strong feeling for graceful forms. For purposes of general utility in the arts, it was said, that this frieze is unequalled by any work in this country, and yet no engravings or lithographs of it are in circulation. They would appear, it was said, to have been strangely neglected, when it is considered that the ornamental details alone would constitute a beautiful volume of early Italian art, a class, at present, almost unrepresented. It was to be regretted that these distemper paintings should be so situated as to be liable to the influence of damp, which is evidently causing the colours to peel off. He urged the necessity of requesting evidence to be taken as to the condition of these paintings even eight years ago, and now, within a few paces, is the gallery containing the celebrated cartoons of Raffaelle. The gallery itself received particular consideration, as it was observed, so much has already been written and said about the cartoons, that it would be either presumptuous or unnecessary to dilate upon their excellence. This interior was designed by Wren to receive the cartoons. It is of a great length, which, with reference to the width, offers an exaggerated proportion, seldom detected in the arrangements by this celebrated architect. The walls are divided into seven compartments, to admit the cartoons, and are covered with oak panelling, enriched by Corinthian pilasters and embellishments, such as wreaths carved by Gibbons: the doorways at each end are picturesquely designed, and the general effect is quiet and good, but perhaps more gloomy than need be; nevertheless, it was contended, the gallery is altogether unfit to contain the cartoons. They had been designed by Raffaelle to be seen within a foot or two of the eye, and it is objectionable to have them placed, as now, above 12 feet from it. The light, received from windows lower than the cartoons, falls upon the lower portion only, whilst the skies, which should receive the greater share, are in shadow. An opportunity, however, it was said, exists, whereby the objection may be modified. Above the windows are the lunettes, containing the frescoes, seen from Fountain-court, and it was asked why should not these be broken through? It was also remarked, that if the cartoons could be properly seen, if the eye could rest *upon* their manifold beauties instead of looking *up at* them, they would soon be better known and appreciated by the crowds who now, heedlessly and unconcernedly, wander past them. The Royal Academy, supposed to be the guardian of art in this country, ought, it was said, to look to such matters. Notwithstanding which, an individual opinion may possibly produce an echo, when the ideas expressed are something beyond mere fault finding.

IMPROVEMENTS IN DWELLINGS FOR THE MIDDLE CLASSES.

The necessities and requirements of the middle classes, in a domestic and sanitary point of view, have been often treated of, but cannot be too often urged. It must not be supposed, because this body is not steeped to the ears in poverty, that they have no cause for complaint as to the state of their abodes. Believe me, the evils in this respect with them are quite as bad as are those of the labouring mass, and perhaps worse, from the very fact of the difference in their positions.

I include in the term middle classes all whose income is limited, and who move in a superior sphere, holding situations of trust and confidence, and bound accordingly to appear as gentlemen. Many of this class consist of those who were once wealthy, associating with the highest of the land, but, through misfortunes, have been reduced. Every one knows that the man with a small income in London, and other large cities, is compelled to have recourse to apartments for himself and family, for two reasons. First, because rent and taxes are high; and, secondly, because suitable houses are not to be met with. If he should have the courage to take a house, the rent is much higher than he can afford, consequently, he makes up his mind to let a portion, thereby sacrificing his wished-for privacy and domestic comforts. This experiment he tries for the sake of having a home he *can call his own*; but, after a time, he finds it will not do. The house is given up; apartments are taken at a rent suited to his income, but with diminished comforts and conveniences to his family, as he cannot afford to have the number of rooms he really requires, the charges being exorbitant: indeed, a floor, consisting of two or three rooms, is his ultimatum—small, ill ventilated, and without a single convenience but what is in common with the other lodgers. All this is to be borne with, for there is no choice. After the business of the day is over he returns home, depressed in mind and body, but, alas! it is no home to him; his ears are assailed with the annoyances which his family have met with in the course of the day, from various causes; the closet smells offensively, and the drains are no better. What is to be done? The landlord, who lives in the kitchen, must be spoken to on the subject: he affirms there is no cause of complaint, it is all imaginary, or very likely that it arises from the carelessness of his (the tenant's) own family. Again, the poor man is informed by his better half that the coals are gone: she cannot understand it, she is sure they are stolen. The coal-cellar is under the kitchen stairs, with no lock on the door. He hints to the good man his landlord about a lock; the reply is, does he think that people are thieves? perhaps he had better leave if he is not satisfied. All this he puts up with; not to mention having his friends, when they call, insulted by the people on the ground floor, who reply to their knock or ring, as the case may be. The chimney smokes, his furniture is spoiled; the windows are obliged to be left open in the midst of January; his wife has the toothache, his daughter takes cold, is confined to her bed; the doctor is called in, who declares it to be a fever. The house is decidedly unhealthy; notice is given, and he leaves, only to undergo the same evils at a different address.

This is a sad picture, but it is what the reduced gentleman, the single lady with an annuity, the struggling professional man, the banker's or merchant's clerk, and many others, have to undergo daily.

Does the monied man, who employs this poor gentleman and such of his class, and with whom he daily comes in contact, ever for a moment reflect upon the great evil he is inflicting in the advances he makes upon such property? I doubt it; and may I ask why is it so, when he is told that it would be a good spec to invest some of his capital in the erection of superior dwellings for the middle classes? they are much wanted, it could not fail to answer. Paris has such, and so has Scotland her flats (floors), and they pay well, and are fully occupied: why should it not be so here? "Ah! it is all very well in these countries," he replies, "we are a differently constituted people; it may suit them, but it would not do for John Bull: he is too much of a domesticated animal to relish such an arrangement: an Englishman likes to have his own castle to himself" (*ergo*, his three ill-ventilated rooms), and so with such crude and ignorant motives he dismisses the subject from his mind. The truth is, that he is thoroughly stubborn on the matter, and will not take the trouble to set himself right; he knows nothing of what his managing man, cashier, or clerks, with large families, have to endure when they leave his counting-house; they daily appear before him well dressed, and apparently as comfortable as himself,—I say apparently, for he looks no further than the surface.

When he speaks so largely of the Englishman's home as his castle, he only thinks of his own splendid snug mansion in Russell-square, or some such *locale*, with all the etceteras thereunto belonging: it is well for him to talk so. Let your pages, Sir, undeceive him; lift the curtain, that he may look upon the real picture with all its deformities. Tell him of the silent uncomplaining sufferings of those moving daily around him; convince him that they have as much claim upon him as the sturdy beggar who trumpets his woes at the corner of the street. I am sure that, as an Englishman, he has a warm heart, and will respond to the call, more especially as he will be a gainer by the act: it only needs a beginning, others will follow.

Let buildings be erected upon the same principle as the model dwellings for the poor labourer and mechanic, but on a more extensive and complete scale, with superior fittings and conveniences, every floor to contain within itself all the appliances of a separate house, well lighted, and ventilated. Such an arrangement as this would be hailed as a blessing by thousands. They would not remain long unoccupied, and would put a speedy stop to the further erection of such miserable and inconvenient cribs as are springing up in and around London.

W. S.

The Architect's, Surveyor's, and Builder's Almanack.—A useful almanack for all classes in the building trade has just been published under the above head. It has been compiled with care by Mr. Geary, and contains, in addition to all the necessary information of an almanack, a list of her Majesty's Commissioners of Woods and Forests, a list of the official referees and examiners of candidates for districts under the Buildings Act, a list of the district surveyors, their offices, and the extent of the districts. A scale of the fees for new buildings and alterations. The whole of the clauses in the Building Act, condensed. An abstract of the Chimney Act. An abstract of the Paving Act. A schedule of stamps chargeable on valuations of estates and dilapidations, &c.;—the whole forming a useful appendage for the office or the counting-house. A little additional elegance of form in succeeding editions is desirable.



QUEEN'S COLLEGE, CORK.—Sir Thomas Deane, Architect.

QUEEN'S COLLEGE, CORK.

The buildings of the new colleges in Cork, Galway, Belfast, and Maynooth, are proceeding towards completion; and our readers will have observed that the various professorships are advertised as open to candidates. The architects of the new buildings are, respectively, Sir Thomas Deane, Mr. Deane, Mr. Lanyon, and Mr. Pugin. That at Belfast is the most forward, and will probably be completed in the beginning of next year. The sites selected are about ten acres each, and the style of architecture adopted in each case is the Gothic.

The accommodation required to be provided in each college was as follows, viz.:—

First class—general accommodation, one great hall for public purposes, distributing prizes, opening sessions, &c.; second class—museum of natural history, geology, &c.; third class—library; fourth class—botanic garden; fifth class—residence of president; sixth class—apartments of vice-presidents.

Second class special accommodation.—First, chemical laboratory; second, chemical lecture-room; third, mathematics, physics, and mechanics, same lecture-room; fourth, literary department, two lecture-rooms; fifth, geology, anatomy, and botany, two lecture-rooms (each to hold 200 persons); sixth, cabinet of philosophical and mechanical apparatus.

Annexed we give a view of the Cork College, seen from the north-east. The principal apartment shewn in the foreground is the examination hall, 90 feet by 30 feet. This college occupies three sides of a quadrangle. The extent of the north, or entrance front (seen in the engraving) is 290 feet 9 inches; of the east front, 282 feet; and of the west front 191 feet. The library, to the right of the examination hall, is 56 feet by 28 feet. The main quadrangle is 215 feet 9 inches by 161 feet.

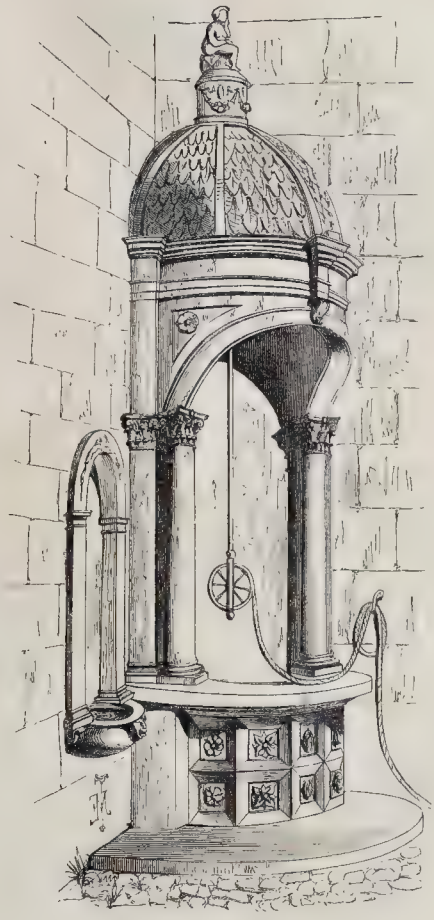
THE MARBLE ARCH AND KENSINGTON GARDENS.

It is a question what to do with the marble arch, which the innovation of the port-holed façade of Buckingham Palace has presumed to beard from its propriety of situation, and the wide piers and narrow windows of which would seem to indicate that London is overpowered with light; and although at the top of one extremity there is placed the papa, and no mistake, and at the corresponding, the sweet little offspring, and their attendants, as it should be;—still, the arch, as well as the public, has some reason to complain of such an intrusion. But to our inquiry—the best use that, in my opinion, can now be made of the marble arch? Kensington Gardens exist without a principal entrance, or any better than might be appropriate to a London square, or a gentleman's kitchen garden; and carriages, &c., are obliged to set down and take up at nooks and corners, not being able, I suppose, to find any part of their circumference more inconvenient to the promenading visiters to these beautiful grounds. Well, Sir, I venture to suggest that if the marble arch be placed on the highest part of the gardens and Hyde Park, that is, about the centre of the terrace, from the entrance, near Victoria Gate and the Magazine, parallel with the front of the Palace and that of St. Paul's Cathedral (with which, perhaps, you may say, and I will agree with you, it will have as much to do as with its grandfather, St. Peter's, at Rome)—I conceive it will there form a striking and agreeable object to break the tedium of the monotony in driving round the park, give a character to the grounds it will form the principal entrance to, be out of the way of the town smuts, and, last, though not least, give shelter to many a delicately attired lady, who may unexpectedly be overtaken by the pitiless storm; and I trust, Sir, no future taste may exist so vile as to pervert its purity and integrity to so humiliating a fate as that of its neighbour, the "Burton Arch," which continues still to deface the entrance to the metropolis by an incongruity which is degrading to the age.

An Inhabitant of May Fair.

The Mansion House, London.—A new justice-room is to be built here forthwith.

RENAISSANCE WELL IN LYONS.



PUBLIC WELL IN LYONS.

To the various examples of the fountains and other constructions of the *Renaissance* period in France which we have already given, we add a view of a curious, and not inelegant, public well in Lyons. Such wells are found in many parts of France, sometimes in the centre of an open *place*, and at others, as here, in the angle formed by two buildings. They usually present points worthy of being noted.

ARCHITECTURAL EXHIBITION BY ARCHITECTURAL ASSOCIATION.

My spirits were excited, even beyond the counteracting influence of a five-mile walk, by an advertisement, relative to an architectural exhibition, that appeared in your paper lately. My grand-son increased this feeling marvellously by writing me full particulars. Thus overcome, there was but one resource. I took down my two-pounder, taken at no *enemy's* death-bed, and charged it. Thou brown-skinned beauty! thy conquests make no booming noise in the world, demanding a howling shrieking echo that may be checked but by the advancing tread of time; thine amber lip is dearer and more soothing than a touch-hole; thy bird's eye more fragrant and peace-planting than sulphurous gunpowder! I fired a few salvoes; my capering spirits knocked under, and I sat, embosomed in victory and smoke—my mind rippleless as a sea of oil.

"*Ex fumo dare lucem*," and that light was honour—honour to the brave young fellows who have stepped forward, with clear head, bold heart, and liberal purse, to maintain the undying loveliness of their art—to assert its still undimmed glory.

If I am rightly informed, they expressed, at the commencement of the session, their belief and trust that this act would not be construed into hostility with any other body. Capital! why should jealousy or ill-feeling be raised against *one* which strives to elevate *both?* It is a rivalry they should rather feel proud of, and support to their utmost ability. The Institute has done much good, and the Academy also. Let good wishes and *more* follow this new association when it seeks a nobler instead of the beaten path, and by working a new mine to repay their older friends, in some measure, for the good *they* have administered to the younger members of the profession. The Academy has not room, if, as I believe, it has the will, to do justice to the three arts; two, consequently, are made subservient to painting. Dissatisfied with this arrangement, architecture will next march without "giving up the key" of her half-room in Trafalgar-square, and take a gallery to herself in Pall-mall, to prove that she owns a charm which merits a nobler recognition than has of late been bestowed on her; that, if her delineations lack the colour

which is the chief attraction with too many, sterling merit still impresses, and, if sought for, will be seen in them.

But to restore her to her true position; to represent her fairly that she may embody all that enraptures us in art, is not, I imagine, the only result this laudable ambition leaps at. They will foster a love and effect a revolution where ignorance reigns now woefully despotic. They will accomplish for architecture what the "Art-Unions" have done for painting—plant the seeds of appreciation in the minds, not only of the rich, but of those who will snatch the hour from their midday repast and devote it to the cultivation of beauty. Rare devotion, when the good belly bends unto the head! I have indulged in it, notwithstanding; but to proceed. Think you not, Sir, that this enterprise will in some degree dispose, not only of what is called "*churchwardenism*," but of that strange propensity which folks possess for exhibiting their bad taste in our public thoroughfares. Is it not natural that a fine exhibition in a Pall-mall gallery will eclipse those ugly architectural (?) compositions in our streets; that taste infused into tradesmen's heads may give expression to their fronts, especially when it is done gratis.

If such fruits be garnered, shall we not—will not all interested in its welfare—

"Live cowards in our own esteem,"

if we withhold the support of our best energies, because the scheme is projected by a young society? Another feature claiming our attention is its freedom both to contributors and *visiters*. This is a broad liberality that commends itself. Had it been otherwise, I feel confident it would have been unsuccessful in one of its main features—public education. As it, stands now, even a failure can bring shame alone to those who wait till support is unneeded ere they proffer it. So great an undertaking may not, perhaps, have been meditated when the venture was first made, but the attention the art journals gave them, and the applause which filled their sails, possibly "bent up each spirit to its full height," and determined a longer course. Their resolution was good, and bravely made. If the association were of ten times the importance it is, it were better to founder by so doing, than once "to surfeit voluptuously out of action." Let us, however, "screw our courage to the sticking post," and there will be no dream of failure.

The question is how we can best urge this business on, and it must be soon pratically answered, for the game's afoot. Can we (I ought not to include myself in this *first* matter), not assist with drawings; cannot the elders of the profession do this, for they are included in its ripening influence? Again, let us forward suggestions to their hon. secretary, which will doubtless be favourably welcomed. There is one other way in which we can aid them, by enrolling ourselves as members of the association. Even those who, like myself, reside in the country, may thus testify their earnest sympathy. Should one of the suggestions I have forwarded to them, be adopted, viz., to have an admission fee one day in the week, those who can may avail themselves of the privilege of paying.

I have intruded myself on your patience, Mr. Editor, to congratulate you—all, on this new movement. I have given no suggestions; they are best forwarded to the association. I cannot forbear wishing them success, for they deserve it. May the energy that prompts them pass from mind to mind, and burst forth ultimately in lustrous beauty to the glory of architecture! They cast round their soul-enchantments with a liberal hand, to dispel the prejudices that envelope too many in chaotic ignorance. Shall not we, who have long desired the coming sun, be glad when its rosy herald tints the sky, and its first beams leap joyously above the horizon? They must now run their course; this cannot be an experiment simply. It is bound tenaciously to the association. It must either elevate them, or, if oblivion claims it, they must sink with it into the abyss; separation may not be. Think of this, gentlemen, as I trust you will, when you make this exhibition worthy of the beautiful art it purposes to enthrone. B.

Castell Llwchwr, South Wales.

MONUMENTAL BRASSES AT HACKNEY.

The following further notice of the brasses at Hackney may not be uninteresting.*

In St. Augustine's tower there are only two now remaining. 1. John Lymley, Esq., in armour, and his lady, with three shields and a mutilated marginal inscription, which once had the four evangelistic symbols at the corners, but only those of St. John and St. Mark are now left. The legend is as follows:—"✠ Off youre Charite praye for the Soules of John Lymley ..... chylderne ..... the xv day of Novēber in the yere of our lord god a M'CCCCCXLV and the sayd Margarett decessyed y^e^ —— day of ——— An^o^ dm̄ M'V^c^—on whois soull^e^ Jhū have mercy."

An attempt was made a short time back to steal these figures, by cutting away the marble stone in which they are inlaid; and the thieves had so far succeeded as to break off the lady's head, when, luckily, the sexton caught them. The head is now lying loose, and I had some little trouble to find it, so as to perfect the figure.

The other, which unfortunately I had not time to rub, commemorates Arthur Deridte and his three wives, with an inscription bearing the date 1652. I forget whether there are any shields or not.

In the modern Church of St. John the Baptist are also two. Dr. Christofer Urswic, a large figure of a priest in processional vestments (cope, &c.), with a skull-cap upon his head, above which is a shield, the bearings of which are quite effaced. Above these is a scroll, inscribed with the word "Misericordia." The whole is on an altar tomb, with a stone canopy, below which, and against the wall of the vestibule of the church, is a Latin inscription, bearing the date 1521.

This Urswic was frequently employed by Henry the Seventh on important foreign embassies, which he executed so successfully that he was created Dean of Windsor in 1495, and the bishopric of Norwich was offered to him; but preferring a private life, he resigned all his offices in 1505, and retired to the living of Hackney, where he died, in the seventy-fourth year of his age, on the 24th day of March, 1521.

Christofer Urswic and Sir Reginald Bray superintended the finishing of St. George's Chapel, Windsor, and have mortuary chapels in that edifice. Urswic's Chapel, which now contains the cenotaph of the Princess Charlotte, is at the west end of the north aisle, and had a stone screen (now placed between the two piers of the choir adjoining Oxenham Chapel), on the exterior of which is painted a Latin inscription, praying for the souls of King Henry VII. and Christofer Urswic.†

The other is over the door of the north aisle, and represents Hughe Johnson in a reading pew, habited in a gown, with a scroll proceeding from his mouth, of which only the words $\frac{\text{PO}}{\text{SPE}}$ remain: beneath are two inscriptions bearing the date 1618.

The two brasses in St. Augustine's tower are fast decaying under the influence of the damp and the filth with which they are covered; indeed it took me nearly as long to clean them as to rub them. Why should they thus be allowed to perish? is there not a spare corner for them in any of the Hackney churches? or if the parish will not restore them, they might at least remove them into the church, and keep them dry. W. H. J. Weale.

Construction of Ovens.—Mr. John de la Haye, in the *Mining Journal*, suggests that bakers' ovens be constructed of brick only below the flame, and of iron above, paved with a thin layer of hard stone to qualify the heat, and prevent the exhaustion of the moisture of the bread, and the formation of thick hard crusts on its surface, as when paved with the more porous bricks. A space of 6 inches, he adds, should be left between the iron and the brick, the flame extending over the whole surface before reaching the flue, so as to save the heat.

* See p. 507, *ante*.

† This monument used to stand in the chancel of St. Augustine's, Hackney, and was probably used for an Easter sepulchre, to which the inscription may contain an allusion in the words—"Hic sepultus carnis resurreccionem in aduentu christi expectat."—*Oxford Manual of Brasses.*

THE USE OF SEA SAND FOR MORTAR.

As your reporter (you were not present yourself) has given an indifferent account of the part I took in the very interesting discussion upon the use of sea sand in buildings, commenced by Mr. Burn at the Institute of British Architects last week, you would oblige me by inserting the following explanation in the next number of your valuable periodical.

The two houses in the Isle of Wight, to which I referred, were both built and finished with (not "on") sea sand; that employed in the one having been first exposed to the action of the weather during some months, but that used for the plastering of the other having been but recently taken from the shore. In the former case no inconvenience whatever was found; but in the latter the plastering took a very long time in drying, and when at length apparently dry, again became damp whenever the atmosphere was more than usually charged with moisture, and even after having been inhabited a whole summer: with these alternations of wet and dry, the moisture of autumn collected upon the work in such quantities as to run down the walls, and fall in large drops from the ceilings.

These houses are within a hundred yards of each other, at an elevation of several hundred feet above the sea, from which they are distant some quarter of a mile, in a direct line. The water used for the mortar was obtained on the spot, at a depth of 20 or 30 feet, running in fissures of the rock, and on the top of the clay, there known as the "blue slipper," its action upon which has been one main cause of the landslips that have imparted so peculiar a character to the scenery at the back of the island. The two buildings were also in progress together, though the foundation of the one requiring much less blasting than that of the other, the latter was somewhat delayed; but still the circumstances of the two were so exactly similar in all other respects, as to afford a most conclusive instance of the importance and utility of having sea sand purged by exposure to the weather, when intended for building purposes.

My motive for allowing this material to be used was a consideration of economy, pit sand having to be brought several miles,—a matter of some moment, over the roads of the Isle of Wight; and I was confirmed in my determination to adopt it, by finding the very soil, and even the stone, quarried on the site (with which we had to build), so impregnated with salt that it was quite sensible to the taste. I, however, took the precaution of insisting upon the whole of the sand required being deposited on the site before the buildings were commenced; and it was not till afterwards that I was aware that, the stock laid up having proved insufficient for the contract and additional works, a further supply was brought direct from the shore.

When it was found that time and fine weather failed to remedy the defect, we applied to a chemist, who recommended a trial of a powerful wash which he prepared. This being applied to the work (not "*boiling hot*"), very shortly removed all traces of damp, which has never since appeared, though several years have elapsed. What this *wash* was I never knew; but I mentioned at the meeting that the expression of the workmen was, that it was "so hot" in its nature that it dried up all the damp at once. It was suggested by Mr. C. H. Smith, that possibly it might have been a solution of alum. Whether this be probable, or what might be used with good effect in such a case, I must leave to the decision of such of your readers as are better chemists than yours, &c., Wm. Willmer Pocock.

Glass Signboards.—A specimen of glass labelling in Liverpool was placed last week over a shop front in Scotland-road, Liverpool. The present operation is said to consist in applying gold or silver leaf to the back part of plate or sheet glass with a glutinous substance, which does not affect the brilliancy of the gold; and after the gold is burnished by the application of heat, the writing or etching is then secured by a varnish, and the surplus gold removed; the ground is then laid as on wood or any other surface, and the work is finished.

RAILWAY JOTTINGS.

A CORRESPONDENT, W. W. P., says—"I don't remember ever seeing a whistle worked, or sounded, by compressed air, contained in something as secure as Æolus's present to old Ulysses, and let out by valves or stopcocks at the will of the guard, suggested as a mode of communication between this functionary and his Bellerophon or Pegasus in a railway train. The same, with some addition, might be adopted as a means of calling the guard's attention to the wants of the passengers."—Always saving and excepting the ingenious double whistle-pump or squirt-whistle for the use of *passengers*, who really must not—cannot—be allowed the use of such an instrument *unless or until* the means of "travelling to the carriages" be provided for the guards thus 'called,'—perhaps one of the best modifications of the whistle to such purposes would be that in which the 'compressed air' is 'fixed air' itself, as it used to be named, or carbonic acid gas, which can be readily and voluminously evolved from marble or other carbonate of lime by help of oil of vitriol, as already suggested. Certainly marble is the securest if not the most classical of all possible reservoirs of 'whistling winds,' not even excepting the iron boreas bottles of the Baron Von Rathen, who might benefit, mayhap, by this hint for behoof of his "compressed air locomotive."——An application of the whistle signal between guard and driver, but with no other compressing apparatus than the human lungs, has lately been adopted on some carriages built for the Shrewsbury and Birmingham Company. The whistle is placed near to the driver's ear, and the air is transmitted through gutta percha tubes, coupled air-tight between the carriages. The directors of this company merit honourable acknowledgment, as do those of the Eastern Counties, for the manifestation of a desire to consult the public safety by the trial of signals. The former have also improved the ventilation and lighting of their carriages, and have provided stuffed seats for the second-class, and close protection from the weather for the third. And that increased attention to the public safety and comfort constitutes but an enlightened system of self-interest we have had frequent occasion to prove. Perhaps the most recent instance of this is the fact that 750*l.* damages have just been awarded to the widow of an *employé*, at 1*l.* a-week, in the service of the Electro-telegraph Company, killed from want of a break, which, even by the rules of the Company itself—the Lancashire and Yorkshire—ought to have been attached to the carriage in which he was seated. Had there, even minus the break, been some mode of communication between passenger, guard, and driver, these heavy damages on a single result of accident so often numerously fatal or injurious, would have been saved or avoided. ——The construction of the Tyne Docks, at Jarrow Slake, and the extensive works connected therewith, is to be commenced almost immediately. The directors of the York, Newcastle, and Berwick line have announced their intention to receive tenders for the same up to 22nd January.——The 117 arches of the Bury line contain 26,187,000 bricks. The large arch over the tunnel and works of the North-Western, alluded to last week, which is 99 feet span, and 64 on the skew, contains, it is said, 2,281,000 bricks, 48,000 cubic feet of timber, and 23,140 superficial feet of 3-inch planking. In these arches 34,000 casks of cement have been used.

NORTHAMPTON ARCHITECTURAL SOCIETY.—A committee was held on 4th inst., the Marquis of Northampton in the chair. Plans for the church at Hartwell were exhibited, and, with a few modifications, approved of. The idea suggested by the Norman arcade of the old church, which is preserved, has been carried out in the new design. The restoration of St. Peter's and St. Sepulchre's, Northampton, were brought before the society. Viscount Alford and Lady M. Alford were elected members. Report was made of the progress of the works under the society's superintendence at Rothwell chancel. The Bedfordshire Archæological and Architectural Society proposed a joint meeting in the spring, and Higham Ferrers was agreed upon.

GRANITE IN CONSTRUCTION.

IT is truly matter of regret to learn that the stone used in some magnificent modern buildings is of a perishable nature, and that it already shews evident symptoms of decay. Most of our public buildings, and the finest of our private residences, have unfortunately been constructed, or have the ornamental portions formed of stone so liable to perish, that a short period of time has been sufficient to make sad destruction of the more delicate mouldings and other sculpture. The entire front of the Banquetting House, Whitehall, was recently gone over, and all the capitals, cornices, and foliage carefully recut. Other structures have undergone a similar renovation; and a new face was thus given to the ornaments, only to suffer from the ravages of succeeding seasons.

The vases on the screen walls of Devonshire House, Piccadilly, are obvious specimens of the inevitable destruction of works of art, the material of which they are formed being insufficient to resist the influence of the weather, and numerous other instances could be readily given. In this variable climate, which tries the most compact and hardest stone, it is of the utmost importance that the most durable should be provided for exterior purposes.

Of all erections exposed to the weather, sepulchral monuments are those for which stone should be employed which is suited to stand the effects of a British climate. A visit to the cemeteries of the metropolis will afford ample proof of the injudicious adoption of those materials at present so generally in use. After a severe winter, the dilapidations which the monuments, slabs, and head-stones have undergone, are lamentable; and numerous masons and sculptors may then be seen busily occupied in chipping, puttying, and pointing, to restore, as they best may, the original appearance.

It cannot but prove a source of mortification for sorrowing friends and relations, on revisiting the last home of the departed, to find, after the course of but a few years, the carefully executed memorials of affection effaced, and the inscriptions almost obliterated; the memento decaying almost equally soon as the body which moulders beneath!

There is indeed another cause which occasions the more rapid deterioration of the monuments, independent of the material, viz., the method of their construction. They may be seen crumbling away on all sides, from being composed of numerous small pieces, thereby requiring a variety of joinings. One is sorry to observe the amount of money which has in so many cases been expended on these sepulchral constructions by afflicted relatives, in the vain hope that they will serve the lasting purpose for which they are intended. No doubt most people are ignorant of the qualities of stone, and submit to the recommendation of the sculptor or mason; but it is astonishing that the superiority of granite over all other materials is not yet acknowledged by its general adoption, especially when so many examples of its fitness are now to be seen. It is, in fact, imperishable; and impracticable as its rugged nature may appear, we see it susceptible of a polish, smooth as the finest marble, and it will retain the nicest mouldings and inscriptions as long and fresh as the monuments of Egypt. It is also to be obtained at a moderate cost; and all expense of periodical reparation will be entirely saved by its use. This is no small consideration, and it is matter of some surprise that the cemetery companies, who agree to keep the monuments in good repair, do not see it advantageous to promote its use.

The manufacture of the Aberdeen and Peterhead granite has been brought to great perfection. It was long thought impracticable, at least it was not attempted to execute any of the finer sculpture in this stone; but statues, as that of the late Duke of Gordon, in Aberdeen, have been formed with success. The columns in the King's Library, British Museum, were thought a wonderful effort of art, and they are undoubtedly fine,—but at what an enormous expense were they executed, and with every care, the stone could not be brought to the required polish without repeated chippings, which had to be filled with scagliola. On the contrary, we see in St. George's Hall, Liverpool, the Fitzwilliam Museum, Cambridge, and the Carlton Club-house, Pall Mall, specimens of polish without the least flaw in this stone, which, as it is the primary rock, seems destined to become the ultimately remaining evidence of architectural and sculptural skill. J. LOGAN.

THE ACCUMULATIONS OF INDIVIDUALS ADVANTAGEOUS FOR THE MANY.

MONS. THIERS is labouring zealously to refute the erroneous opinions of the communists held by so many of the operatives of France. In one of his letters, where he is endeavouring to shew them that the wealthy are not all idle, profligate, and wasteful, and that many *work* usefully, though not with their hands, he says, —"Is it not necessary, I repeat, that there should be men devoted to the study of nature, to the discovery of her laws, in order that they may be used for the good of the human race—men fitted to teach the use of water, fire, and the elements; to teach how to constitute and govern societies? It is also true that it is not the rich man who most frequently makes these sublime discoveries, although he sometimes does so; but he it is who encourages them—he it is who contributes to form this enlightened public, for whom the poor and humble scholar labours; he it is who gathers together vast libraries, and who reads Sophocles, Virgil, Dante, Galileo, Descartes, Bossuet, Molière, Racine, Montesquieu, and Voltaire. If he himself do not read them, it is in his house, around him, that they are read, enjoyed, and appreciated, and where is collected that enlightened and polished society possessed of fine and practised taste, for whom genius writes, sings, or covers the canvass with a thousand hues. Sometimes this rich man is himself a good judge; sometimes, also, he is one of those great minds who do not limit themselves to merely enjoying the works of genius, but who also produce them. He is the wealthy Sallust—the wealthy Seneca—the wealthy Montaigne—the wealthy Buffon—the wealthy Lavoisier; he is also the eminent statesman who presides over the destinies of his country."

He goes on to shew how a father, accumulating riches by industry, creates for his children the leisure necessary for the cultivation of the higher sciences by which society is advanced, and illustrates his position by the following sketch of the illustrious

FAMILY OF THE MEDICIS.

"John di Medicis, in 1400, laid the foundation of the fortune of his family. Gentle, prudent, industrious, and possessing in the highest degree the genius of commerce, he amassed immense riches, and, like a wise man, averse to meddling in public affairs, being, according to Machiavelli, even somewhat of a melancholy disposition, he advised his children never to approach the Government. 'Remember," he said to them, when on his death-bed, 'Remember that I never went to the Old Palace (the Government Palace), except when summoned thither.'

Happily his advice was not very strictly followed. His son, Cosmo di Medicis, surrounded by the most learned masters, by whom he was instructed in arts, sciences, and policy, and gifted with a daring genius, mixed, in spite of his father's advice, in public affairs; was proscribed and enthusiastically recalled; did not himself govern, but for thirty years influenced the Florentine republic; caused the splendid palace of his family (the Palazzo Ricardi) to be built for him by Michelozzo, numbered among his associates Masaccio, Brunelleschi, Ghiberti, Donatello, and Pozzi, founded Greek schools in Florence, added further to the fortune of his family, and, although a politician and a scholar, remained a merchant. This merchant, however, quitted his warehouses on certain holidays, and went to the charming retreat of Caffragiolo to read,—can you guess what? To read the *Dialogues of Plato*, which Poggi had translated for him, and for which Cosmo had paid a large sum of gold. His son Pietro scarcely survived him, and the glory of his house passed to his grandson, him whom posterity has never ceased to love and admire under the name of *Lorenzo the Magnificent*. He, still more disobedient to the coun-

sels of his ancestor, neglected commerce altogether, and was the scholar and the statesman only. Brought up with Politian and Pic de la Mirandola, a poet and a gentleman excelling in every bodily exercise, ugly as Socrates and seducing as Alcibiades, sagacious as a statesman, irresistible as a negociator, he served his country when threatened by a general coalition, raised it to its former power, gained over all the courts of Italy by the mildness of his domination, made them live for fifteen years in a state of profound repose, which Italian historians have termed the golden age of their country, wrote exquisite verses, caused the most precious Greek and Latin manuscripts, the finest antique statues, to be searched for and discovered, throughout the whole of Europe, gave to the world Michelangelo, charmed and dazzled by his magnificence the Italian Princes whom he had attracted to Florence in the interests of the general concord, thought of every thing except his fortune, which he lavished, compromised, but so notoriously for the general interest, that Florence gratefully declared the treasury of the Medicis and that of the republic confounded, and at last died, carrying with him into the tomb the prosperity of his country, for the prudence which had created her happiness having descended with him into the grave, the French and Germans fell upon Italy, ravaged it for half a century, and made it what it still remains—a slave.

Would it have been better, had this splendid example of hereditary transmission never existed? Would it have been better that the fortune of the Medicis should have been checked at John, and Cosmo been compelled to employ his life in founding it anew; that it should have been again arrested in Cosmo, and Lorenzo been obliged once more to recommence it; that none of them should have found time to cultivate the arts, letters, and politics?"

METROPOLITAN COMMISSION OF SEWERS.

A general court was held on Thursday week, at the Court-house, Greek-street, Soho-square. Mr. Hutton in the chair.

Several accounts and payments were ordered.

The late Fatal Cases of Cholera in Hair-Brain-court, Rosemary-lane.—Mr. Lovick, the assistant-surveyor, having been requested by the General Board of Health to cleanse Hair-Brain-court, Rosemary-lane, presented a report, giving a miserable account of the state in which he found it.

The report went on to state that the death of a woman, at No. 4, was hastened by opening a cesspool, the contents of which were thrown into a trench and buried. The whole of the houses are in a most wretched and dilapidated condition,—some appearing as if they were falling down, had no back ventilation of any kind, were exceedingly filthy, and the air was loaded with offensive effluvia. On the subject of water it was remarked that there was no supply.

"The houses, of which there are thirteen, containing thirty-two rooms, are inhabited by 157 persons. There have been recently eight cases of cholera in this court; four were fatal—four are expected to recover."

In flushing and cleansing the court, several of the men were seized with sickness, and they stated they would rather live in a sewer than in such a place. They, however, succeeded in rendering the place comparatively salubrious, for which the people expressed their thanks. The report next complained that, upon the arrival of the men with their pumps and hose upon the spot, they were unable to obtain any supply of water for upwards of four hours, in consequence of the main not being charged. It also contained observations on the evils caused by keeping pigs. Several of the commissioners—the Rev. W. Stone, in particular—expressed their abhorrence of pigs being kept in these neighbourhoods, especially as ample powers were now given, under the Nuisance Act, to effect the immediate removal of them.

The report was then received, and the court soon after adjourned.

Floors for Cottages.—A correspondent, anxious to improve the floors of cottages in the neighbourhood, asks for the best mode of forming "lime-ash floors." Considering the formation of cheap good floors for cottages a matter of interest, we would open the question wider, and ask for remarks on the best modes generally, from any who have considered the subject.

Miscellanea.

The State of St. Margaret's Churchyard.—The article on this subject in a recent number of our paper, has brought us a pile of letters, confirmatory of its statements, and shewing the existence of so strong a feeling on the matter as to lead us to hope that alleviatory measures will be enforced. The *Times* having quoted a portion of the article in question, the Rev. Edward Repton, resident in the cloisters, has addressed to that paper a letter on the subject. The reverend gentleman says —"The paragraph in your paper to-day, taken from The Builder, respecting this churchyard, will, I hope, call forth other remarks on the same subject. It is felt to be a nuisance by those who live near it, and proved to be so by medical and chemical professors who have inquired into and reported upon the subject. Why, then, is it allowed to become worse every year, or why is it allowed to continue, especially when it might be so easily remedied? If two or three paved footpaths through the churchyard were railed off, and the names of those buried under gravestones recorded on each side of the paths (if relatives required it), the intermediate spaces might be levelled and turfed, and thus form a pleasing object to the eye, while the inhabitants would be freed from this grievous inconvenience, which I could prove to you is not imaginary." Mr. Repton further points out the mischief done both to animal and vegetable life, by the sulphuretted hydrogen from the gas works. "This," he says, "the senators, whom The Builder speaks of, will, by-and-bye, discover, when all the splendid gilding with which Mr. Barry is now decorating the houses of Parliament shall first have been destroyed, which soon it will be, by the noxious exhalation from the gas works."

Railway Compensations.—An inquiry was held on Thursday last week, before the Sheriff of Surrey, to award compensation to the firm of Brown, Gordon, and Dunn, residing in Gravel-lane, Southwark, for their leasehold and other interest attached to the premises which were required for the purposes of the London and South-Western Railway Company's extension to London-bridge. According to a correspondent, the claimants demanded in the whole 14,742*l.* 6s. 10d., viz.:— For lease of premises, 5,202*l.* 18s. 3d.; an additional amount alleged to be secured by the terms of the partnership, &c., 2,712*l.* 5s.; an amount to be expended upon new premises, 1,000*l.*; loss of interest on that amount, 750*l.*, removal of stock, 400*l.*, and 2,000*l.* for loss of profits on the business; and a sum of 2,676*l.* 13s. 7d. for Mr. Samuel Brown's private interest in the rental of the residence, and for the removal of some patented inventions. The parties, it appeared, had a lease, of which six years were unexpired, at 250*l.* per annum. The claim was, we understood, reduced in court to half the original amount. Several witnesses were called, and the jury returned the following verdict:—"To the firm for damage, removal, refixing the plant, and adaptation to other premises, 750*l.*; for the lease, 300*l.*; for Mr. Brown's private interest for gas, engine, &c., 100*l.*; and for house-fixtures, &c., 344*l.* 1s., making a total of 1,394*l.* 1s."

Provincial.—The Dean and Chapter of Canterbury Cathedral have thankfully accepted the offer of various subscribers to provide a stained-glass window for the cathedral.——The pinnacle of Pelynt Church spire, says an Exeter paper, was lately struck by lightning, which scattered its granite masses in every direction, and ran through the building, doing some other damage, and boring a hole through a wall like a bullet hole.——Mr. W. Cotton, of Ivybridge, is to give to Plympton, Plymouth, and Devonport, with Stonehouse, a collection of works of art, books, &c., if deposited in a building near Sir Joshua Reynolds's birth-place at Plympton, with a curator, till the death of the donor and his wife, when 125*l.* a year will be added.—— The iron trade, says a contemporary, continues ruinously low. It is stated that a discharge of 500 workmen (miners) from Dowlais is likely to take place. Rhymney works, too, are discharging a great number of men, mostly Irishmen. ——The new Mill-hill Chapel, Park-row, Leeds, designed by Messrs. Bowman and Crowther, of Manchester, architects, has been completed. It is in the perpendicular style, with centre and side aisles. The north window is of stained glass by Warrington. The building is heated by hot water apparatus, and lighted by three chandeliers in the nave, and side lights in the aisles. The cost of the whole is upwards of 7,000*l.* The principal artificers engaged were Messrs. Wilson, Hillas, Mawr, Bates and Adams, Brunton, Preston, Milner, and Robinson. ——A ponderous screen of plate-iron, three to four feet high, and running in one mass along the top of the four feet parapet of a bridge on the Paisley-road, near Glasgow, was lately so "beat on by the winds as if it were the mainsail of a vessel," the bridge itself meanwhile resisting all attempts at loco-motion, even while striding across a locomotive line,—that the mainsail yielded to the "atmospheric pressure" on the one hand, and the pontific resistance on the other, and came down, as put up, in the mass, killing two persons, and severely injuring a third.

Projected Works.—Advertisements have been issued for tenders, by 1st March, for deepening, widening, and otherwise improving, 100 miles of river and drainage from Upwell to Whittlesey Mere; and by 25th January, for supplying her Majesty's Dock-yards with iron nails, tacks, tenter-hooks, rivets, and brads, for twelve months certain.

Competition. — A premium of 50*l.* is offered for the approved design of an ornamental building, to be erected at Dundee Harbour, in commemoration of the landing of her Majesty there in 1844. Particulars as advertised.

White Zinc *v.* White Lead.—Whatever be the merits of the question between the white paint based on zinc and that based on antimony, there can no longer be any doubt of the possibility of rendering 'white zinc' superior to white lead in permanent brilliancy of colour, although we are aware that expensive and patented processes and apparatus have been long since unavailingly tried with the view of accomplishing this desirable result. Yet, as to its greater permanency of colour, even while not prepared so as to be very brilliant, as already remarked in The Builder, we have the evidence of Mr. Parkes, a practical chemist, who instituted experiments on purpose to test the comparative merits of white lead and oxide of zinc as pigments. On an invitation to professional men, we last week sent a representative to the premises of Mr. J. Geyelin, architect, and surveyor to the Vieille Montagne Zinc Mines Company, at Westminster, to witness some experiments with these pigments. Two boards, one painted with white zinc, by Mr. Geyelin, and the other with white lead, by Mr. Crase, at the request of Mr. Barry, were exposed to the fumes of sulphuretted hydrogen, one of the commonest and but too generally diffused sulliers of the purity of white paint. The white lead was at once attacked and reduced to a dark brown, while the white zinc remained as pure and brilliant as before. Other experiments were gone into with a like result, the zinc even protecting other colours from the slightest injury, while those containing white lead were quite destroyed. Doubtless the vapour of pure sulphur in a close vessel might have a different chemical action on oxide of zinc, which has the peculiar property of forming with sulphur the sulphuret of zinc, but on trial of the common vapour of sulphur, which, in fact, is sulphurous acid gas, but which is the next most likely substance, as from common fires, to chemically alter white paint, we do not find this 'white zinc' in the least affected. We may add, that we should have thought the article in question to be carbonate of zinc, but we are informed that it is pure oxide, a substance not easily got from the general ores of this country, which are sulphurets.*

* While thus at last having the prospect of not only a safer but a cheaper and more permanent and brilliant white paint, whether for mixing or otherwise, than white lead has ever been, perhaps the least pleasant reflection is, that, notwithstanding the abundance of zinc ore in this country, we are by no means likely to be able to cope with the foreign supply of such an article, either in cheapness or in purity, many of the continental ores being uncontaminated with those impurities to which our own repeated failures have been attributed, while the labour expended in their preparation is thus both lessened as well as cheaper. An importation, we perceive, of oxide of zinc, as a substitute for white lead, has just been made by steamer from Havre. It has been directed, however, by the authorities, to be charged with the *ad valorem* duty of 10 per cent. as a manufacture of zinc, being the same rate of duty as is leviable on manufactured painters' colours on importation into this country.

THE GAS MOVEMENT IN THE CITY is still fermenting, and will, doubtless, ere long, carry all before it. At the wardmotes, as anticipated, zeal in this movement was *the* test, and pledges, declarations, and determinations to obtain a cheap supply of good gas to the City one way or other were the order of the day. A difference of opinion as to the most practical and speedy mode of doing so arose amongst the members of the City Sewers Commission, though all professed an equal zeal in the cause; and ultimately it was resolved, as a simpler, speedier, and more practicable plan, to revert to the 'first idea,' which did not contemplate either the purchase of existing works or the erection of new, but confined itself to the power to purchase, admit, or lay down pipes, and contract with existing or other companies for a supply of pure gas at not more than 4s. per 1,000 cubic feet to the consumers. Thus a day of grace is still left open to the existing companies, which we earnestly hope there may be no reason to regret. But failing them, another formal offer has been already made (by Messrs. Alfred Joy and Co., of the Phœnix Foundry, Clerkenwell) to supply the citizens direct with the purest and best gas for twenty one years at 3s. 6d., pipes inclusive, or with a further reduction should the commissioners supply these themselves. Proper security for the due fulfilment of the contract was also offered. Had the determination to erect works and apply surplus profits to public improvements, as so fully carried out at Manchester, been persevered with, it is perhaps questionable whether the proposed bill, even in its more enlarged form, would have been sufficient, and at all events there would have been the hazard, nay, probably the certainty, of a prolonged and inveterate parliamentary conflict with powerful companies. Of course we do not mean to say that the citizens of London are not able to cope with or put down such monopolies; we only allude to the amount of the forces recently proposed to be put in action for such an uncompromising and direct suppression of them.

IMPROVEMENT OF WEST-END OF LONDON.—You are always ready to mend our ways, and, therefore, I take leave to mention that there is a narrow inconvenient street, cylept "Whitcomb;" it leads from Pall-mall East to Coventry-street, and all the west-end 'busses and carriages seem to delight to run up and down it, although it is only wide enough for one carriage at a time, and much money has been spent upon it to make it safe for foot passengers. There is another street parallel to it, called St. Martin's-street, leading into Leicester-square, nearly in a line with the west end of it, and directly into the new street at the top. Now, Sir, if about two houses were removed in Pall-mall East, adjoining the National Gallery, there would be a clear way from Trafalgar-square, and the west end of the Gallery would be free of adjoining buildings. A little alteration at the top of St. Martin's-street would not hurt the morality of that neighbourhood.

L.

TO CORRESPONDENTS.

"*Stained Oak.*"—A correspondent wishes to know "whether there are any means of getting *stained oak* to its *originally white* colour, by acids or otherwise."

"*Received.*"—"An Old Mason," "Observer," "W. R.," "An Associate," "H." (very desirable though not absolutely indispensable), "Q.," "Tartan," "H. H. M." (Liverpool), "W. H." (will see, on reflection, that if we gave such statements on such authority our opinion would soon go for nothing), "J. E. G." (safe), "J. G." (Hanwell), "J. J. L." (*construction* of prisons is, of course, quite within our province, and we shall be glad to receive the promised remarks. Our correspondent's first letter spoke only of *discipline*), H. H. P. (statement was not enclosed), "J. W.," "Subscriber" (Fleetwood), "C. and C.," "C. D.," "C. C." (we are unable to go into the details asked for), "T. J. D." (thanks), "B. and B. (Liverpool), "P. D." (we decline offering an opinion), "R. R.," "House Drainage considered as to its defects," by T. W. Montague Marriot, barrister-at-law. London: Ollivier, 15 pp. "An Introduction to Heraldry," by Hugh Clark, 14th edition, enlarged. London: Washbourne, New Bridge-street. "The Index," a weekly repertory of results of progress. No. 1. "The London Drainage Plan," by J. Morewood. E. Wilson, 6 pp.

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

CHRISTMAS HOLIDAYS.

ROYAL POLYTECHNIC INSTITUTION.—A Lecture on the popular subject of the Electric Light, by Dr. Bachhoffner, on Tuesday, Thursday, and Saturday evenings. Popular Lectures on Chemistry, with brilliant experiments, by Dr. Ryan, daily, and on the evenings of Monday, Wednesday, and Friday. First exhibition of an entirely New Series of Dissolving Views in Mexico and Switzerland, with Historical Descriptions. Childe's Phantasmagoria, with very curious new effects. Mornings and Evenings. The Microscope at One o'Clock daily. New Chromatrope. Diver and Diving-Bell. Working Models explained. Music directed by Dr. Wallis.—Admission, 1s.; Schools, half-price.

ABERDEEN GRANITE, ROCKHILL PAVING, &c.—ALEXANDER NICHOLSON, 19, Little Tower street, London.—Agent for Forss Rockhill Quarries: A. and W. Nicol, Granite Merchants, Aberdeen; the Aberdeen Lime Company, Granite Merchants, Aberdeen; Neilson's Polished Granite Works, Aberdeen; the Herm Granite Quarries, &c. &c.

YORK STONE.—Buy your York Paving Slabs and Landings, your Bramley Fall, Portland, Park Spring, and Harehill Block Stones, at the VICTORIA STONE WHARF, ISLE OF DOGS, opposite the Greenwich Hospital.

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Stone delivered to any wharf in the river in large or small quantities.

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ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, so celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others, by the Commissioners of Woods and Forests, for building the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c.

W. Wright and Co. have made arrangements to have a stock always on hand at Brine's Marble and Stone Wharf, Horsefall-basin, Battersea-bridge, Kingsway. Any further information can be obtained on application to W. WRIGHT and Co., Anston, near Sheffield; or to T. SHARP, their Sole Agent in London, 27 Burton crescent.

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CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of

DRY SEASONED CAEN STONE

on his Wharf, comprising 20,000 feet cube, which has been selected with judicious care, and is fit for immediate use. Shipments made to any port direct from his quarries at Caen.

N.B. Orders received at the wharf as above; also at the offices of Mr. R. A. WITHALL, Surveyor, 80, Cheapside, where further information and samples may be obtained.

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Mr. de GRANDRY is prepared to undertake any contract, and begs to recommend his extensive and fine stock to the trade, assuring them that every effort will be used to deserve their patronage, by superior quality, low prices, and promptness in the execution of the orders entrusted to him.

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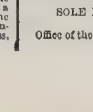
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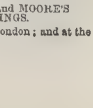
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Best Patent Cut Clasp.
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Black Registers, from 6d. per in. and upwards.
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Do. Elliptic do., at 3½d., and 4d. do.
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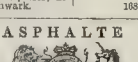
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TESTIMONIALS AFTER LENGTHENED TRIAL.

From the Rev. Wm. Rogers, B.A., Incumbent of St. Thomas's, Charterhouse.

29, Charterhouse square, Monday, Feb. 17, 1846.

Dear Sir,—The stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties. The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated. I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves, and I will endeavour, to the best of my power, to make them known. And I will certainly recommend them to my friends.—I remain, Dear Sir, yours faithfully, WM. ROGERS.

From the Rev. W. Gabriati, M.A., Incumbent of St. John's, Fulham.

St. John's, Fulham, 2nd May, 1846.

My Dear Sir,—I have very great pleasure in giving my public testimony to the efficiency of your stove, as combining the double advantage of thoroughly warming and constantly ventilating any large church or building. Your invention appeared to me to be in theory all that could be desired, and I can honestly say that I have not yet discovered the point in which the practice falls short of the theory. The area of my church is computed to be nearly 300,000 cubical feet, and though a second stove will be required, the one already erected has fully answered my highest expectations, and realised all that you had given me to expect. If confirmation were needed, for evidence of its efficiency, I might further state, that I had peculiar difficulties to contend with, that various attempts had been made, and that every attempt had been a signal failure, that I was exposed to the charge of boldness in attempting what had baffled others; but that such is the power, the efficiency, and the comfort communicated by your stove, that I have not of a dissentient voice, and have heard only of approval with unanimous consent. I might add that I was first led to making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, dear Sir, yours faithfully, WILLIAM GARRATT.

(The following winter the second stove, which is alluded to in the above letter, was put up.)

Letter from the Rev. Matthew O'Brien (Professor of Natural Philosophy and Astronomy), M.A., F.R.S., King's College.

Upper Norwood, 22nd June, 1846.

I beg to certify that one of Mr. Cundy's patent stoves was put up in my lecture room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no hesitation in saying, from actual experience, that Mr. Cundy's stove is far superior both in producing warmth over the whole room, and in promoting ventilation, without disagreeable currents of air, or close smell. MATTHEW O'BRIEN.

Letter from Professor Bradley.

King's College, London, July, 1846.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this institution. It seems to have all the essential requisites of a good stove, a rapid draught, fracium from all smoke, and from that cause which arises from iron, heated in contact with the air of a dwelling room; which is entirely avoided by your arrangement.
I am, Sir, your obedient servant, THOMAS BRADLEY.

From the Rev. Dr. Thompson, Incumbent of All Saints', St. John's Wood

Gothic Villa, St. John's Wood, Oct. 22, 1846.

Sir,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my Temporary Church, and found them to succeed so well that I have introduced them into All Saints' Church, St. John's Wood. The following reasons induce me to approve of them:—Exemption of effluvia, the emission of a great body of *pure* warm air, the perfect system of ventilation, the sight of the fire, the consumption of vitiated air, the little attention requisite, the cleanliness connected with them, and though last not least, *the great economy of fuel*. All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall purchase your patent stoves, and recommend all my friends to do the same.—Yours truly, ED. THOMPSON, D.D.

From the Rev. W. H. Ibotson, B. A., Incumbent of St. James, Norland.

St. James's, Norland, February 21st, 1846.

Sir,—I have much pleasure in certifying that since our stoves were rectified and completed, they have given us all respects the greatest satisfaction. By proper attention to doors and windows we can raise the temperature in very cold weather to 55 degrees, with one of your large stoves and two small ones, in our church, which contains about 180,000 cubic feet. The fires are very cheerful and agreeable in appearance, and the warmth occasioned by them is most pleasant and healthful.—I am, yours truly, W. H. IBOTSON.

From the Rev. J. D. Frost, B.D., Minister of St. Paul's, Winchmore-hill.

Winchmore-hill, October 23rd, 1846.

Dear Sir,—After one winter's experience of your stove in St. Paul's Chapel, I feel no hesitation in saying that it may fairly claim a place in the first rank, among the inventions for warming churches. Before adopting your stove, I made extensive inquiries both as to the different kinds of stoves in use, and also as to the hot water system. Inconveniences of one kind or other I found practically experienced under the various systems which I witnessed; but I really have not one inconvenience or objection to allege against your stove. I believe it to be more powerful than any other stove of the same dimensions and expense; and it is far more agreeable in a church than any other with which I am acquainted.—I remain, dear Sir, yours truly. J. D. FROST.

P.S. I should strongly recommend those who adopt your stove, to use the Derbyshire coal. The "Fresh Air Channel" with which your stove is supplied, serves a very useful purpose during the summer months in assisting the ventilation of the church, without occasioning any unpleasant draught.

From the Rev. A. Brandram, M.A., Rector of Beckenham, Kent.

Dear Sir,—I have much pleasure in stating to you that I consider your stove to have answered, and very satisfactorily too, every reasonable expectation, and I do not hesitate to recommend it strongly to the attention of those who are intending to introduce a warming apparatus into their churches, or other large buildings, from the fact, since the introduction of your stove (one of the largest size) about twelve months ago, become perfectly warm and comfortable.—I am, Sir, your faithful and much obliged servant, J. W. VIVIAN, D.D.

From the Venerable Archdeacon Sinclair.

Vicarage, Kensington, 1st Nov., 1846.

Dear Sir,—Having suffered much inconvenience on various occasions from hot water apparatus and other plans for heating large buildings, I had much satisfaction in hearing of your stove. I considered it to be constructed upon sound scientific principles, and having been informed of many cases in which it had been tried with success, I recommended it to the churchwardens of this parish. In Kensington Church you had great difficulty in obtaining a sufficient draft in the flues, but your stoves have been a great improvement upon the one previously in use; and I am confident that the alterations you now propose will give the church, in respect to warmth and ventilation, every advantage we can desire.—Believe me to be, yours faithfully,

JOHN SINCLAIR.

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HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63 Dorset-street, Fleet-street.

DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c. will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUPand borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King street, Baker-street, Portman-square.—Cash only.

SOHO PLATE GLASS WAREHOUSE, 26, SOHO-SQUARE, depôt for the sale of the PLATE GLASS manufactured by the St. Gobain and St. Quirin and Circy Companies, Paris. The attention of Architects, Builders, and the Trade generally is particularly requested to this article, which stands UNRIVALLED FOR BRILLIANCY OF COLOUR, superiority of substance and polish, and possesses almost faultless quality. This Plate Glass can be procured of any dimensions.—Applications for samples, lists of prices, and all further particulars, to be addressed to ALFRED GOSLETT, Agent, 26, Soho-square.

PHŒNIX PLATE-GLASS WAREHOUSE, 24, St. Mary Axe, City.—E. MOSS, Proprietor.

Builders, Upholsterers, and Consumers of Plate Glass, will find this the Cheapest House in London for Plate Glass for Shop Fronts, Railway Carriages, Mirrors, and other purposes. Colour, Quality, and Substance unrivalled by any other house in the Kingdom. ROUGH PLATE GLASS for Skylights supplied 1, 1-8th, 1¼, and inch thick. All Plate Glass for Shop Fronts delivered within five miles of London free of all charge, and estimates given, free of expense, in town or country. No connection with any other house.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied ¾, 3-8, ½, and ¼ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 29, Hatton Garden, Holborn.

H. CHRISTIE, Agent.

THE BIRMINGHAM PLATE-GLASS COMPANY beg to call the attention of the Trade to their manufacture of superior Polished and Rough Plate Glass. Having recently enlarged their works, and erected an additional 80-horse power engine, they are enabled to produce a much larger quantity. The prices will be found to compete with any establishment in the trade. A large stock of Polished and Rough Plate always on hand. LONDON WAREHOUSE, 141, Fleet-street; WORKS, Smethwick, Birmingham

PATENT ROUGH PLATE-GLASS.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, beg to call the attention of Gentlemen and the Trade generally to the above description of Glass, admirably adapted for Conservatories, Churches, Offices, and Warehouses, and an excellent substitute for Ground-glass.

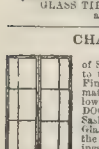
In cases, of the sizes as manufactured, averaging one-eighth of an inch thick, and about 30 oz. to the foot.

In squares, 8 by 6 and under	6d. per foot.
Above 8 by 6 and not exceeding 12 by 10	5d. „
„ 12 by 10 „ 2 feet	6d. „
„ 2 feet	7d. „
Quarries	9d. „

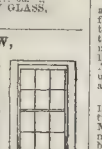
GLASS TILES and SLATES, WINDOW GLASS, and every article in the Trade.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Prime deals securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.





TO THE BUILDING WORLD.

H. BANKS,

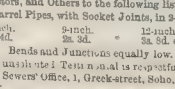
Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 78, Bethnal-Green Road, London. Parties engaged in Building will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sunblind; all simple, cheap, and effective.—Apply for licenses, and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Aldersgate-street, London.

SMITH'S SUPERIOR GLAZED BROWN STONE SOCKET DRAIN-PIPES, 2 feet lengths, in various bores, from 3 to 9 inches, patronized by the Right Hon. and Hon Commissioners of Sewers for the city of Westminster. To be had at the manufactory, 72, Princes-street, Lambeth.—A stock of elbows, sink-traps, and various shapes always on hand.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall walk, Lambeth; at Albion Wharf, Holland-street, Blackfriars; Kingsland Basin, Kingsland-road; and Lime-Kilns, Limehouse. Patronized by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 3-ft. Lengths.

6-inch.	9-inch.	12-inch bore.
1s. 4d.	2s. 3d.	3s. 8d. each.

Bends and Junctions equally low.

The following unsolicited Testimonial is respectfully submitted.

Sewers' Office, 1, Greek-street, Soho, July 20, 1847.

Mr ——

DEAR SIR,—Should you at any time be in want of Stone-ware Drain-pipes, I take the liberty of recommending you to purchase them of Mr Wm Northen, Stone Potter, Vauxhall-walk, Lambeth. I have used some hundreds of his Pipes, and have found them to be made of the best material and workmanship. As such, therefore, I beg to recommend them.—I am, dear Sir, yours truly,

JOHN PHILLIPS, Surveyor.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.

DIRECTORS.

Henry E. Bicknell, Esq., 28, Upper Bedford place.
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Thomas Somers Cocks, jun., Esq. M.P., Change-cross.
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Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death. IMMEDIATE ANNUITIES on OLD LIVES and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.

Parties desirous of providing for the Renewal Fine in their Leases can do so with facility in this Society.

Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

Prospectuses and further information, free of expense, from

ARTHUR SCRATCHLEY, Actuary.

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages gained for Assurers by the plan on which policies are granted by this Office.—Apply to CHARLES JAMES THICKE, Secretary, 37, New Bridge-street, Blackfriars.

SCOTTISH EQUITABLE (MUTUAL) LIFE ASSURANCE SOCIETY.

Incorporated by Act of Parliament.

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LONDON ..... 61, Moorgate-street.

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VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO 1ST MARCH, 1847.

	Amount Assured.	Annual Revenue.	Accumulated Fund.
At 1st March, 1835	£920,611	£41,364	£24,661
Do 1838	1,104,275	50,208	77,191
Do 1841	1,509,570	55,536	133,329
Do 1844	1,910,292	68,630	263,719
Do 1847	2,763,381	99,270	405,393

This being a MUTUAL ASSURANCE SOCIETY, the Profits are not, as in Proprietary Companies, divided between the Partners and the Assured. The WHOLE belong to the Policy Holders. It is, therefore, impossible for any Assurance Office to give greater advantages to Assurers than this Society affords.

At the ANNUAL GENERAL MEETING, held on 4th May last, after reserving upwards of THIRTY-SIX THOUSAND POUNDS for future division, a Vested Bonus of TWO per Cent. per annum, to all Policies of Five Years' standing, was declared, not only on the Sums originally Assured, but also on the additions previously made to them. Thus Policies of 1000l. effected before 1st March, 1842 will (if they become claims after 1st March next) receive an ADDITION of FOUR HUNDRED and TWO POUNDS, being upwards of FORTY PER CENT thereon; and other Policies will also receive in proportion to their duration.

The next Triennial Allocation of Profits takes place on 1st March, 1850, when all Policies of five years' endurance will receive additions. Policies opened on or before 1st March next, will, at 1st March, 1853, be entitled to Vested Additions corresponding to the number of Annual Premiums which have then been made, or have become due.

The Annual Revenue now exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

ROBT CHRISTIE, Manager.
ROBERT GIBSON, Secretary.

LONDON OFFICE, 61A, Moorgate-street.

WILLIAM COOK, Agent.

ARGUS LIFE ASSURANCE COMPANY,

39, Throgmorton-street, Bank.

Empowered by special Act of Parliament, 5 & 6 Will. 4, c. 76.

THOMAS FARNCOMB, Esq., Alderman, CHAIRMAN.

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William Bambury, Esq.	J. Humphery, Esq., Ald., M.P.
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SURGEON—W. Coulson, Esq., 2, Frederick's-place, Old Jewry.

CONSULTING ACTUARY Professor Hall, of King's College.

Persons Assuring in this Office have the benefit of the lowest rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an annual bonus: they have likewise the security of a large subscribed capital—an Assurance Fund of a quarter of a million—and an annual income of 65,000l., arising from the issue of nearly 6000 Policies.

Annual Premium to Assure 100l.

Age.	For One Year.	For Seven Years.	Whole Term.
	£0 17 6	£0 19 1	£1 11 10
30	1 1 3	1 2 7	2 0 7
40	1 6 0	1 6 9	2 14 10
50	1 14 1	1 19 10	4 0 11
60	3 2 4	3 7 0	6 0 10

One-half of the "whole term" Premium may remain on credit for seven years, or one-third of the Premium may remain for life as a debt upon the Policy at 5 per cents., or may be paid off at any time without notice.

Policies assigned as a security to others will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid in one month after proofs have been approved.

The Medical Officers attend daily at a quarter before Two o'clock, and Policies issued the same day.

E. BATES, Resident Director.

A liberal Commission to Solicitors and Agents.

LONDON and PROVINCIAL JOINT-STOCK LIFE INSURANCE COMPANY.—The Directors invite the Public generally, also Building Societies and Borrowers, through them or from other parties, to examine the peculiar system and striking advantages offered by this Office.

Every description of LIFE ASSURANCE, INVESTMENT, and LOAN business effected. LOW RATES of PREMIUM, and THREE FOURTHS of PROFITS divided. For Prospectuses, &c. apply to JOHN MASSON, Secretary.

Offices, No. 39, Nicholas-lane, Lombard-street, London.

THE LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY, 3, Water-street, Liverpool; 3, Charlotte-row, Mansion House, London.

LIABILITY OF THE PROPRIETORS unrestricted.

MODERATE PREMIUMS in the Fire Department.

GUARANTEED BONUSES and other peculiar Advantages in the Life Department.

POLICIES, insuring the value of Leasehold Property at the termination of the Lease, are also issued.

Persons whose Policies with this Company expire on the 25th instant are respectfully reminded, that receipts for the renewal of the same will be found at the Head-offices in London and Liverpool, and in the hands of the respective Agents; and those who, preferring the security offered by this Company, may desire to remove their Insurances, are informed that no expense will be incurred by such removal

SWINTON BOULT, Secretary to the Company
BENJ. HENDERSON, Resident Secretary, London.
December 9, 1847.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY

In addition to Assurances on Healthy Lives, this Society continues to grant Policies on the Lives of Persons subject to Gout, Asthma, Rupture, and other Infirmities, on the payment of a Premium proportioned to the increased risk. The plan of granting Assurances on Invalid Lives originated with this office in the beginning of 1824.

Every description of Assurance may be effected with this Society, and Policies are granted on the Lives of Persons in any station, and of every age.

BONUSES.

The first two Divisions averaged 22l per cent. on the Premiums paid; the third, 28l per cent. The fourth Bonus, declared January, 1847, averaged rather more than 36l. PER CENT.; and from the large amount of Profit reserved for future appropriation and other causes, the Bonuses hereafter are expected to EXCEED that amount.

Tables of Rates, with a full Report (recently printed), can be obtained of the Society's Agents, or by addressing a letter to

GEO. H. PINCKARD, Actuary.

No. 99, Great Russell-street, Bloomsbury, London.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-Feet Lengths.



3-inch bore, 3d. PER FOOT. 4-inch, 4d. 6-inch, 8d. 9-inch, 1s. 1½d. 12-inch, 1s. 10d. 15-inch, 3s. 4d.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

Extract from a Letter addressed to Mr. Henry Doulton, by Mr. JOHN PHILLIPS, Surveyor to the Westminster Commission of Sewers.

I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

From Mr. JOHN ROE, Surveyor to the Holborn and Finsbury Commission of Sewers.

Sewers Office, Hatton-garden,
August 30th, 1847.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builder or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers, at the undermentioned VERY LOW PRICES for CASH."

Parcel 1.	1945	Plates,	4 inches wide, from 6 to 70 inches long, about 550 feet superficial, at		8d.	per foot.
Parcel 2.	1845	..	4	.. 6 „ 70	580	.. 8d.	..
Parcel 3.	2220	..	7	.. 6 „ 70	1320	.. 9d.	..
Parcel 4.	1120	..	7	.. 7 „ 70	1200	.. 11d.	..
Parcel 5.	1264	..	8	.. 8 „ 53	1100	.. 12d.	..
Parcel 6.	888	..	9	.. 8 „ 50	1030	.. 13d.	..
Parcel 7.	760	..	10	.. 9 „ 60	1000	.. 14d.	..
Parcel 8.	800	..	11	.. 11 „ 40	1300	.. 15d.	..
Parcel 9.	900	..	12	.. 12 „ 40	1200	.. 16d.	..
Parcel 10.	500	..	13	.. 13 „ 30	1100	.. 164d.	..
Parcel 11.	450	..	14	.. 14 „ 30	900	.. 18d.	..
Parcel 12.	440	..	15	.. 15 „ 30	1000	.. 18d.	..
Parcel 13.	357	..	16	.. 16 „ 40	1000	.. 21d.	..
Parcel 14.	360	..	17	.. 17 „ 50	1100	.. 22d.	..
Parcel 15.	300	..	18	.. 18 „ 50	1000	.. 24d.	..
Parcel 16.	240	..	19	.. 19 „ 50			
	200	..	20	.. 20 „ 40	800	.. 27d.	..
	153	..	21	.. 21 „ 53			

The Plates measure above the sizes charged the fractional parts of the inch, both in length and width, upon each Glass being allowed. One Case—a strictly correct average sample—may be seen at the Company's Warehouse, 12, Rathbone-place.

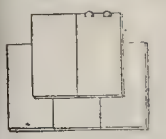
The Parcels will be carefully packed by the Company's Warehousemen, delivered at the WORKS, SUTTON, near ST. HELEN'S.—Cases allowed for when returned.

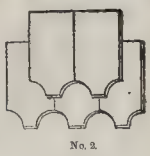
The Company not accountable for breakage

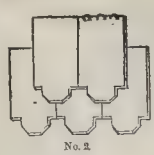
By order of the Board,

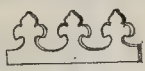
LONDON: WAREHOUSE, 12, RATHBONE-PLACE. J. L. GRUNDY, Company's Agent.

PEAKE'S DRAIN PIPES, TILES, &c.—Continued.


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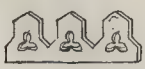

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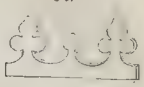

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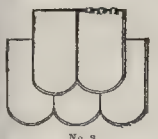

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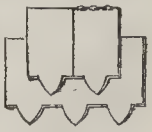

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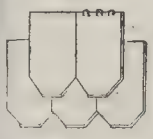

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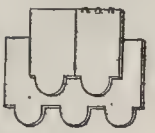

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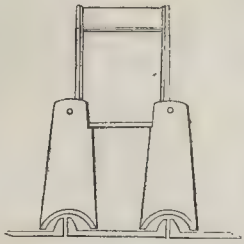

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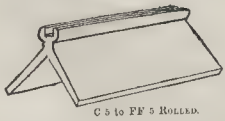

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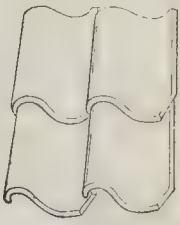

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No. 2.


D 2 and E 2.


C 5 to FF 5 Rolled.


No. 7.


No. AA 2.


No. 10.

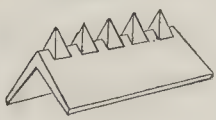

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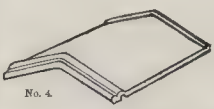

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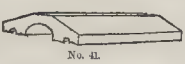

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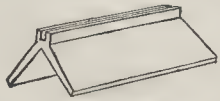

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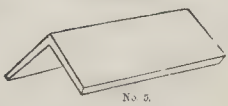

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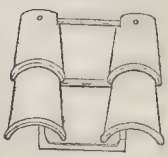

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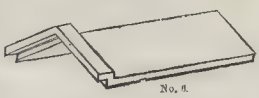

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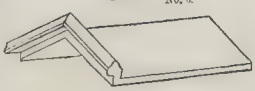

No. 41.


C 5 to FF 5 Plain.


No. 5.


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No. 8.


No. A 6.


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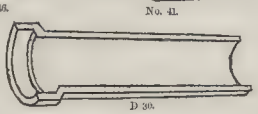

No. 3.


No. 18.


No. 44.


No. 30.


No. 48.


D 30.

2 D

A 3.

C 85.

No. 37.

No. 51.

No. 52.

2 E.

B 64.

No. 67.

C 64.

No. 66.

No. 67.

No 15.

A 15.

A 13 and B 13.

No. 16.

No. 21.

C 13 and D 13.

[Entered at Stationers' Hall.]

TO ARCHITECTS, SOLICITORS, AND OTHERS.

A SET of CHAMBERS to LET in Suffolk-street, Pall Mall East.—Apply at No. 13,

TO BUILDERS, BRICKLAYERS, AND OTHERS.

TO BE SOLD, in consequence of a death, a BUSINESS in the above Line, in the heart of the City, with a first-rate connection attached. Any person with a small capital would be treated liberally.—For particulars apply to Mr. CHAMBERS, Auctioneer, 7, Great Tower-street.

TO BUILDERS, CABINET AND COACH MAKERS, Tunbridge Ware Manufacturers, and others requiring Roomy Premises, with valuable Machinery for Sawing, Planing, Turning, &c.

TO BE SOLD, OR LET ON LEASE, most ELIGIBLE PREMISES, situate No. 19, Dorset-place, Dorset-square, in the immediate vicinity of the Regent's Park, comprising a most commodious dwelling-house replete with fixtures and fittings; at the rear of which, with a back entrance into New-street mews, are premises adapted to a large trade, and consist of a large yard, excellent workshops, counting-house, sawpits, deal and other sheds, stabling, and an abundant supply of spring water. There is also the advantage of the machinery, which has been very recently erected for sawing, planing, coke-cutting, turning, &c. by horse power, and which will be valued much below its cost price.—For further particulars and to view, apply on the premises between 10 and 4. No written applications can be attended to.

PAPER MILLS, EAST MALLING, KENT.

TO BE SOLD, by Private Contract, an excellent TENROSE STEAM-ENGINE, Double Cylinder, High and Low Pressure, in good repair. Also, a Thirty-Horse Wrought-Iron STEAM-BOILER, with Steam-Chamber complete, with Fire-plate and Wrought-Iron Chimney, and Iron Stay; 1 One Spur Wheel, and One intermediate Ditto; and Two Pinions to Drive Rag Engines; and Two Plummer Blocks and Brasses; also Two Iron Rag Engines, with Steel Plates and Rolls complete.

One large Turning Lathe, with Slide-rest.
One Ditto, with Slide-rest, Straps, and Gear-work.
One Ditto, small Foot Lathe
Also, about 20 Tons of fine and other Rags, Rosin, Alum, Ultra-Marine Blue, Zinc Plates, &c. &c.

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ST. PANCRAS VESTRY-ROOMS, Gordon-street, Gordon-square, held under the Duke of Bedford for a long term, at a ground rent, with possession.

TO BE SOLD, by Private Contract, a valuable long Leasehold ESTATE, consisting of extensive premises, known as the late St. Pancras Vestry Rooms, situate in Gordon-street, Gordon-square. The premises are most substantially built, and have a frontage to Gordon-street, and comprise a spacious Board-room, 47 ft. by 24, with waiting-rooms, principal and clerks' offices, suite-rooms, housekeeper's apartments, fire-proof room, &c., and are peculiarly adapted for a County Court, Institution, Chapel, or for any purpose requiring large and well-arranged rooms and offices. Held for an unexpired term of 76 years, at a ground rent. The possession will be given.—For particulars apply at the New Vestry room, Pancras-road.

By order of the Vestry, JOHN M'GAHEY, Vestry Clerk.
December 1, 1847.

TO BUILDERS.

TO BE DISPOSED OF, most Eligible FREEHOLD BUSINESS PREMISES, situate in a flourishing Watering-place in the south of England, in which the Trade of Builder, Carpenter, and Joiner, is now, and has been successfully carried on for many years by the present proprietor, who is about to retire from the same. There is an Excellent Jobbing Connexion with it, as the Landowner presents an opening with advantages seldom to be met with. The premises are most complete, in good repair, (the principal part having been newly erected within the last twelve years,) and comprise a commodious DWELLING, replete with every convenience, at the rear of which are Foreman's House, Cottage, Garden, Extensive Yard, with Workshops, Drying House, Painters and Glazier's Shop, Stores, Deal Sheds, Sawpit, Stables, Cart and Chaise Houses. There is also an excellent spring of water running through the premises. No premium, or fixed-rent charge, and part of the purchase money may remain on mortgage.—For further particulars apply to A. F. LIVESAY, Esq., Architect, Portsea-path.

SALES BY AUCTION.

UNDER BILLS OF SALE.—To Barge Owners, Contractors, Brick Makers, Lightermen, and Others.

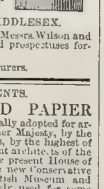
MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at Mr. D. White's, so, Bankside, on TUESDAY, January 4th, at One o'clock precisely—Six Sailing Barges, part of which are adapted for the canals, and Three Canal Boats, lately belonging to Messrs. Stapleton and Thorn, Contractors. May be viewed at Mr. D. White's, Bankside, three days previous, and catalogues had of Messrs. Newbon and Evans, Solicitors, 1, Wardrobe-place, Doctors' Commons; at the Place of Sale; and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster

DR. ARNOTT'S CHIMNEY VENTILATOR.—P. EDWARDS, Stove Maker to her Majesty, 90, Poland street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, P. F. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.



The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cornices, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and are unrivalled for their ornamental appearance; they are manufactured of artificial Stone-cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

In terms from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Hon. surable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Panthenon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority of utility. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1—Works, 15, Wellington Street North, Strand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue and White Lias Lime Works, CHURCH STREET, ROTHERHITHE, London, Sole Consignee of Atkinson's Cement.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and effective substitute in the place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Casting, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface, which may be made equal to that of the finest marble NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 195, DRURY LANE. Agents for Liverpool and Manchester, Mr. R. PART, 38, Cunningplace, Liverpool.

PATENT PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

MESSRS. ROBINS and ASPDIN announce to Architects, Engineers, Contractors, Plasterers, Builders, and the Trade generally, that they have purchased the CEMENT WORKS erected by Messrs. MAUDES, JONES, and ASPDIN for the MANUFACTURE OF PATENT PORTLAND CEMENT, and that some of the properties of this superior article are,

1. The colour of the Cement, which it permanently retains, perfectly resembles Portland Stone.

2. It is not subject to Atmospheric Influence, whatever the climate, and will resist the action of both Frost and Heat without cracking, or being in any way affected by exposure to damp.

3. It does not require, like all other Cement, either painting or colouring, and will not vegetate, oxydate, or turn green.

4. It is stronger in its cementitious qualities, harder and more durable, and will take three times more sand than any other description of Cement.

5. It is well adapted for buildings and works of every description as well external as internal, and for Pavements, both plain and ornamental; and being properly applied, the Cement will present a perfect resemblance to the finest Portland Stone. It is also used for Artificial Stone, Fountains, Basins, Balustrades, Figures, Vases, Chimney-pots and such like articles, and Copings and Architectural embellishments of every description; for the lining of Gas-tanks, Baths, Fish-ponds, Cisterns, Locks, Reservoirs, Culverts, Bridges, and concreting generally, and for Sea and Canal Walling it cannot be surpassed—its power to resist the action of water for any length of time having been sufficiently tested in the Thames Tunnel—a property which distinguishes it from the Roman and all other cements ever yet manufactured. It may be kept for years without imparting its strength, and will only be depreciated by the slowness of setting.

Particulars of the experiments made by Messrs Grissell and Peto at the New Houses of Parliament, shewing the extraordinary strength and adhesive qualities of the Patent Portland Cement, may be obtained at the works at Northfleet, and at the wharf in Great Scotland-yard, Whitehall, London.

Sold in Casks of Five Bushels each, weighing about 4½ cwt., at 1s. for cask,—to be allowed for each cask returned in good condition to the works at Northfleet.

INJUNCTION.

BUNNETT and CORPE'S PATENT REVOLVING IRON SHUTTERS.—Since the verdict found in favour of the Patentees, in the Court of Exchequer, in the action tried by order of the Court of Queen's Bench, they have obtained a perpetual Injunction for restraining all infringements of this Patent, and therefore all parties are hereby cautioned against infringing the same.

THE PRICES ARE GREATLY REDUCED, and BUNNETT AND CORPE'S PATENT IRON SHUTTERS ARE THE CHEAPEST AS WELL AS THE BEST. They are made with convex laths, if required. The worm and steel pinion for raising and lowering revolving iron shutters (as secured by this Patent) is the only safe and durable mode of effecting that object. In large shutters it is indispensable.

Some thousands of Bunnett and Corpe's Shutters have now been put up, without a single complaint of their want of strength or security; and nine years' practical experience (during which they have adopted every real improvement) enable the Patentees to challenge comparison with any others. They will guarantee all Shutters put up by them to keep in order, and last twice as long as any with this convex lath.

B and C. also manufacture REVOLVING WOOD SHUTTERS (the Patent for which has expired), at the same prices as other makers, but greatly superior, being fitted with their patent raising gear, and proper metallic hinges, without which no shutter can be safe or durable.

BUNNETT and CORPE are likewise Patentees and Manufacturers of METALLIC CASH-BARS, MOULDINGS, &c., IN BRASS, COPPER, OR ZINC, FOR SHOP-FRONTS, WINDOWS, SKYLIGHTS, AND VARIOUS OTHER PURPOSES.

Shop-fronts fitted with Iron Shutters, Patent Brass or Zinc Sashes, Plain or Ornamental Handsomely Engraved, Moulded, Stall Board Plates, best Plate Glass, and Internal Brass Fittings of all kinds, superior in quality and workmanship, and lower in price than any other house. Offices, 31, Great Tower-street, City.

Metal Drawing and Stamping for the Trade.

Office at No. 26, Lombard-street, London; Works, at Deptford, Kent.

Steam-engines, Sawing, Planing, and Moulding, Cutting-machines on Improved Plans, especially adapted for Builders' purposes, may be seen in operation at the Works.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS.

Manufactory, 96, Regent-street, and 131, Chancery-lane.

THE Patentee having fixed a great number of his shutters in London, and given universal satisfaction, can confidently recommend them both for security and durability, the edges being sheathed with Iron. Their construction is so simple that the largest establishment can be opened or closed with the greatest possible ease without the use of machinery. Their superiority over other revolving shutters consists in their great strength and stiffness, being without metal hinges, consequently cannot rust, buckle, be strained, or get out of order, and are safer. Persons dissatisfied with the patent rising gear now used for iron shutters can have it removed, and the shutters made to draw up in any part of the premises with the slightest exertion, without machinery, thereby avoiding the unpleasant use of oil.

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on applicatn n at the Premises.

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That ARCHITECTURAL, SCULPTURIC, GOTHIC, and MASONS' WORK in all its Branches, &c., are executed at the cheapest possible charges.

S. C. respectfully solicits a continuance of the kind favours of all those who have hitherto done business with him, and invites others, in Town and Country, to favour him with their patronage, as his system of doing business would be found highly advantageous.

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LUARD and BEEDHAM beg to inform Architects, Surveyors, Builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen Stone business, to the above extensive premises, where a large Stock will be kept up by continual fresh arrivals from their quarries at Allemagne. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.

Orders shipped direct from Caen to any port.

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N.B. Whole cargoes direct from the Quarries. Enamelled Slate Chimney-pieces, Slate Mural Tablets, Baths, Paints, &c. &c.

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N.B. The price has been very much reduced since March last. Orders received as above, or at the works of Messrs. F. ST. JOHN G BARR and Co., Palace-row, Worcester.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and most valuable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by them, J. and W. SLATE, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere-road, Lambeth, London.

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TO BRICK AND TILE MAKERS.

THE AINSLE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, chairman), invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's office, 193 A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed manager in the room of Mr John Ainslie, will shew the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193 A, Piccadilly.

These Machines may also be seen at Mr SLIGHT'S, Leith-walk, Edinburgh; Mr. LAWRENCE HILL, 135, Buchanan-street, Glasgow; Mr. ROBERT CHARLES, Mill-hill, Leeds; Messrs. PENNY and FINCH, Penkridge, Staffordshire; and Messrs. DRUMMOND and SON, Dublin.

WALLIS'S PATENT LIQUID WOOD KNOTTING. This newly-discovered Liquid Composition, which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the Trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them rising through, and shrinking in the process.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation falls far short of a specimen when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 58, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N. B. The Trade supplied.

Sold also at the office of "The Builder," 2, York-street, Covent Garden, London.

LONDON: Printed by CHARLES WYMAN, of 16, Castelnau Villas, in the Parish of Barnes, in the County of Surrey, Printer, at the Printing office of J. & H. Cox, Brothers, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, January 1, 1848.

The Builder

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Architect, Engineer, Operative & Artist.

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CHARLES C. WHITEFORD, Town Clerk.

Plymouth, January 3rd, 1848.

TO BUILDERS.

BUILDERS desirous of CONTRACTING for the ERECTION of New SCHOOLS and SCHOOL-HOUSE in the Parish of Wivenhoe, near Colchester, Essex, can inspect the Drawings and Specifications at the office of Mr. H. W. HAYWARD, Architect, Bank buildings, Colchester, from January 12th to January the 20th, between the hours of ten and four. The Committee do not pledge themselves to accept the lowest Tender. The Tenders to be delivered by the 21st of January (after which no Tender will be received), at the Rectory, Wivenhoe, endorsed "Tender for the Erection of Wivenhoe Schools."—Satisfactory securities will be required for the due performance of the works.

TO ARCHITECTS.

THE COMMITTEE of the ODD FELLOWS' LITERARY INSTITUTION about to be erected in Birmingham, take this opportunity of informing those gentlemen who have applied for particulars of site, &c., that through an unforeseen circumstance of a trifling nature having occurred, the particulars are not yet ready for circulation, but that they will be ready in the course of next week, when ... shall be sent to all parties who have applied. As this delay has occurred, the time for sending in designs will be extended.

Signed on behalf of the Committee,
WILLIAM B. SMITH, Hon. Sec.

14, Temple-street, Birmingham, January 3, 1848.

LONDON and PROVINCIAL JOINT-STOCK LIFE INSURANCE COMPANY.—The Directors invite the Public generally, also Building Societies and Borrowers, through them or from other parties, to examine the peculiar system and striking advantages offered by this Office.

Every description of LIFE ASSURANCE, INVESTMENT, and LOAN Business transacted. LOW RATES of PREMIUM, and THREE FOURTHS of PROFITS divided. For Prospectuses, &c. apply to JOHN MASSON, Secretary.

Offices, No. 39, Nicholas-lane, Lombard-street, London.

SPECIAL NOTICE.

To secure the advantage of this year's Entry, Proposals must be lodged at the Head Office, or with the Society's Agents, on or before 1st March.

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.—Incorporated by Act of Parliament.—Edinburgh: 26, St. Andrew square. London, 61, Moorgate street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including additions, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 1, 1847.

	Amount Assured	Annual Revenue	Accumulated Fund
At 1st March, 1837	£32[illegible],611	£11,36[illegible]	£24,6[illegible]
Ditto 1841 ..	1,5[illegible]	[illegible]	15[illegible],29
Ditto 1847 ..	2,7[illegible],381	[illegible]	4[illegible],5[illegible]3

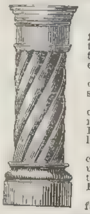
ADDITIONS TO POLICIES.

A Policy effected before 1st March, 1832, for 2,000*l.* and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, being an addition of 40 per cent. on the sum assured. Other Policies have received additions in proportion.

ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate-street.

WILLIAM COOK, Agent.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and are unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from ships from the Manufactories direct, at the lowest prices. A large Stock of every quality always on hand at the Wharf as above. Goods made to pattern at a short notice. Patent Corn Drying Malting Tiles. Lime, Sand, Gravel, Bricks and Tiles of every description. Dutch Clinkers.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSELL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.
Kitchen Floors, particularly where it is essential to keep damps from rising.
Garden Walks and Terraces.
Carriage Drives.
Coach-houses and Stabling.

Dog kennels.
Barn Floors.
Granaries.
Tan-room Floors.
Malt-house Floors.
Piggeries, &c. &c.

Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The ... of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest despatch.

In order to ... it is requested that all applications for Works to be executed, be made direct to this Company ... Architects, and Contractors should require a CERTIFICATE from the Company ...

Information may be ... to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material has resulted from the substitution of a spurious one.

I. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.

THE BUILDER.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms. CHARLES LONG, No 1, King street, Baker stree , Portman-square.—Cash only.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 89, Hatton Garden, Holborn.

H. CHRISTIE, Agent.

PLATE GLASS.—The London and Manchester Glass Company have opened their London Warehouse, 12, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates.

J. L. GRUNDY.

12, RATHBONE-PLACE

SOHO CROWN, SHEET, and PLATE WAREHOUSE, 36, SOHO-SQUARE.—ALFRED GOSLETT Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass for sale by the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting-in in the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

PATENT ROUGH PLATE-GLASS.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, beg to call the attention of Gentlemen and the Trade generally to the above description of Glass, admirably adapted for Conservatories, Churches, Offices, and Warehouses, and an excellent substitute for Ground-glass.

In sizes of the sizes as manufactured, averaging one eighth of an inch thick, and about 30 oz. to the foot ..... 6d. per foot.
In squares, 8 by 6 and under ..... 4d. "
Above 8 by 6 and not exceeding 12 by 10 ..... 5d. "
" 12 by 10 " 2 feet ..... 6d. "
" 2 feet ..... 7d. "
Quarries ..... 6d. "

PATENT ROUGH PLATE SLATES AND TILES.

SLATES.

Size	¼ in thick.	⅜ in thick	½ in thick	⅝ in thick
	s. d.	s. d.	s. d.	s. d.
Duchess ..... 24 by 12	1 7	3 2	3 10	4 6
Small Imperials.... 20 by 14	1 7	3 0	3 8	4 4
Small Duchess..... 22 by 12	1 7	3 0	3 6	4 2
Countess ..... 20 by 10	1 2	2 3	2 8	3 2
Viscountess ..... 18 by 10	1 1	2 0	2 5	2 10
Large Ladies ..... 18 by 10	1 1	1 9	2 1	2 6
Ladies ..... 16 by 8	0 11	1 7	1 11	2 3
Doubles ..... 13 by 7	0 8	1 0	1 3	1 5

each.

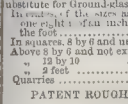
TILES.

¼ inch thick .. 0 11 each. ⅜ inch thick.... 1 7 each
½ " " — ⅝ " " .... 2 0 "

Every description of Crown, Sheet, and Horticultural Glass—large stock of Squares always on hand

CHAS. WM. WATERLOW,

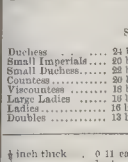
MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 124, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

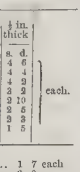


SHOP FRONTS, SASHES AND FRAMES, DOORS, &c.
MADE FOR THE TRADE.



JOHNSON and PASK,
1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other Kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices



forwarded by return of post, to any part of the country.

DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

By Her Majesty's  Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter and Stainer, 126, Cumberland Market, Regent's-park, London. Their extensive and successful application to Public Offices, Bed-rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED.

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily adapted to any sash, and, where thorough ventilation without draught is required, will be found invaluable, and especially as a cure for smoky chimneys. Supplied Wholesale and Retail by E. and W. H. JACKSON, Window-Glass Warehouse, 315, Oxford-street

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS by the Trade only.
70, York Road, Lambeth; and at 38, Cross Street, Blackfriars Road.

TO ARCHITECTS, BUILDERS, DECORATORS, ENGINEERS, FOUNDERS, AND OTHERS.

MESSRS. PHILIP and WYNNE, MODELLERS and CARVERS in WOOD and STONE, 336, Oxford-street, London.

Architectural Carving, Ornamental Patterns for Founders, and every other description of Carving executed in the highest style of the Art.

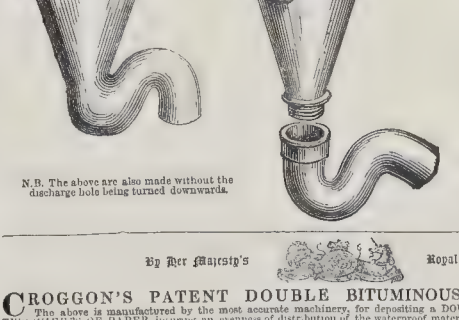
ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

MANUFACTORY for WOOD and STONE CARVINGS, 8, Regent-terrace, Cambridge.—J. RATTEE having been engaged for many years on all kinds of Carvings and Woodwork for ECCLESIASTICAL EDIFICES, from the most elaborate and costly to that done at the lowest prices, is enabled to execute works of any kind and style from a Sketch or Small Drawing, without the details, full-size, &c., when the means are limited, being greatly assisted by a large collection of casts and drawings. A Catalogue of Prices, with Sketches, &c., forwarded on application.

WILLIAMS'S PATENT SLATE RIDGES and HIPS.—The above article is recommended as the best and most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere-road, Lambeth, London.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 14th November, 1846, also 1st January, 1848 Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would confer a favour by stating if they want the prices in Staffordshire or London.—Address, 4, Wharf, Macclesfield-street South, City road Basin.

PATENT ARCHITECTURAL TILES.—The Company have just received a Large Importation of these Tiles in the blue colour from Belgium, and are therefore enabled to supply either the Tudor or Diamond Patterns, as also a new design called the "Leaf," which is much admired. For Covering Churches, Schools, Ornamental Villas, Railway Stations, &c. &c., they will be found to surpass every other kind of roofing, being equally light as slate, and although so highly characteristic and ornamental, the cost but little exceeds that of ordinary pan tiles.—For prospectuses and particulars apply to Mr. J. G. HUGHES, Secretary to the Architectural Tile Company, at their offices, No. 186, Strand, London.



N.B. The above are also made without the discharge hole being turned downwards.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained genuine and unadulterated only from the Sole Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 18, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN SUFFERANCE WHARF, ROTHERHITHE

LUARD and BEEDHAM beg to inform Architects, Surveyors, Builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen Stone business, to the above extensive premises, where a large Stock will be kept up by continual fresh arrivals from their quarries at Allemanne. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.

Orders shipped direct from Caen to any port.

The Waterman Steamboats call at Lavender-pier, adjoining Caen Wharf

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the requisite accuracy and truthfulness.

FONTS from 5l upwards

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney pieces, from ..... 12s.
Vein-Marble " ..... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

GARRETT'S PATENT MORTISE BRICKS, TILES, and FIRE CEMENT. These Mortise Fire Bricks, with the Fire Cement, will be found of the utmost importance in the erection of all kinds of Furnaces, Gas-retorts, Coking ovens, Enamel ovens, and other similar purposes where expensive repairs and reconstructions are now continually required. By the increased surface of joint obtained, they afford strength and durability approaching to indestructibility; every joint is so completely sealed with the Fire Cement, that the erection becomes a solid piece of masonry.

Testimonials of approbation have been given by all who have used them. The annexed is the copy just received from the Ainslie Brick and Tile Machine Company:—

193, Piccadilly, London, Sept. 20th, 1847.

SIR,—Having erected a set of Kilns, which are patented by the Ainslie Brick and Tile Machine Company, I built the Furnaces with your Patent Fire Cement, which has been submitted to the most intense heat for several months. The Brick work is perfect as it was the day it was built. I feel much pleasure in being able to bear testimony to its valuable properties for all furnace purposes, being far superior to any Cement brought to the notice of the public. The Kilns erected at Alperton, near Harrow, may be seen at any time.—I am, Sir, your obedient servant,

(Signed) ROBERT SCRIVENER, Manager.

To Mr Spencer T. Garrett, Stoke-upon-Trent, Staffordshire

CHEAP PAN FOR
WATER-CLOSETS,
With Trap in One or Two Pieces.

DOULTON and WATTS,
LAMBETH POTTERY.
HIGH-STREET, LAMBETH,
LONDON,
Manufacturers of the annexed in superior
GLAZED STONE WARE,
Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron, on account of their

CLEANLINESS AND CHEAPNESS.

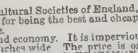
Delivered in London or its vicinity free of charge

By Her Majesty's  Royal Letters Patent.

CROGGON'S PATENT DOUBLE BITUMINOUS WATERPROOF PAPER. The above is manufactured by the most accurate machinery, for depositing a DOUBLE COAT OF BITUMEN BETWEEN TWO SHEETS OF PAPER, insuring an evenness of distribution of the waterproof materials, thus rendering every minute portion of the paper utterly impervious to water. It is an EFFECTUAL PREVENTATIVE against the effects of DAMP FROM WALLS, if put under the usual paper, and DAMP FLOORS, when under Carpets; for Lining Packages, and Wrapping all Articles of Merchandize subject to rust and injury from damp, it will be found invaluable.

SOLD IN ROLLS, ONE YARD WIDE, AT SIX-PENCE PER YARD.

THOS. JNO. CROGGON, 8, LAURENCE POUNTNEY HILL, CANNON-STREET, LONDON.

By Her Majesty's  Royal Letters Patent.

PATENT ASPHALTE ROOFING FELT, as used by

Her Majesty's Woods and Forests,
The Royal Agricultural Society of England,
The Leeds and Manchester,
The London and North Western,
The Liverpool and Manchester,
The Chester and Holyhead,
The Norfolk and other Railways,
And the Corporation of the City of Edinburgh.

PRICE ONE PENNY PER SQUARE FOOT.

Also "DRY HAIR FELT" of superior make, at very reduced prices, for preventing the Radiation of Heat, and deadening sound.
THOS. JNO. CROGGON, 8, Laurence Pountney Hill, Cannon-street, London.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
THE ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 72 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of also it 25 per cent. in fuel is effected. The TRADE are respectfully entreated to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

STEAM-ENGINE (with or without Boiler), FOR SALE.—A direct acting high-pressure Steam-Engine of Six-horse power, the boiler strong and capacious—no flue—all perfectly new, of the best construction and workmanship. Plans and particulars may be had of Messrs. GARDEN and MACANDREW, 27, Queen-street, Cheapside.

CARPENTERS AND OTHERS,

TO LET, a desirable HOUSE, with good LIGHT WORKSHOPS, and has been in the occupation of the late Mr. Pilbrough for forty Years, as a Carpenter, Millwright, and Undertaker, and is Now and Shortly, May be viewed, and particulars had of Messrs. JORDAN and PEARSON, House Agents, Bernard-street, Russell square.

TO CAPITALISTS, BUILDING SOCIETIES, AND OTHERS.

TO BE SOLD, about FIFTEEN ACRES of FREEHOLD LAND, situate in Forest-lane, Stratford, Essex, in front of the Eastern Counties Railway, and within 300 yards of the Station, for Sale and Manufacturing purposes. The property is admirably adapted for building purposes, at 300l per acre. All Buildings, 700,000 new Bricks, a large quantity of Brick-earth, Materials, Utensils, &c., to be taken at a valuation. The subsoil being gravel of a superior description of great depth, is worth at least 100l. per acre. A plentiful supply of excellent spring water and forest right for each purchaser. Omnibuses leave the property several times a day. Half the purchase-money may remain on mortgage at 4 per cent., if required. Ill health of the proprietor is the sole reason for his desiring to dispose of the property.—For further particulars, and permission to view, apply to Mr. Thomas Rogers, on the premises.

TO BUILDERS, CABINET AND COACH MAKERS, Tunbridge Ware Manufacturers, and others requiring Roomy Premises, with valuable Machinery for Sawing, Planing, Turning, &c.

TO BE SOLD, OR LET ON LEASE, most ELIGIBLE PREMISES, situate No. 12, Dorset-place, Dorset-square, in the immediate vicinity of the Regent's Park, comprising a most commodious dwelling-house replete with fixtures and fittings; at the rear of which, with a back entrance into New-street mews, are premises adapted to a large trade, and consist of a large yard, excellent workshops, counting-house, saw-pits, deal and other sheds, stabling, and an abundant supply of spring water. There is also the advantage of the machinery, which has been very recently erected for sawing, planing, corkcutting, turning, &c. by horse-power, and which will be valued much below its cost price. For further particulars and to view, apply on the premises between 10 and 4. No written applications can be attended to

ST. PANCRAS VESTRY ROOMS, Gordon street, Gordon-square, held under the Duke of Bedford for a long term, at a ground rent, with possession.

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December 1, 1847

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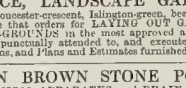
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The Builder

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Deputy-Chairman—WILLIAM HAWES, Esq.

The Committee for almost the Establishment of Baths and Washhouses for the Labouring Classes earnestly appeal to the benevolence of the public for donations to defray the expense of completing their MODEL ESTABLISHMENT in Goulston-square, Whitechapel (one half of the Building is now brought into use); and during the five months ending at Christmas last, upwards of 33,000 Baths have been taken. The funds placed at the disposal of the Committee have been insufficient to meet the expenses already incurred in erecting the building; and in the present circumstances of the labouring classes in London, the greater number of whom are almost totally destitute of the means of attaining such a degree of cleanliness as is essential to the preservation of health, the speedy completion of the building is very earnestly desired.

The Irish Subscriptions in the spring of 1847, the Elections in the summer, and the Commercial Distress in the autumn, induced the Committee to postpone any appeal for additional donations; but the very unusual extent to which sickness now prevails, the possibility of the metropolis being visited by a most fatal disease—the essential value of cleanliness as a safeguard—the vital importance, to all classes of society, of carrying out measures tending to promote the public health, and the duty of caring for those who have not the means of duly providing for their own necessities—induce the Committee again to appeal to the Public at large for its generous consideration of this most important object.

Donations are received at the Bank of England to the credit of "Messrs. Samuel Jones Lloyd and others, the Trustees," by almost all the Bankers in London, and at the Committee-room.

JAMES HARSIL, } Hon. Secs.
JOHN BULLAR, }

Committee-room, 3, Crosby-square, January, 1848.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's. J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Railings, Gates, Rails, Palisading, Balconies, Window Guards, Verandahs, ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Rails, Water Closet Work, Area Gratings, Fly and Door Weights, Wheel Pieces, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

PATENT COPPER WIRE ROPE LIGHTNING CONDUCTORS, for the Protection of Churches, Towers, Chimney-Shafts, &c.

SMITH and ENGLISH, Princes-street, Leicester-square, London, beg to inform Architects, Builders and others, that the only form of Lightning Conductor has been most extensively adopted, and is giving the greatest satisfaction, it proving considerably cheaper first cost, much simpler of application, with less injury to the building, than any other kind, and they can refer with great satisfaction to eminent architects and others, who have adopted it in preference;

As also their much improved Revolving and Panelled Iron Shutters,
PATENT DOUBLE-ACTION DOOR SPRINGS,
PATENT CASEMENT FASTENINGS AND SILL BARS,
Patent Copper and Iron Wire Sash Lines,
IMPROVED FLOORING-CRAMPS, &c. &c.,

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest.

NOTICE IS HEREBY GIVEN, that a General Half-Yearly Meeting of Members of the INSTITUTION of BUILDERS' FOREMEN will take place at the Bay tree Tavern, St. Swithin's lane, on WEDNESDAY Evening next, January 19, to receive the Report of Audit Committee and other general business.

W. ALLARD, Secretary.

CONTRACTS.

TO BUILDERS.

THE Visiting Justices of the County of Devon are ready to receive TENDERS for extensive ALTERATIONS and ADDITIONS to the COUNTY PRISONS. Plans and Specifications of which may be seen on and after WEDNESDAY, the 12th instant, at the Office of the Clerk of the Peace, and any further information may be obtained from him or from Mr. HAYWARD, the County Surveyor, Exeter. The Tenders to be delivered at the Clerk of the Peace's Office, on or before the 7th day of FEBRUARY next.

R. EALES, Clerk of the Peace.

Castle of Exeter, January 4, 1848.

TO BUILDERS.

PLYMOUTH BOROUGH PRISONS.—The Town Council of Plymouth are desirous of receiving TENDERS for the ERECTION of the NEW BOROUGH PRISONS. The Drawings and Specifications may be seen at the Office at the Guildhall, Plymouth, and copies of the same, through that of the Architects, Messrs. FULLER and GINGELL, 18, New Bank-street, Bath, between Ten and Five o'clock on any day, Sundays excepted, from January 17th to February 7th, 1848, on which latter day sealed Tenders are to be delivered to the undersigned Town Clerk for the Erection of the New Prisons, Plymouth." The lowest Tender must necessarily be accepted; and the party whose Tender may be accepted will be required to give security for the execution of his Contract. CHARLES C. WHITEFORD, Town Clerk.

Plymouth, January 3rd, 1848.

FULHAM UNION.—WORKHOUSE ERECTION. TO ARCHITECTS.—The Board of Guardians of the Fulham Union are desirous of receiving PLANS, &c. for the ERECTION of a WORKHOUSE capable of accommodating 450 Inmates, classified for Men, Women, and Children, at a cost not exceeding £—, on ground in the occupation of Mr. Robert Matyear and Mr. Joseph Newham, situate in the Fulham road, between Sussex House and Lewis-place, a plan of which may be seen at the Board room, along with general instructions for guidance of such parties as may wish to send in Plans. The plans, elevations, and sections to give the figured heights of stories and dimensions, upon a scale of one-eighth of an inch to a foot, together with a specification and estimate each, to be distinguished by a cipher to be referred to in a sealed letter (to accompany the plans) containing the name of the candidate, must be sent to the Boardroom at Hammersmith Workhouse, addressed to the Clerk, on or before the 29th of February, 1848. The Board of Guardians will give a premium of £50 for the Plan which may be approved of by the Board of Guardians, and a premium of £25 for the Plan which may be approved of by the Poor-law Commissioners. The architect of the plan shall be approved will be employed upon the usual per centage; or, if not employed, will receive a premium of £20 guineas. The architects whose plans shall be considered by the Guardians second and third in merit, will receive premiums of £10 guineas and £5 guineas respectively. No premiums will be paid until a plan has been sanctioned by the Poor-law Commissioners. The architect whose plans are to be the property of the Guardians. By order of the Board,

ALBERT GEORGE CHANCE, Clerk.

Office, Hammersmith, January 6, 1848.

FULHAM UNION—WORKHOUSE ERECTION.
TO ARCHITECTS.

FURTHER NOTICE.—The Board of Guardians, in reference to their Advertisement for Plans, &c., for the Erection of a Workhouse, dated 6th January, 1848, hereby give Notice, that the sum of £9,000, therein mentioned, is to be included the cost of enclosing, draining, and supplying with water in means of an Artesian well pump an Apparatus for the said workhouse, buildings, and site of land.—By order of the Board,

(Signed) ALBERT GEORGE CHANCE, Clerk.

Office, Hammersmith, January 13th, 1848.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS Manufactory, 98, REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Lead with Iron. The Patentee has now in use many thousands, and is well pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having the most unqualified satisfaction to state, that they are decidedly superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

THE most perfect DRY GAS-METER in the World. N. DEFRIES, Dry Gas Meter maker, in directing the attention of the Public and the Gas Companies to his having just erected an extensive Factory, in Hampstead-road, in connection with his old established premises, 67, St. Martin's-le-Grand, begs to say that he can now MEET any DEMAND for METERS, from 2 light to 1,000. The sale of 18,000 meters and the rapidly increasing demand, stamp as complete a meter that eight years' experience has proved to be unaffected by weather, by time, or by injurious gas. He invites attention to the fact of many of his large meters being in successful action at the Houses of Parliament, the Royal Dockyards, the Thames Tunnel, Theatres, Churches, Clubhouses, &c., and his powerful and flattering testimonials at either factory, which may be obtained on application.

By Her Majesty's — Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,
WITH SIMPLE AND EFFECTIVE FITTINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

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Particular attention is invited to the rates of this Society, for the Assurance of Sums payable at Death IMMEDIATE ANNUITIES and SURVIVORSHIPS and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.

Parties desirous of providing for the Renewal Fine in their Leases can do so with facility at this Society.

Temporary Policies of Assurance are granted to BORROWERS IN BUILDING SOCIETIES, at rates differing from all Assurances to the families of the borrowers, and security against the heavy loss their deaths would occasion

Prospectuses and further information, free of expense, from
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LONDON and PROVINCIAL JOINT-STOCK LIFE INSURANCE COMPANY.—The Directors invite the Public generally, also Building Societies and Borrowers, through them or from other parties, to examine the peculiar system and striking advantages effected by this Office.

Every description of LIFE ASSURANCE, INVESTMENT, and LOAN Business transacted. LOW RATES of PREMIUM, and THREE FOURTHS of PROFITS divided.—Full Prospectuses & every information may be had on application to
JOHN MASSON, Secretary.
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TO BUILDERS, CONTRACTORS, LIME MERCHANTS, &c

GREY STONE LIME, of the best quality, will be delivered in Barges alongside any Wharf in London at 7s. per yard. Contracts will be entered into for a Year's supply.—Apply to CHARLES PORMBY, Esq., Halling, near Rochester.

PORTLAND CEMENT.—Testimonials received from all quarters prove that this CEMENT possess the rare properties of withstanding the severest frost for a season equal to any Portland cement for the ordinary purposes such as the Building and Lining of Reservoirs, Cisterns, Baths, Pavements &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

KEENE'S PATENT MARBLE CEMENT for use in external and hard and indestructible Stucco, which may with ease be prepared for polish, and finished in imitation of stone, by the addition of Portland or other stone dust

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool

ATKINSON'S CEMENT.—WILLIAM Wood, Jun., Manufacturer of Hi mun, Portland, and Roman Cement, Blue and White Lime Works, CHURCH STREET, ROTHERHITHE, London, Sole Consignee of Atkinson's Cement.

ROMAN CEMENT.

J. M. BLASHFIELD respectfully acquaints the Public that they may be supplied with ROMAN CEMENT, PLASTER OF PARIS, of the best Quality, at MASTIC, of the best Quality, at No. 1, Commercial-road, Lambeth, near the Square Shot Tower or at his Works, Mill Wall, Poplar; also at Iron-gate Wharf, Paddington Basin.—The attention of Builders and Plasterers is also particularly called to a New Cement, of the colour of Bath Stone, J. M. BLASHFIELD is selling under the name of TARRAS, and which does not stain.

CHIMNEY SHAFTS, POTS, &c

MARTIN'S FIRE PROOF AND ORNAMENTAL CEMENT

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. We would advise themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. It rapidly acquires the hardness of stone
2. Unlike other internal cements, its hardness is uniform throughout its whole thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days without pumicing, when put upon any work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone being at the same time much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 186, DRURY LANE

Agent for Liverpool and Manchester, Mr. R. PART, 28, Cannings place, Liverpool

PATENT PORTLAND CEMENT WORKS, NORTHFLEET KENT.

MESSRS. ROBINS and ASPDIN announce to Architects, Engineers, Contractors, Plasterers, Builders, and the Trade generally, that they have purchased the CEMENT WORKS of the late Messrs. MAUDS, JONES, and ASPDIN for the MANUFACTURE OF PATENT PORTLAND CEMENT, and that some of the properties of this superior article are

1. The colour of the Cement, which it permanently retains, perfectly resembles Portland Stone

2. It is not subject to atmospheric influence whatever the climate, and will resist the action of both Frost and Heat without cracking or changing in any way, after exposure to either

3. It does not require, like all other Cement, either painting or colouring as it will accurately imitate any stone

4. Its strength in its concrete is quicker, harder and more durable and will take three times the sand than any other description of Cement.

5. It is well adapted for buildings and works of every description, as well external as internal, and for Pavements, both plain and ornamental. It is suitable for Artificial Stone Fountains; and for Sea and Canal Walling it cannot be surpassed, its power to resist the action of water being of some standing has been tested in the Thames Tunnel for upwards of twenty years. It may be kept for years without impairing its strength and will only be deteriorated by the slowness of setting.

Particulars of the experiments, before Messrs. Grissell and Peto, at the New Houses of Parliament, shewing the extraordinary strength and adhesive qualities of the Patent Portland Cement, may be had of the Patentees at No. 1, Adam and Eve-court, Great Ormond-yard, W.C., Mill Wall, and Northfleet, Kent.

Manufactured by WILLIAM ASPDIN, Sole Patentee and Inventor.

Sold in casks of Five bushels each, weighing about 4½ cwt., at 12s. per cask. Is allowed for each cask returned in good condition to Great Scotland-yard.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS, and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 4 inch to 14 inch thick AT REDUCED PRICES. TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late G. Moore and Sons, and Great Smith-street, Westminster.—Mouldings prepared by the hour.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Smith's Rick Bridge Wharf, Bankside, and 1 Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers Arms. SEASONED FLOORING, MATCH BOARDING CUT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Lathes Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at mill prices. Very extensive Drying Sheds.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle Boards &c., Prepared Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pimlico

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MESSRS. PHILIP and WYNNE, MODELLERS and CARVERS in WOOD and STONE, 3 & 4, Oxford-street, London

Architectural and Carved Ornamental Patterns for Founders, and every other description of Carving executed in the highest style of the Art

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTREY'S Foundry, Pimlico respectfully invite the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in price, the most elaborate Designs in Wood or Stone Specimens may be seen. Estimates returned on application at the Premises

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Footpaths, Milkhouses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price with the workmanship guaranteed. Apply to JOHN ILLINGWORTH, BITUMINEOUS BITUMEN CEMENT CO., 15, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Builders Engineers and Contractors supplied with the best bitumen for roofing flat decks and arches.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in a manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the most elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5l. upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, at Works

Stone for Chimney-pieces, from ..... 13s.
Vein-Marble ..... 40s.

RESTORATIONS Estimated for in which Branch S. C. has had considerable practice. Dairies fitted up, &c. &c.

CAEN SUFFERANCE WHARF, ROTHERHITHE

LUARD and BEEDHAM beg to inform Architects, Surveyors, Builders, and others, that they have received from Norway Wharf, Greenwich, the whole of their Caen Stone Orders, to the above extensive premises, where they Stock will be kept up by continual fresh arrivals from their quarries at Allemanne. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE OATES, 16, Southwark-street, Borough, S.E.

Orders shipped direct from Caen to any port.

The Watterman Steamboats call at Lavender-pier, adjoining Caen Wharf

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from sap, to any size and of any thickness, at the PENRHYN SLATE WORKS, Upper Bangor, prepared both faces at the price that inferior Slabs in the rough self faced are currently selling. These reduced prices are established after a very large trade discount. These Slabs are now extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison Pentonville, the Gentlemen's Clubs, Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from the Menai Straits. Welsh Slate Tanks, Beech Kegs, at very low rates Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers, Chimney Pieces, &c. &c.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes In addition to the numerous purposes to which it is applied already, this Material may be moulded into any variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, Builders, and by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848 Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Parties in the country would oblige by stating if they want the prices in Staffordshire or London.—Address, 4, Wharf, Macclesfield-street South, City-road Basin.

PATENT ARCHITECTURAL TILES.—The Company are now erecting a large Importation of these Tiles on the Quay from Belgium, and are therefore enabled to supply only Tiles of Diamond Patterns, as also a new design called the "Leaf," which is much admired. For Covering Churches, Schools, Ornamental Villas, Railway Stations, &c., they will be found to be more suitable than Slates, being equally light as slate, and although so highly characteristic and ornamental, do not but little exceed that of ordinary pantiles. For prospectuses and part ulars apply to Mr. J. G. HUGHES, Secretary to the Architectural Tile Company, at their Offices, No. 168, Strand, London

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Empowered by special Act of Parliament, 5 & 6 Will. 4, c. 76.

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Persons Assuring in this Office have the benefit of the lowest rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an annual bonus: they have likewise the security of a large subscribed capital—an Assurance Fund of a quarter of a million—and an annual income of 65,000l., arising from the issue of nearly 8,000 Policies

Annual Premium required for Assuring 100l.

Age.	For One Year.	For Seven Years	Whole Term
20	£0 17 6	£0 19 1	£1 11 10
30	1 1 0	1 5 7	2 2 7
40	1 5 0	1 13 9	2 14 9
50	1 15 1	1 19 10	3 0 11
60	3 2 1	4 7 0	4 0 2

One-half of the "whole term" Premium may remain on credit for seven years, or one-third of the sum may remain on credit for life as at 5 per cent. or may be paid off at any time without notice.

Policies assigned as a security to others will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid upon the production of Birth Certificate and Proof of Death.

The Medical Officer attends at the Office daily at a quarter before Two o'clock, and Policies passed the same day.

E. BATES, Resident Director.

A liberal Commission to Solicitors and Agents

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages gained by Assurers in the Policies which have been granted by this Office. Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge street, Blackfriars.

SPECIAL NOTICE.

To secure the advantage of this year's Entry, Proposals must be lodged at the Head Office, or with the Society's Agents, not before 1st March.

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.—Incorporated by Act of Parliament.—Edinburgh: 26, St. Andrew square. London: 61, Moorgate-street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including additions, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 11, 1847.

	Amount Assured.	Annual Revenue.	Accumulated Fund.
At 1st March, 1836	£ 1,000,000	£ 40,000	£ 200,000
Ditto 1841	1,486,270	57,000	350,000
Ditto 1847	2,000,000	107,000	400,000

ADDITIONS TO POLICIES

A Policy effected in the Society's First Class, and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, being an addition of 40 per cent. on the sum assured. Other Policies have received proportionate additions.

ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate-street.

WILLIAM COOK, Agent.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHEAPSIDE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times obtain assistance from the Advertiser, to any amount, at the lowest rate of interest, by application to Mr BRAY, surveyor, at the Office as above.

N.B. To expedite the proceedings, time and application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c

DRAWING GALLERY, 191, MADDOX-STREET.

SCHOOL for the STUDY of PAINTING and SCULPTURE, and Preparation School for the Royal Academy.—Open every Evening from Seven to Ten. The Living Model at Academies on Duty. Instructions in Drawing and Painting, CHARLES LEE HANCOCK, R.B.A., and J. C. FOLEY, R.A., Sculptor. J. F. O. FOLEY, Esq., Lecturer on Anatomy. H. M'DOUGAL, Esq.

SURVEYING, ARCHITECTURAL, and ENGINEERING.—The Pupils, Assistants, and Successors of Mr. GEORGE ATTREE, Surveyor, of Lincoln's-inn-fields, beg to inform the Nobility, Gentry, Solicitors, Land Agents, Architects, Builders, Draughtsmen, Engineers, Surveyors of Land, Timber, Building Ground, Mines, Railways, Roads, Bridges, Canals, Docks, Harbours, Sea Walls, Groins, Jetties, Piers, Lighthouses, Sewers, Drains, Gasworks, Waterworks, Reservoirs, Steam Engines, Machinery, &c. &c. that the Business will be carried on by the undersigned, at No. 4, Serle-street, Lincoln's-inn, where all communications may be addressed.

The Surveyors, Engineers, Architects, Draughtsmen, Clerks, and Assistants of the late Mr. ATTREE, will be happy to undertake the Duties of Surveyors, Engineers, Architects, Draughtsmen, Clerks, and Assistants, and to give such Instructions in the Art or Science as they have been taught in the Office of the late Mr. ATTREE.

Messrs. HUDE, SMITH, and LEWIS, Civil Engineers, Architects, and Surveyors, of extensive practice. Proficiency guaranteed in all its Terms, till perfect, very moderate. Pupils, or Assistants, for the course and to fill vacancies expected, Premiums required, apply at the Offices.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished by Landscape, Figures, Cattle, &c. Also Sketches of any description, Lithographed upon Stone, Zinc, or Paper, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ARCHITECTS, COMPETITORS AND OTHER DRAWING

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Antwerp, &c." London as it is," &c., offers his services in Tinting Backgrounds, Landscape, Perspective Views, Figures, &c. and has likewise prepared his Lithographic Stone for the reception of Architectural Subjects, especially necessary, if only wished to have a few Copies Lithographed in a superior manner.—Address, Mr. BOYS, 31, Great Titchfield-street, Oxford-street

IRON FOUNDRY,
168, DRURY-LANE, and 1 CHARLES-STREET, DRURY-LANE
JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheat Pattern and Steam Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Gattering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for Architects & Builders, Engineers and Ironmongers, &c.

ESTIMATES and DESIGNS given, and every description of Iron Work executed upon the most reasonable terms, with every attention to quality and dispatch.

J. GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The present low figure of ONE SHILLING PER FOOT SUPERFICIAL for borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and printing done in the most moderate terms. CHARLES LONG, No. 1, King street, Baker street, Portman square. Cash only.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article

LONDON WAREHOUSE, 99, Hatton Garden, Holborn.

H. CHRISTIE, Agent.

THE BIRMINGHAM PLATE-GLASS COMPANY beg to call the attention of the Trade to their manufacture of superior Polished and Rough Plate Glass. Having recently enlarged their works, and erected an additional 80-horse power engine, they are enabled to produce a much larger quantity. The prices will be found to compete with any establishment in the trade. A large stock of Polished and Rough Plate always on hand. LONDON WAREHOUSE, 141, Fleet-street; WORKS, Smethwick, Birmingham.

SOHO PLATE GLASS COMPANY, 26, Soho-square.—Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St Gobain, St Quirin, and Cirey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best quality and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three quarters inch, thick.

ALFRED GOSLETT, Agent.

SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE.—ALFRED GOSLETT (Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass) begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Depôt for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

PLATE GLASS

THE LONDON and MANCHESTER PLATE-GLASS COMPANY have opened their London Warehouse, 12, RATHBONE PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the usual prices.

ROUGH PLATE GLASS, of every thickness, at very low rates

J. L. GRUNDY, Company's Agent.

12, RATHBONE PLACE

PATENT ROUGH PLATE-GLASS.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, beg to call the attention of Builders and the Trade generally to the above description of Glass, admirably adapted for Conservatories, Hothouses, Offices, and Warehouses, and an excellent substitute for Ground-glass.

In crates of the sizes as manufactured, averaging one eighth of an inch thick, and about 30 oz. to the foot ..... 6d per foot.

In squares, 8 by 6 and under ..... 4d. „

Above 8 by 6 and not exceeding 12 by 10 ..... 5d „

„ 12 by 10 „ 9 feet ..... 6d „

„ 9 feet ..... 7d „

Quarries ..... 6d „

PATENT ROUGH PLATE GLASS SLATES.

Size.	1-8 in. thick	1-4 in. thick	3-8 in. thick	1-2 in. thick	
	s. d.	s. d.	s. d.	s. d.	
Duchess	2 3	2 12	3 6	4 0	each
Small Baronials ...	1 5	1 9	2 3	2 9	„
Small Duchess ...	2 3	2 12	3 6	4 0	„
Countess	2 9	3 3	4 0	4 6	„
Viscountess	1 8	1 11	2 3	2 6	„
Large Ladies	1 1	1 4	1 7	1 10	„
Ladies	0 10	1 0	1 3	1 6	„
Doubles	0 8	0 10	1 1	1 3	„

TILES

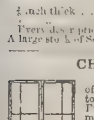
¼ inch thick .. 0 11 each. — ⅜ inch thick .... 1 7 each.

„ .. 1 3 „ — „ .... 2 1 „

Every description of Crown, Sheet, and Horticultural Glass

A large stock of Squares always on hand

CHAS. WM. WATERLOW,



MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-stuck Mouldings on any quantity. N.B. This Establishment is worth the notice of all engaged in building



TO THE BUILDING WORLD.

H. BANKS,

Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 78, Bethnal-Green Road, London. Parties engaged in Building will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth; at Albion Wharf, Holland-street, Blackfriars; Kingsland Basin, Kingsland-road; and Lime Kilns, Lambhouse. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.

WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

6-inch.	9-inch.	12-inch bore.
1s. 4d.	2s. 3d.	3s 8d. each.

Bends an Junctions equally low.

The following unsolicited Testimonial is respectfully submitted.

Sewers' Office, 1, Greek-street, Soho, July 20, 1847.

Mr ——

DEAR SIR,—Should you at any time be in want of Stone ware Drain-pipes, I take the liberty of recommending you to purchase them of Mr. Wm. Northen, Stone Potter, Vauxhall-walk, Lambeth. I have used some hundreds of his Pipes, and have found them to be made of the best material and workmanship. As such, therefore, I beg to recommend them.—I am, dear Sir, yours truly,

JOHN PHILLIPS, Surveyor.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter and Ventilator, 12a, Cumberland Market, Regent's-park, London. Their extensive and successful application to Public Offices, Bed-rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily adapted to sash, and, where thorough ventilation with an absolute draught is required, will be found invaluable, and especially as a cure for smoky chimneys.—Sold at Wholesale and Retail by E. and W. H. JACKSON, Window-Glass Warehouse, 315, Oxford-street.

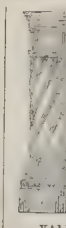
DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain is the object of this process, which surpasses paint in appearance, while at the same time it is less costly, that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The colours or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s each, and at 10s per gallon. The oak colour may be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N. B. The Trade supplied.

Sold also at the office of "The Builder," 2, York-street, Covent Garden, London.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweeping machine.

J. W and Co had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and are unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above. 451, Oxford-street

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and I am inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 18, Wellington Street North, Strand.

TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers, at the undermentioned VERY LOW PRICES for CASH"

Parcel 1.	Plate,	4	inches wide,	from 6 to 70	inches long,	about 550	feet superficial, at	8d.	per foot.
Parcel 2.	„	4	„	6 „ 70	„	550	„	8½	„
Parcel 3.	„	5	„	6 „ 70	„	1100	„	9½	„
Parcel 4.	„	7	„	6 „ 70	„	1200	„	11d.	„
Parcel 5.	„	8	„	6 „ 72	„	1100	„	12d.	„
Parcel 6.	„	8	„	6 „ 70	„	1000	„	14d.	„
Parcel 7.	„	10	„	10 „ 80	„	1000	„	14d.	„
Parcel 8.	„	11	„	11 „ 80	„	1200	„	15d.	„
Parcel 9.	„	12	„	12 „ 80	„	1500	„	16d.	„
Parcel 10.	„	14	„	14 „ 80	„	1100	„	17d.	„
Parcel 11.	„	15	„	14 „ 84	„	1000	„	18d.	„
Parcel 12.	„	15	„	15 „ 84	„	1400	„	20d.	„
Parcel 13.	„	16	„	15 „ 80	„	1600	„	21d.	„
Parcel 14.	„	17	„	17 „ 80	„	1100	„	23d.	„
Parcel 15.	„	18	„	18 „ 80	„	1400	„	24d.	„
Parcel 16.	„	19	„	19 „ 74	„	1	„		„
	„	20	„	20 „ 80	„	3800	„	27d.	„
	„	21	„	21 „ 80	„	1	„		„

The Plates measure about one inch allowed. One Case—a strictly correct average sample—may be seen at the Company's Warehouse, 12, Rathbone-place

The Parcels will be carefully packed in the Company's Warehouse, and delivered at the WORKS, SUTTON, near ST. HELEN'S.

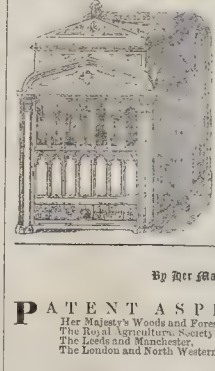
Cases allowed for when returned.

The Company keep no agents, but Liverpool.

By order of the Board,

LONDON WAREHOUSE, 12, RATHBONE PLACE

J. L. GRUNDY, Company's Agent.



NOTT'S PATENT STOVE,

FOR

CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietors are enabled to offer these excellent Stoves at

THREE FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with

THE REDUCED PRICES,

will be forwarded on application to the Warehouse,

80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B. Hot-water Pipes can be attached to the Stoves for warming distant apartments Conservatories, &c.

By Her Majesty's Royal Letters Patent.

PATENT ASPHALTE ROOFING FELT, as used by

Her Majesty's Woods and Forests,
The Royal Agricultural Society of England,
The Leeds and Manchester,
The London and North Western,
The Liverpool and Manchester,
The Chester and Holyhead,
The Norfolk and other Railways,
And the Corporation of the City of Edinburgh.

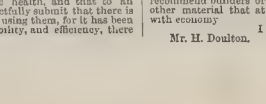
PRICE ONE PENNY PER SQUARE FOOT.

Also "DRY HAIR FELT" of superior make, at very reduced prices, for preventing the Radiation of Heat, and deadening sound.

THOS. JNO. CROGGON, 8, Laurel-place, Pountney Hill, Cannon-street, London

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON and CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, with SOCKET JOINTS, in Two-Feet Lengths,



3-inch bore, 5d. PER FOOT. 4-inch, 6d 6 inch, 8d. 9 inch, 1s. 1½d. 12-inch, 1s. 3½d. 15-inch, 3s. 4d.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

Extract from a Letter addressed to Mr Henry Doulton, by Mr John Phillips, Surveyor to the Westminster Commission of Sewers.

I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

From Mr. John Roe, Surveyor to the Holborn and Finsbury Commission of Sewers.

Sewers Office, Hatton-garden, August 26th, 1847.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

CARPENTERS AND OTHERS.

TO LET, a desirable HOUSE, with good LIGHT WORKSHOPS, and has been in the occupation of the late Mr Pilbrough for Forty Years, as a Carpenter, Millman-man-mess, Paneling Hospital. May be viewed, and particulars had of Messrs JORDAN and PEARSON, House Agents, Bernard street, Russell square

TO BRICKMAKERS, BUILDERS, AND OTHERS

Two and a Half Miles from the City. Freehold Land for BRICK-MAKING and BUILDING, and an excellent Plot for a PUBLIC-HOUSE.

TO BE LET for a term of 100 years, on such money can be readily obtained, fronting the high road, just through High-street, Peckham. Nearly 100 houses have been built on the estate in twelve months, and several hundreds more will probably be built on it in the next year or two, so that bricks would have a ready sale at higher than usual prices by the difference of carriage.—Apply to Messrs CARRITT and OSGOOD, Shoreditch, 5, Guildhall chambers, Basinghall street, City.

TO BUILDERS, ARCHITECTS, AND OTHERS.

TO BE SOLD, a very handsome BLACK MARBLE CHIMNEY-PIECE, with turned Columns, of superior workmanship and good proportions; price 12l. 10s., little more than half its actual cost. To be seen at Rejent Wharf, Pimlico, and parties treated with by Messrs EVERSFIELD and HORNE, Auctioneers, No 1, Little Smith-street, Westminster.

ST PANCRAS VESTRY-ROOMS, Gordon-street, Gordon-square, held under the Duke of Bedford for a long term, at a ground rent, with possession

TO BE SOLD, by Private Contract, a valuable long Leasehold ESTATE, consisting of extensive premises, known as the late St Pancras Vestry Rooms, situate in Gordon street, Gordon square. The premises are most substantially built, and have a frontage to Gordon-street, and comprise a spacious Board room, 47 ft. by 24, with waiting-rooms, principal and clerks' offices, ante-rooms, housekeeper's apartments, fire-proof room, &c., and are peculiarly adapted for a County Court, institution, chapel, or for any purpose requiring large and well arranged rooms of floor. Held for an unexpired term of 70 years, at a ground rent. The possession will be given.—For particulars apply to Mr. SAMUEL HEATH, Jun., Solicitor, 1 Churchcourt, Clement's lane, and at the New Vestry room, Pancras road.

By order of the Vestry, JOHN MCAHEY, Vestry Clerk.
December 1, 1847

TO BUILDERS, CABINET AND COACH MAKERS, Turners, Wax Manufacturers, and others requiring Roomy Premises, with valuable Machinery for Sawing, Planing, Turning, &c.

TO BE SOLD, OR LET ON LEASE, most ELIGIBLE PREMISES, situate No. 12, Dorset-place, Dorset-square, in the immediate vicinity of the Regents Park, comprising an old-established dwelling-house, with fixtures and fittings; at the rear of which, with a back entrance into New-street mews, are premises adapted to a large trade, and consist of a large yard, excellent workshops, counting-house, saw pits, deal and other sheds, stabling, and an abundant supply of spring water. There is also the advantage of the machinery, which has been very recently erected, for sawing, planing, mortising, turning, &c. by horse-power, and which will be valued much below its cost price.—For further particulars and to view, apply on the premises between 10 and 4. No written applications can be attended to

TO BUILDERS.

To be DISPOSED OF, and Possession had immediately if required, an excellent and remunerative BUILDING BUSINESS, comprising two good Houses, spacious Carpenters' Shops, and Timber Yard adjoining, with Bricklayers' Sheds, Brick Field, and Kiln, producing superior red brick; also a Lime Kiln in the same field, having the chalk for its use within a quarter of a mile. The Brick and Lime Kilns are within a quarter of a mile of the dwelling-house and timber yard. The above are situate in the sea-port town of Faversham, in the county of Kent. The Faversham river is navigable for vessels of 200 tons burthen, the above premises are very near to the river, the increase and has been established on the same premises since the year 1793. The whole is freehold, except the Brick and Lime Field, which is leasehold. For one at least will be required. For further particulars apply to Messrs. STONE and SHEPHERD, Timber Merchants, Faversham

SALES BY AUCTION.

Building Materials, capital Oak, Panelling with Carved Oak Mouldings, Cornices, and Pilasters.—OAT-LANE, CHEAPSIDE

PULLEN and SON are directed to SELL by AUCTION, on the Premises, on TUESDAY, January 11, at Twelve, in lots, all the valuable BUILDING MATERIALS and FITTINGS-UP of a spacious WAREHOUSE, Dwelling-house, and Premises, in Oat-lane, being Nos. 5 and 6, Oat-lane, Cheapside; comprising a large quantity of good sound brickwork, plain tiles, stout oak and fir timber in roofs and floors, glazed sashes, oak and other doors, partitions, wainscotings, and interior fittings, flooring boards, lead gutters, cisterns, pipes, stone paving, stoves, copper, gas fittings, two large pier glasses with marble slabs, and the usual fixtures and fittings in a Warehouse. May be viewed the day previous. Catalogues had on the Premises, and of PULLEN and SON, 80, Fore-street, Cripplegate.

TO BUILDERS, CONTRACTORS, AND OTHERS.

To close of very superior assorted BRICKS.

MR. MARSH has been favoured with instructions to SELL by AUCTION, in Wanstead Park, on TUESDAY, February the 8th, at Twelve o'clock, in Lots adapted to the convenience of all Purchasers, 700,000 full sized, washed, very hard stock, and other Bricks, made under particular inspection, and with great care. The Brick Field is most advantageously situated on good hard roads, within half a mile of the Forest Gate Station, on the Eastern Counties Railway, on a mile and a half of Water Carriage. The Lots will be open to inspection Five Days prior to the Sale (Sunday excepted); and Catalogues obtained of Mr. J. C. PETRIE, near the Church, Wanstead Park, at the various Inns in the neighbourhood; and at Mr. MARSH'S Offices, 27, Bucklersbury, Mansion-house; or will be forwarded on application.

IN BANKRUPTCY Important Sale of the Extensive and Valuable Stock in Trade, Fourteen Horses, Seven Carts, Spring Van, Two Cabriolets, Harness, Tools, Horses, and effects of Mr. THOMAS BURTON, Builder and Contractor.

MR. MARSH has been honoured with instructions from the Assignees of Mr. Thomas Burton to SELL by AUCTION, in the Premises known as Bertram's Wharf, Commercial-road, Lambeth, on TUESDAY, January 25, 1848, and Four following Days, at Eleven o'Clock each Day, the valuable Stock in Trade, consisting of mahogany in planks and veneers, wainscot in planks of various thicknesses, deal scantling, yellow and white boards, Dantzic battens, oak sills, prepared battens and flooring boards, ironmongery and nails in great variety, two double forges with 4 pairs bellows, anvils, and a large assortment of smiths' tools, bar steel weighing bar and plate iron, sheet lead, funnel and lead pipes, force pumps, solder, &c.; statuary marble and other chimney-pieces, marble in scantling and slabs, large blocks of Portland stone, rubbed and self-faced York paving in landings, slabs, steps, curbs, &c.; park spring in blocks, landings, and slabs, a very excellent and powerful crane complete, capable of carrying fifteen tons; a sawing machine, with three circular saws and apparatus complete; a patent mortising machine; sixty weighing machines, poles, boards, pulleys, cords, barrows, planks, ladders, other fittings in trade, and the usual effects.

May be viewed Three Days prior to the Sale, and Catalogues had at 6d. each on the premises, also of WILLIAM PENNELL, Esq., Official Assignee, Guildhall chambers, Basinghall-street; of H. LLOYD, Esq., Solicitor, Milk-street, Cheapside; and at Mr. MARSH'S Auction and Estate Agency Offices, 27, Bucklersbury, Mansion-house.

TO BUILDERS, STONEMASONS, TIMBER MERCHANTS, AND OTHERS REQUIRING CRANE POWER.

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Royal Engineers' Office, Devonport, January 13th, 1848.

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4, Trafalgar-square, January, 1848.

CONTRACTS.

TO BUILDERS

PERSONS desirous of giving in TENDERS for the ERECTION of an HOTEL AND PROMENADE ROOM, at REDCAR, may see the Plans and Specifications at my Office, from Monday, the 24th of January, till Saturday, the 29th; and at the Redcar Station from Monday, the 31st of January, to Wednesday, the 9th of February, 1848.—J. MIDDLETON, Architect.

Darlington, December 29, 1847

BOROUGH OF SWANSEA.—TO BUILDERS AND CONTRACTORS.

THE Town Council of Swansea have finally decided upon ERECTING an additional COURT HOUSE and OFFICES to the present Town Hall. Persons desirous of Contracting for the Execution of the required Works are informed that the elevation designs, working drawings, and specifications may be inspected at the office of Mr. JAMES HALL, Surveyor, Swansea; and that Tenders for the same must be sent in, marked "Tender for New Town Hall," on or before the 3rd of February next, under cover to Mr. C. B. MANSFIELD, Town Clerk, Swansea.

Swansea, January, 1848.

TO BUILDERS.

THE Visiting Justices of the County of Devon are ready to receive TENDERS for extensive ALTERATIONS and ADDITIONS to the COUNTY PRISONS, Plans and Specifications of which may be seen at the Office of the Clerk of the Peace; and any further information may be obtained from him or from Mr. HAYWARD, the County Surveyor, Exeter. The Tenders to be delivered at the Clerk of the Peace's Office, on or before the 7th day of FEBRUARY next.

R. EALES, Clerk of the Peace.

Castle of Exeter, January 4, 1848.

TO BUILDERS.

PLYMOUTH BOROUGH PRISONS.—EXTENSION of TIME for RECEIPT of TENDERS.—The Town Council of Plymouth are desirous of receiving TENDERS for the ERECTION of the NEW BOROUGH PRISONS. The Drawings and Specifications may be seen at my Office at the Guildhall, Plymouth, and copies of the same at the office of the Architects, Messrs. FULLER and GINGELL, 18, New Bond-street, Bath, between Ten and Five o'clock, on any day, Sundays excepted, previous to the 17th of February next, on which day sealed Tenders are to be delivered to me, endorsed "Tender for the Erection of the New Prisons, Plymouth." The lowest Tender will not necessarily be accepted; and the party whose Tender may be accepted will be required to give security for the execution of his Contract.

CHARLES C. WHITEFORD, Town Clerk.

Plymouth, January 18th, 1848.

TO BUILDERS.

THE COMMITTEE appointed to conduct the ERECTION of a CHURCH and PARSONAGE-HOUSE, at Penge, near Sydenham, Kent, are desirous of receiving TENDERS from Builders willing to Contract for the same. The Drawings and Specifications may be inspected at Waterman's Hall, 6, Great Hall-street, Thames-street, on and after Monday next, the 24th instant, and any information relating thereto may be obtained from the Architects, Messrs JOHN NASH ROUND and EDWIN NASH, 53, Moorgate-street. Sealed Tenders, addressed to the Committee, to be delivered at Waterman's Hall on or before Tuesday, the 7th of March next, at Eleven o'Clock. The Committee do not pledge themselves to accept the lowest Tender.

By order of the Committee.

JOHN E. COOPER, Hon. Sec.

Sessions House, Old Bailey, Jan. 18, 1848.

F. H. P., who advertised in "The Builder" some time since for PLANS OF A VILLA, begs to inform those Gentlemen who were Competitors that the successful Candidate is Mr. GEORGE P. KENNEDY, Sussex Chambers, Saint James's; and that the other Plans will be returned to their respective Owners on personal application to Messrs. WM. DAWSON and SONS, 74, Cannon-street, City, London.

January 17, 1848.

NOTICE of CLOSE of the ROYAL POLYTECHNIC INSTITUTION on the 29th inst., for Additions and Decorations. Dr Ryan will lecture on SANITARY MEASURES, and on the NATURE of DISINFECTING AGENTS in connection with this important Subject, on Monday, Wednesdays, and Fridays, at Half-past Three p.m., and every Evening, (except Saturday, at Nine o'Clock, Dr Bachhoffner on the Institution. On the alternate days other Lectures on CHEMISTRY. Dr Bachhoffner will lecture on RESPIRATION and VENTILATION in connexion with the above Subject, daily at Two p.m., in which a JET of STEAM, as a Ventilating Agent, will be exhibited. The OPTICAL EFFECTS include the OXY-HYDROGEN MICROSCOPE, NEWS DISSOLVING VIEWS, &c. DISSECTING MODELS of MACHINERY explained. The DIVING BELL and DIVER, &c. &c.—Admission, 1s.; Schools Half-price.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms. CHARLES LONG, No. 1, King-street, Baker-street, Portman-square. Cash only.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied ⅛, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

SOHO PLATE GLASS COMPANY, 26, Soho-square. Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Cirey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three-quarters inch thick.
ALFRED GOSLETT, Agent.

SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE.—ALFRED GOSLETT (Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass) begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

PLATE GLASS.

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 12, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates. J. L. GRUNDY, Company's Agent.

12, RATHBONE-PLACE.

PATENT ROUGH PLATE-GLASS.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Without, beg to call the attention of Gentlemen and the Trade generally to the above description of Glass, admirably adapted for Conservatories, Churches, Offices, and Warehouses, and an excellent substitute for Ground-glass.

In crates, of the sizes as manufactured, averaging one-eighth of an inch thick, and about 30 oz. to the foot	6d. per foot.
In squares, 8 by 6 and under	4d. „
Above 8 by 6 and not exceeding 12 by 10	5d. „
„ 12 by 10 „ 2 feet	6d. „
„ 2 feet	7d. „
Quarries	6d. „

PATENT ROUGH PLATE GLASS SLATES.

	Size.	⅛ in thick s.	d.	¼ in thick s.	d.	⅜ in thick s.	d.	½ in thick s.	d.	
Duchess	24 by 12	1	7	3	2	3	10	4	6	each
Small Imperials	20 by 14	1	7	3	0	3	8	4	4	
Small Duchess	22 by 12	1	6	2	11	3	6	4	2	
Countesses	20 by [illegible]	1	2	2	3	2	9	3	2	
Viscountess	18 by 10	1	1	2	0	2	5	2	10	
Large Ladies	16 by 10	1	[illegible]	1	9	2	1	2	5	
Ladies	16 by 8	0	11	1	7	1	11	2	3	
Doubles	13 by 7	0	8	1	0	1	3	1	5	

TILES.

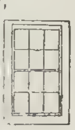
⅛ inch thick … 0 11 each. — ⅜ inch thick . . 1 7 each
¼ „ 1 3 „ — ½ „ 2 0 „

Every description of Crown, Sheet, and Horticultural Glass. A large stock of Squares always on hand.

CHAS. WM. WATERLOW,

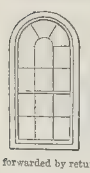


MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed, or otherwise carefully packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK,



1, Amwell-street, Clerkenwell, near the New River Head, Beg to inform the Trade and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country. A full list of prices forwarded by return of post, to any part of the country.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also [illegible] for their ornamental appearance; they are manufactured of artificial Stone Cement. [illegible]

The [illegible] supplied with them at the Manufactory [illegible]



VALE PLACE, HAMMERSMITH, MIDDLESEX.

[illegible] from the country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses [illegible]

N.B. Licenses granted to Manufacturers.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter, &c., Stained, 154, Cumberland Market, Regent's-park, London. Their extensive and successful application to Public Offices, Bed-rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED.

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily adapted to any sash, and, where thorough ventilation without draught is required, will be found invaluable, and especially as a cure for smoky chimneys.—Supplied Wholesale and Retail by E. and W. H. JACKSON, Window-Glass Warehouse, 315, Oxford-street.

DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description. Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders, also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address, 4, Wharf, Macclesfield-street South, City road Basin.

PATENT ARCHITECTURAL TILES.—The Company have just received a Large Importation of these Tiles in the blue colour from Belgium, and are therefore enabled to supply either the Tudor or Diamond Patterns, as also a new design called the "Leaf," which is much admired. For Covering Churches, Schools, Ornamental Villas, Railway Stations, &c. &c., they will be found to surpass every other kind of roofing, being equally light as slate, and although so highly characteristic and ornamental, the cost but little exceeds that of ordinary pan tiles.—For prospectuses and particulars apply to Mr. J. G. HUGHES, Secretary to the Architectural Tile Company, at their Offices, No. 158, Strand, London.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

LONDON and PROVINCIAL JOINT-STOCK LIFE INSURANCE COMPANY.—The Directors invite the Public generally, also Building Societies and Borrowers, through them or from other parties, to examine the peculiar system and striking advantages offered by this Office.

Every description of LIFE ASSURANCE, INVESTMENT, and LOAN Business transacted. LOW RATES of PREMIUM, and THREE FOURTHS of PROFITS divided.—For Prospectuses, &c. apply to . JOHN MASSON, Secretary.

Offices, No. 39, Nicholas lane, Lombard street, London.

SPECIAL NOTICE.

POLICIES effected on or before 1st MARCH next will secure the advantage of a full year's standing over those effected thereafter, and of a VESTED ADDITION at the Allocation of Profits in March, 1853, equivalent to SIX YEARS' BONUS.

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.—Incorporated by Act of Parliament.—Edinburgh: 26, St. Andrew-square. London: 61, Moorgate-street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including additions, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 1, 1847.

	Amount Assured.	Annual Revenue.	Accumulated Fund
At 1st March, 1835 ….	£325,611	£11,364	£34 661
Ditto 1841 ….	1,569,570	55,546	153 329
Ditto 1847 ….	2,763,381	99,270	400,503

ADDITIONS TO POLICIES.

A Policy effected before 1st March, 1832, for 2,000*l.* and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, being an addition of 40 per cent. on the sum assured. Other Policies have received additions in proportion.
ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate street.
WILLIAM COOK, Agent.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from ships from the Manufactories direct, at the lowest prices. A large Stock of every quality always on hand at the Wharf as above. Goods made to pattern at a short notice. Patent Corn Drying Malting Tiles. Lime, Sand, Gravel, Bricks and Tiles of every description.—Dutch Clinkers.

WOOD KNOTTING. — STEPHENS' COMPOSITION.—Will be found the best Preparation for Covering the KNOTS IN WOOD, previous to Painting, as it effectually prevents the exudation of Turpentine, &c., which would otherwise act on the Paint, and cause a subsequent Discolouration of the Surface.

This Substance not being acted upon by either Turpentine or Oil, renders it perfectly effectual for the above purpose. It is easy of application, soon dries, and gets hard, when it may be easily rubbed down, with Pumice-stone and Water, or Glass-paper, giving it the appearance of Enamel.

Price 12s. per Gallon; or in Pots, at 6d. and 1s. each.

Prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars'-road, London; where also may be obtained his Stains for Colouring Wood, which may be had in Powder as well as in Liquid, at Messrs. HOPKINS and PURVES', 20, Greek-street, Soho.

H. MORRELL'S FINE PREPARED DRAWING PENCILS.—Under the patronage of her Majesty's Stationery Office, the Honourable Board of Ordnance, and the Honourable East-India Company.

The attention of Artists and the Public generally is respectfully solicited to these BLACK LEAD PENCILS, which are prepared perfectly free from grit, of great variety of shade, and possess all the requisites for the most highly-finished drawings.

Sold wholesale at the Manufactory, No. 149, Fleet street, London, and may be had retail of all the principal Booksellers and Stationers in Town and Country.

TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers at the undermentioned VERY LOW PRICES for CASH."

Parcel	Plates	inches wide	from	to inches long	about feet superficial	at per
Parcel 1	1945	4	6	70	550	8d.
Parcel 2	1945	4	6	70	550	8d.
Parcel 3	2320	5	6	70	1100	9d.
Parcel 4	1120	7	7	70	1200	11d.
Parcel 5	1264	8	8	58	1100	12d.
Parcel 6	886	9	9	50	1000	13d.
Parcel 7	790	10	10	60	1000	14d.
Parcel 8	800	11	11	40	1300	15d.
Parcel 9	800	12	12	40	1300	16d.
Parcel 10	600	13	13	30	1100	16½d.
Parcel 11	450	14	14	30	900	18d.
Parcel 12	430	15	15	30	1000	19d.
Parcel 13	290	16	16	40	1000	21d.
Parcel 14	360	17	17	50	1100	22d.
Parcel 15	3[illegible]	18	18	50	1000	24d.
Parcel 16	210	19	19	50	800	27d.
	200	20	20	40		
	150	21	21	50		

The Plates measure above the sizes charged the fractional parts of the inch, both in length and width, upon each Glass being allowed. One Case—a strictly correct average sample—may be seen at the Company's Warehouse, 12, Rathbone-place.

The Parcels will be carefully packed by the Company's Warehousemen, deliverable at the WORKS, SUTTON, near ST. HELEN'S.—Cases allowed for when returned.

The Company not accountable for breakage.

LONDON WAREHOUSE, 12, RATHBONE PLACE. By order of the Board,
J. L. GRUNDY, Company's Agent.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSELL has been extensively used since March, 1838, for the following useful purposes:—

- Foot Pavements.
- Kitchen Floors (particularly where it is essential to keep damps from rising).
- Garden Walks and Terraces.
- Carriage Drives.
- Coach-houses and Stabling.
- Dog-kennels.
- Barn Floors.
- Granaries.
- Tun-room Floors.
- Malt-house Floors.
- Piggeries, &c. &c.
- Covering of Railroad and other Arches. The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the use of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest despatch.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company, and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

I. FARRELL, Secretary.
Seyssel Asphalte Company, Stangate, London.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so-Licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper hangings always on hand. Builders and Large Consumers are particularly invited to the above. 451, Oxford street.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Chapel and Manor BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c.; all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell mews, Goswell-road, London.

TO BUILDERS, STONEMASONS, TIMBER MERCHANTS, AND OTHERS REQUIRING CRANE POWER.

THE LONDON VULCAN IRON COM-PANY having erected a Crane, capable of lifting Twelve Tons, on their Landing Wharf, No. 4, Earl-street, Blackfriars, late Forest's Wharf, are prepared to treat by contract or otherwise with any party requiring the use of same. Castings executed to any extent.

Goods Landed and Stored.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Stanchions, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental:—Wheel Pinion, and Steam Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Ironwork; complete passenger and Goods Lifts work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,

168, DRURY-LANE, and CHARLES STREET.

PATENT COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen cord has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all Builders and other parties connected with the above. Specimens of the Wire Cord may be seen at the office of the Patentees, No. 163, Fenchurch-street, London; W. T. ALLEN, Agent; and may be had of all respectable Ironmongers.

PATENT COPPER WIRE ROPE LIGHTNING CONDUCTORS, for the Protection of Churches, Towers, Chimney-Shafts, &c.

SMITH and ENGLISH, Princes-street, Leicester-square, London, beg to inform Architects, Builders and others, that the above form of Lightning Conductor has been adopted at several of the Public Buildings recently erected, it proving considerably cheaper first cost, much simpler of application, with less disunity to the building, than any other kind, and they can refer with great satisfaction to eminent architects and others, who have adopted it in preference;

As also their much improved Revolving and Panelled Iron Shutters, PATENT DOUBLE-ACTION DOOR-SPRINGS, PATENT CASEMENT FASTENINGS AND SILL-BARS, Patent Copper and Iron Wire Sash Lines, IMPROVED FLOOD-GATE HINGES, &c. &c.,

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouth-pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices. CAST-IRON UPSETS.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which ensure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

FENDERS, STOVES, and FIRE-IRONS.—The LARGEST ASSORTMENT of STOVES, KITCHEN RANGES, and FENDERS, as well as General Ironmongery, in the world, is now on Sale at WILLIAM S. BURTON'S (late RIPPON and BURTON'S) extensive warehouses. Bright steel fenders, 2 feet, from 36s. each: ditto ditto, with or-molu ornaments, from 60s.; rich bronzed scroll ditto, with steel bar, 10s. 6d.: iron fenders, 3 feet, 4s. 6d.: 4 feet, 6s.; ditto bronzed, and fitted with standards, 3 feet, 8s.; 4 feet, 11s.; with rich or-molu ornaments, 3 feet, 4 feet, 16s.; bright register stoves, with bronzed ornaments, and two sets of bars, from 80s.; ditto ditto, with or-molu ornaments, from 6l. 6s.; black dining-room register stoves, 2 feet, 18s.; 3 feet, 27s.; bed-room register stoves, 2 feet, 16s.; 3 feet, 24s. The new economical thermic stove, with fender and radiating hearth plate; fire-irons for chambers, 1s. 6d. per set; handirons ditto, with cut heads, 3s. 6d.; newest pattern, with elegant bronzed heads, 11s. A variety of fire-irons, with or-molu and richly cut heads, at proportionate prices. Any article in the furnishing ironmonger, 7½ per cent. under any other house. The money returned for every article not approved of. Detailed catalogues with engravings sent per post free.

WILLIAM S. BURTON'S (late RIPPON and BURTON'S) stock of general furnishing ironmongery is literally the largest in the world, and as no language can be employed to give a correct idea of its variety and extent, purchasers are invited to call and inspect it.—39, Oxford-street corner of Newman-street. Established in Wells-street 1820.

PORTER'S CORRUGATED and PA-TENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge-road the Grovel, Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual. The Trade supplied.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3. 13s.	£3. 16s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 13s.	£6. 3s.	£6. 10s.	£7.

Best Register Stoves, at 7-l., 8-l., and 9-l. per inch.
Do. Elliptic do., at 9-l., 10-l., and 11-l. do
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

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Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

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Best Patent Cut Clasp.

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3d.	4d.	6d.	8d.	10d.	20d.

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4s. 3d.	5s.	6s. 6d.	7s 6d.	10s.	12s per gross.
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OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft	3ft. 6 in.	4 ft.
3l. 3s.	3l. 13s.	4l. 5s.

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Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

6 inch.	9-inch.	12-inch bore.
1s. 4d.	2s. 8d.	3s. 8d. each.

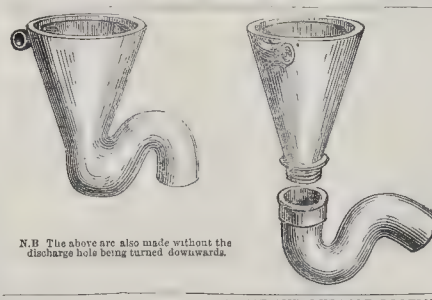
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MR. ——

DEAR SIR,—Should you at any time be in want of Stone-ware Drain-pipes, I take the liberty of recommending you to purchase them of Mr Wm Northen, Stone Potter, Vauxhall-walk, Lambeth. I have used some hundreds of his Pipes, and have found them to be made of the best material and workmanship. As such, therefore, I beg to recommend them.—I am, dear Sir, yours truly,

JOHN PHILLIPS, Surveyor.



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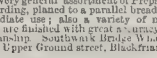
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ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickmakers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Ash, Oak, &c., in planks, boards, veneers, and logs. Pannels, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at mill prices. Very extensive Drying Sheds.

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PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved by Muir's Patent Machinery. The Mills have all the advantages of navigation and water carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

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N.B. Estimates given for Sawing and Planing.



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THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, skirtings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In sawing, or grooving and tonguing a board (although curved), the machine follows the edge, reducing no more than the skin of the wood, and by the use of a peculiar saw for deep cutting, the board comes out with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, as regards workmanship and general business arrangements, to merit a continuance of their support.

DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

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SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS. Manufactory, 96, REGENT-STREET and 191, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Leaves with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having seen them in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

CHEAP PAN FOR
WATER-CLOSETS,
With Trap in One or Two Pieces.

DOULTON AND WATTS,
LAMBETH POTTERY,
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Manufacturers of the annexed in superior
GLAZED STONE WARE,
Price 7s. 6d. each.

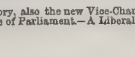
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THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

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ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-lair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the only WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL ROW, LONDON.

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IRON DOOR, with circular Head and Frame, 6ft. 9 in. by 3 ft. 6 in. FOR SALE. Apply at HOWARDS, 20, Wells street, Oxford street.

A SAW FRAME to be SOLD CHEAP; will cut Timber or Deals, and will take in 24 inches square. —Apply, by letter, to Mr. J. JEFFERIS, Grove Foundry, Guildford-street, Borough.

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A NEW 10-inch DUMPY LEVEL of the very best description, with dived Silver Ring to the Compass Ground Bubble, Solid Mahogany Tripod Staff, and in every respect perfect. To be sold as a great sacrifice.—Apply to H. B., 30, King-street, Perceval-street, Goswell-road.

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TO BE SOLD, a SHARE in a PATENT recently granted, which is, after considerable Expenditure of Capital, brought to the greatest Perfection, and may be seen in operation. No Capital beyond the Purchase, about 1,000*l.*, will be required, except for the extension of Machinery, which is not expensive. The Materials to be operated upon are brought to the Manufactory by the Patentee requiring them, and paid for when taken away. The Concern may be carried out to an immense extent, with Profits almost unprecedented even with a Monopoly by patent. No personal application will be attended to, nor will information be given until the Patentee is satisfied that the Applicant can command the sum stated above. Address to T. G., care of Messrs. T. Ritchie, and Co., 8, Chancery lane.

TO BUILDERS, CABINET AND COACH MAKERS, Turnbridge Ware Manufacturers, and others requiring Roomy Premises, with valuable Machinery for Sawing, Planing, Turning, &c.

TO BE SOLD, OR LET ON LEASE, most ELIGIBLE PREMISES, situate No. 12, Dorset-place, Dorset-square, in the immediate vicinity of the Regent's Park, comprising a most commodious dwelling-house replete with fixtures and fittings; at the rear of which, with a back entrance into New-street mews, are premises adapted to a large trade, and consist of a large yard, excellent workshops, counting-house, saw-pits, dens and other sheds, stabling, and an abundant supply of spring water. There is also the advantage of the machinery, which has been very recently erected for sawing, planing, cirkcutting, turning, &c. by horse-power, and which will be valued much below its cost price. For further particulars and to view, apply on the premises between 10 and 4. No written applications can be attended to.

TO BUILDERS.

TO be DISPOSED OF, and Possession had immediately if required, an excellent and remunerative BUILDING BUSINESS, comprising two good Houses, spacious Carpenters' Shops, and Timber Yard adjoining, with Bricklayers' Sheds, Brick Field and Kiln, producing very superior red bricks; also a Lime Kiln in the same field, having the chalk for its use within a quarter of a mile. The Brick and Lime Kilns are within a quarter of a mile of the dwelling-house and timber-yard. The Above are situate in the sea-port town of Faversham, in the county of Kent. The Faversham river is navigable for vessels of 200 tons burthen. The above business is considerably upon the increase, and has been established on the same premises since the year 1719. The whole is freehold, except the brick and lime field, which is leasehold. £3,000 at least will be required.—For further particulars apply to Messrs. STONE and SHEPHERD, Timber Merchants, Faversham.

SALES BY AUCTION.

Woolwich yard, January 18, 1848.

SALE of BUILDING MATERIALS.—NOTICE IS HEREBY GIVEN, that there will be offered for SALE by AUCTION, by Mr GEORGE HUDSON, in the presence of Commodore-Superintendent Sir Gordon Bremer, C.B., K.C.H., in the Dockyard, at the said yard, on TUESDAY, the 25th inst., at Twelve for One o'Clock precisely, in Lots, the BUILDING MATERIALS of the old GUARD-HOUSE and PAINTERS' SHOP, together with the Roofs over Slips Nos. 5 and 6, in the said yard.—May be viewed till the time of Sale.

VALUABLE TIMBER of excellent quality and large dimensions, now standing in KINGSTON PARK, SUNBURY, MIDDLESEX and on the LANDS belonging to the ESTATE, by

MR. RICHARDS, at the GEORGE INN, SUNBURY, on WEDNESDAY, FEBRUARY 2nd, 1848, at Twelve o'clock, in One Choice Elm, 21 Limes of superior growth and quality, Oak, Ash, Beech, and other Timber, Trees with their Lops, Tops, and Bark.—May be viewed seven days prior to Sale, by permission of Mr. TAYLOR, in the Park, of whom Catalogues may be had, and of the Auctioneer, Tottenham.

CUMBERLAND MARKET.

TO SLATE MERCHANTS, BUILDERS, CARPENTERS, AND OTHERS.

MR. LEREW is instructed by the Proprietor, retiring from the Slate Trade, to SELL by AUCTION, on the Premises, Llanbedr Wharf, Augustus-street, Regent's Park, on MONDAY, January 31st, and following days, at Eleven for Twelve each day (unless previously disposed of by private treaty in the meantime), the Leasehold Stock, comprising Russell and other Slate Chimney-pieces; 100 4-in. Slated Scuttle Sides, enamelled and plain Washstand and Table Tops, ribbed, planed, and other Paving, Tombstones, Cottage Slabs, Creasing, Garden Edging, Work Benches, Barrows, Trucks, Wheeling Planks, Tools, excellent Crab, Carts, Harness; 2,000 Spruce Planks, Deals, and Battens; 150 squares of prepared Floor-boards; 4-inch American Birch Planks; quantity of Garden-seats; Desk and Office Fittings; Household furniture, and miscellaneous items. To be viewed the Saturday prior to the Sale, when Catalogues may be had on the Premises and at the Auctioneer's offices, 2, Cardington street, Hampstead road, near the Eastern station.

PALL MALL.—The valuable Building Materials, Fixtures, and Fittings of the Residence of the late Sir Charles Morgan, Bart.

MESSRS. FAREBROTHER, CLARK, and LYE having disposed of the lease of the Premises to the Guards Club, are instructed by them to SELL by AUCTION, on the Premises, on MONDAY, January 31, 1848, at Eleven, to clear the site for their new club house, the whole of the valuable MATERIALS, comprising a slated roof, about twenty tons of lead, in flats, cisterns, sheet, soil, and piping, cutter and pump, metal Lime Light sashes, glazed sashes, panelled box shutters with carved mouldings, oak and deal staircases with mahogany hand rails, batten and 4-panelled doors, carved pilasters, painted and grained panelled and moulded skirtings, sculptured statuary and veined marble chimney-pieces, water closets with mahogany fittings, stone staircases, sills, and balconies, Yorkshire and Purbeck paving, iron grates, railing and guard bars, together with the capital sound brick work; also the excellent fixtures and fittings, comprising register and other stoves, stoves, ranges, coppers, mahogany bookcases with sliding sashes and panelled lockers, plates of silvered glass in mahogany frames, linen presses, cupboards, dressers, shelves, &c. To be viewed on Friday and Saturday prior to the sale.—Catalogues may be had on the Premises; of H. HARRISON, Esq., Architect, 20, Bedford-square; at Garraway's; and of Messrs. FAREBROTHER, CLARK, and LYE, Lancaster-place, Strand.

RE JOSEPH ROBINSON'S BANKRUPTCY.

Peremptory Sale. Detached and Murray-street, Camden-town.

MR. H. BIERS has been directed by the Assignees, with consent of the Mortgagees, to SELL by AUCTION, at the Mart, on MONDAY, January 31, at Twelve, in Lots, SIX semi-detached VILLA RESIDENCES, situated in Pardoner-road, part of Camden-town. Two of them are to be for immediate occupation, two require a trifling outlay to complete them, the others are carcasses. Also four well-built Carcass Houses in Burdett-road, situate in Murray-street, very nearly built and let for ninety-six years, at very low ground rents. May be viewed. Particulars had of Messrs. ABBOTT and WHEATLEY, Solicitors, 3, Bell's-yard, Chancery-lane; of Messrs. DANIEL, Solicitors, 11, Campbell, 21, Warwick-street, Regent-street; of WM. TURQUAND, Esq., 15, Old Jewry; at the AUCTION MART; and of Mr H. BIERS, 13, Broad-street, Golden-square. A large proportion of the mortgage money may remain upon some part of the property, if so desired. The remainder of the property, under this sale, at Maldon-road, Dunsford-place, and Munster square, including the Newberry Arms—intended Public-house—as also the stock in trade, will be sold early in March.

IN BANKRUPTCY.—Important Sale of the Extensive and Valuable Stock in Trade, Fourteen Horses, Seven Carts, Spring Van, Timber Carriage, Dog Cart, Trucks, Harness, and effects of Mr. THOMAS BURTON, Builder and Contractor.

MR. MARSH has been honoured with instructions from the Assignees of Mr Thomas Burton to SELL by AUCTION, on the Premises known as Burton's Wharf, Commercial-road, Lambeth, on TUESDAY, January 25, 1848, and Four following Days, at Eleven o'Clock each Day, the valuable Stock in Trade, consisting of mahogany in planks and veneers, wainscot in planks of various thicknesses, deal scantling, yellow and white boards, Dantzic staves, oak sills, prepared battens and flooring boards, ironmongery and nails in great variety, two double forges with 4-pairs bellows, anvils, and a large assortment of smith's tools, bar iron, wrought bar and plate iron; stationary marble and other chimney-pieces, marble in scantling and slabs, large blocks of Portland stone, rubbed and self-faced York paving in landings, slabs, steps, curbs, &c.; sixty work Deals each Day, the valuable poles, boards, putlogs, cords, barrows, planks, ladders, and numerous other articles.—May be viewed Three Days prior to Sale, and Catalogues had (at 6*d.* each) on the Premises; also of WILLIAM PENNELL, Esq., Official Assignee, Guildhall-chambers, Basinghall-street; of H. LLOYD, Esq., Solicitor, Milk-street, Cheapside; and at Mr. MARSH'S Auction and Estate Agency Offices, 27, Bucklersbury, Mansion-house.

The Second Portion of the Valuable Stock in Trade of Mr. T. BURTON, Builder and Contractor.

MR. MARSH has been favoured with instructions from the Assignees of Mr. Thomas Burton, to SELL by AUCTION, on the Premises, BURTON'S WHARF, COMMERCIAL ROAD, Lambeth, on TUESDAY, FEBRUARY 1, 1848, and following days, at Eleven o'Clock each day, the second Portion of the valuable Stock in Trade, consisting of large Blocks of Portland Stone, rubbed and self-faced York Paving in Landings, Slabs, Curbs, &c., Pack Deals, Battens, Boards, Landings, and Slabs, Slate Slabs, &c. A very excellent and powerful Crane, capable of carrying fifteen Tons, with Chains, &c., in complete working condition, a Sawing Machine, with Three Circular Saws and Apparatus complete, a Patent Morticing Machine. Yellow and White Boards, prepared Battens and Floor Boards Wainscot, &c. The contents of the Plumbers', Painters', and Glaziers' Shops, comprising Funnel and Lead Pipes, Force Pumps, &c., wet and dry Colours, Oils, crates of Glass, Brushes, &c., the very excellent and valuable Office Fittings, and various other Articles.—May be viewed the day prior and morning of Sale, and Catalogues had on the premises; also of WILLIAM PENNELL, Esq., Official Assignee, Guildhall Chambers, Basinghall-street; of H. Lloyd, Esq., Solicitor, Milk-street, Cheapside; and at Mr. Marsh's Offices, 27, Bucklersbury, Mansion-house.

TO BUILDERS, CONTRACTORS, AND OTHERS.

700,000 of very superior assorted BRICKS.

MR. MARSH has been favoured with instructions to SELL by AUCTION, in Wanstead Park, on TUESDAY, February the 8th, at Twelve o'Clock, in Lots adapted to the convenience of all Purchasers, 700,000 full-sized, washed, very hard stock, and other Bricks, made under particular inspection, and with great care. The Brick Field is most advantageously situated, close to good hard roads, within half a mile of the Forest Gate Station, on the Eastern Counties Railway, and a mile and a half of Water Carriage. The Lots will be open to inspection Five Days prior to the Sale (Sunday excepted); and Catalogues obtained of Mr. J. C. PETRIE, near the Church, Wanstead Park; at the various Inns in the neighbourhood; and at Mr. MARSH'S Offices, 27, Bucklersbury, Mansion-house; or will be forwarded on application.

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NEW WORK ON RAILWAY ENGINEERING.

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RAILWAY ENGINEERING; containing the most approved Methods of laying out Railway Curves, and of setting out the Cuttings, Embankments, and Tunnels of Railways; with a General and two Auxiliary Tables for the Calculation of Earthwork of Railways, Canals, &c. Also, the investigation of the Formula for the Superelevation of the exterior Rail in Curves.

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NOVELLO'S MONTHLY MUSICAL PUBLICATIONS. On the 1st of February will be ready:—

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The MUSICAL TIMES, No. 45, price three-halfpence, contains "May-day," Glee, from Mullet, &c.

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MESSRS. WILLIAMS and CO., 140 and 141, STRAND, have Published a CLASSED CATALOGUE of ARCHITECTURAL WORKS, in which will be found all the best Books of Reference relative to the above competitions. Messrs. W. and Co. have just published the following:—

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—The LARGEST ASSORTMENT of STOVES, KITCHEN RANGES, and FENDERS, as well as General Ironmongery in the world, is now on Sale at WILLIAM S. BURTON'S (late RIPPON and BURTON'S) extensive warehouses. Bright steel fenders, to 4 feet, from 30s. each; ditto ditto, with or-molu ornaments, from 60s.; rich bronzed scroll ditto, with steel bar, 10s. 6d.; iron fenders, 3 feet, 4s. 6d.; 4 feet, 6s.; ditto bronzed, and fitted with standards, 3 feet, 9s.; 4 feet, 11s.; wrought iron kitchen fenders, 3 feet 4s. ..., 4 feet, 6s.; bright register stoves, with bronzed ornaments, and two sets of bars, from ...s.; ditto ditto, with or-molu ornaments, from 6l. 6s.; black dining-room register stoves, 2 feet, 18s., 3 feet, 27s.; bed-room register stoves, 2 feet, 16s.; 3 feet, 24s. The new economical thermic stove, with fender and radiating hearth plate, ... for chambers, 1s. 9d. per set; handsome ditto, with cut heads, 6s. 6d.; newest pattern, with elegant bronzed heads, 11s. A variety of fire-irons, with or-molu and richly cut heads at proportionate prices. ... in the former ... iron ... per cent. under any other house. The money returned for every article not approved of. Detailed catalogue with engravings ... post free.

WILLIAM S. BURTON'S (late RIPPON and BURTON'S) stock ... purchasers are invited to call and inspect it.—39, Oxford-street (corner of Newman-street). Established in Wells-street 1820.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE PIPE and TUBING of every description.

These Pipes are made to stand hot liquor and gas without injury, and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

ARTESIAN WELLS, BORING TOOLS,

PUMPS, &c.—Engineers, Architects, Surveyors, Builders, or others requiring a good supply of WATER, may have any quantity procured by applying to W. SPELLER, 11, York-street, Blackfriars'-road, London; where can be had any quantity of Tools for Sinking or Boring, from 2 to 20 inches diameter, and from 100 to 2,000 feet depth; also, Men and Tools to Bore for Railroads, Minerals, &c., in any part of the world. Boring Tools and suitable Pipes for Exportation, with full instructions for their use.

Builders, Contractors, Brickmakers, Bargemen, Ship Builders and others ... Wrought or Cast-iron Pumps, Double or Single, for Excavation or Deep Wells, from three to twelve inches in the bore, and from 6 to 130 feet in length.

HOT-WATER APPARATUS for Conservatories, &c., on the most economical and improved principles.

IRON FOUNDRY, 9, Brick-lane, Old-

street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET, DRURY LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental—Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot-plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of Iron work, complete to specification, and the work executed with every attention to quality and dispatch.

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PATENT COPPER WIRE ROPE LIGHTNING CONDUCTORS, for the Protection of Churches, Towers, Chimney-Shafts, &c.

SMITH and ENGLISH, Princes-street,

Leicester-square, London, beg to inform Architects, Builders and others, that the above form of Lightning Conductor has been most extensively adopted, and is giving the greatest satisfaction, it proving considerably cheaper first cost, much simpler of application, with less injury to the building, than any other kind, and they can refer with great satisfaction to eminent architects and others, who have adopted it in preference;

As also their much improved Revolving and Panelled Iron Shutters.

PATENT DOUBLE ACTION DOOR SPRINGS.

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Patent Copper and Iron Wire Sash Lines,

IMPROVED FLOORING-CRAMPS, &c. &c.,

which they continue to manufacture extensively, adopting every improvement which experience and practical application can suggest.

PATENT COPPER-WIRE CORD.—

R. S. NEWALL and Co.'s PATENT IMPROVED COPPER WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all Builders and other parties connected with the above. Specimens of the Wire Cord may be seen at the office of the Patentees, No. 163, Fenchurch-street, London; W. T. ALLEN, Agent; and may be had of all respectable Ironmongers.

WARMING by means of the circulation

of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner.—BURBIDGE and HEALY, 1..., Fleet-street.

HOT-WATER APPARATUS.

The attention of architects and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction ..., their willingness to vouch for their efficiency. An improved wrought iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

IMPROVED COOKING APPARATUS.—

MARRIOTT'S PATENT.—After forty years constantly manufacturing all kinds of Cooking Ranges, can confidently recommend this as the most perfect and economical one ever produced; it will roast, bake, boil, fry, stew, heat a steam-closet and kettles, will burn any thing, is very cleanly, and a positive cure for a Smoky Chimney. May be seen daily in use at the Manufactory, 89, Fleet-street, London.

IMPROVED WATER-CLOSETS, PORTABLE or FIXED.—MARRIOTT'S PATENT.—This useful article is manufactured of the best materials in all its parts, and kept in a variety of shapes, by W. A. MARRIOTT, who has reduced the price to 4l. 10s., at the Manufactory, 89, Fleet-street, London.

NEW PATENT CHIMNEY-TOP for SMOKY CHIMNEYS.—This article is the most unique and perfect Chimney-top yet in use, and less in price than any others. Wherever it has been fixed it has not failed to give satisfaction. Manufactory, 89, Fleet-street, London.

ESTABLISHED 1795.

NOT TO BE EQUALLED IN PRICE AND QUALITY.

PATENT-IMPROVED and PANELLED

IRON SAFES, DOORS, ROOMS, CHESTS, &c.—E. TANN and SONS' Patent Reliance Chemical Compound-lined Safes stand the test of the fire, with loss of life, at Water-lane, Blackfriars, and preserved its contents. The Safe may be seen at the Patent Reliance Guarded-lever Lock and Safe Manufactory, 1, Hope-street, Hackney-road. Iron Doors for Party-walls, Safes, &c., kept in stock. N.B. The Trade supplied.

By Her Majesty's  Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,

WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE

... to ... security of the ... may be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 61, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

ARGUS LIFE ASSURANCE COMPANY,

39, Throgmorton-street, Bank.

Empowered by special Act of Parliament, 5 & 6 Will. 4. c. 76.

THOMAS FARNCOMB, Esq., Alderman, Chairman.

WILLIAM LEAF, Esq., Deputy Chairman.

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William Banbury, Esq.	J. Humphery, Esq., Ald., M.P.
Edward Bates, Esq.	Thomas Kelly, Esq., Ald.
Thomas Camplin, Esq.	Jeremiah Pilcher, Esq.
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PHYSICIAN—Dr. Jeaffreson, 2, Finsbury-square.

SURGEON—W. Coulson, Esq., 2, Frederick's-place, Old Jewry.

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Low Rates of Premiums.

Persons Assuring in this Office have the benefit of the lowest rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an annual bonus: they have likewise the security of a large subscribed capital—an Assurance Fund of a quarter of a million—and an annual income of 65,000l., arising from the issue of nearly 6,000 Policies.

Annual Premium to Assure 100l.

Age.	For One Year.	For Seven Years.	Whole Term.
20	£0 17 3	£0 19 1	£1 11 10
30	1 1 3	1 2 7	2 ... 7
40	1 5 0	1 6 9	2 14 10
50	1 14 1	1 19 10	4 0 11
60	3 2 4	3 7 ...	6 0 10

One-half of the "whole term" Premium may remain on credit for seven years, or one-third of the Premium may remain for life as a debt upon the Policy at 5 per cent., or may be paid off at any time without notice.

Policies assigned as a security to others will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid in one month after proofs have been approved.

The Medical Officers attend daily at a quarter before Two o'clock, and Policies issued the same day.

E. BATES, Resident Director.

A liberal Commission to Solicitors and Agents.

SPECIAL NOTICE.

POLICIES effected on or before 1st MARCH next will secure the advantage of a year's standing over those effected thereafter, and of a VESTED ADDITION at the Allocation of Profits in March 18.., equivalent to SIX YEARS' BONUS.

SCOTTISH EQUITABLE LIFE

ASSURANCE SOCIETY. Incorporated by Act of Parliament. Edinburgh: 26, St. Andrew-square. London: 61, Moorgate-street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including all bonus, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 1, 1847.

	Amount Assured	Annual Revenue	Accumulated Fund
At 1st March, 1835 ...	£..2,611	£11,354	£..,..1
Ditto 1841 ...	1,...,570	..,5..6	153,..9
Ditto 1847 ...	2,765,381	99,27..	4..,5..3

ADDITIONS TO POLICIES.

A Policy effected before 1st March, 1832, for 2,000l. and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, being an addition of 40 per cent. on the sum assured. Other Policies have received additions in proportion.

ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate-street.

WILLIAM COOK, Agent.

TO ARCHITECTS, BUILDERS, DECORATORS, ENGINEERS, FOUNDERS, AND OTHERS.

MESSRS. PHILIP and WYNNE, MODELLERS and CARVERS in WOOD and STONE,

3..6, Oxford-street, London.

Architectural Carving, Ornamental Patterns for Founders, and every other description of Carving executed in the highest style of the Art.

ARCHITECTURAL CARVING COMPANY,

Eccleston place (late Sir F. CHANTREY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD,

Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work warranted.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, ..., WHARF ROAD, CITY ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD and BEEDHAM beg to inform

Architects, Surveyors, Builders, and others, that they have removed from Norway Wharf, Greenwich, the whole of their Caen Stone business, to the above extensive premises, where a large Stock will be kept up by continual fresh arrivals from their quarries at Allemagne. Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.

Orders shipped direct from Caen to any port.

The Waterman Steamboats call at Lavender-pier, adjoining Caen Wharf.

SAMUEL CUNDY, Mason and Builder,

PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from ... upwards.

MONUMENTS and TOMBS in great variety of design.

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone-box Chimney-pieces, from .... 12s.

Vein-Marble " " .... 40s.

RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

MAGNUS'S ENAMELLED SLATE.—

Under the patronage of Her Majesty, Prince Albert, the Duke of Wellington, and the principal of the Nobility, the most eminent Architects, Builders, &c. &c.—This beautiful material has been introduced into Buckingham Palace, the drawing-rooms at Osborne, Apsley House, Strathfieldsaye, &c. &c., and it is now taking the place of marble in the mansions of the nobility generally. It is also extensively used in Government offices, the principal railway stations, and other public buildings. It can only be distinguished from real marble by its superior brilliancy of polish, and it is more durable, and less liable to chip at the edges, than marble. The choicer productions, such as black and gold, sienna, jasper, verd antique, jet black, &c. are not more than one-third of the price of marble. Among the articles manufactured at the Pimlico Slate Works are chimney-pieces, consoles, billiard and table tops of all descriptions, pedestals, pilasters, columns, plinths, tazzas, mural tablets, baths, wash-stand tops, &c. &c. Cisterns, dairy shelves, &c., in ... plain slate work in general executed in exceedingly ... terms. Welsh slate slabs of the best description, at very reduced prices. N.B. The trade supplied with whole cargoes, self-faced or planed on one or both sides, direct from the quarries.—A book of prices will be forwarded on application to Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. I am therefore now selling ONE SHILLING PER FOOT SUPERFICIAL, and borders from SIXPENCE PER FOOT RUN. A large quantity of the best patterns always in stock. Embossing and Painted work on the most moderate terms. CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 12, RATHBONE PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the usual prices.

ROUGH PLATE GLASS, of every thickness, at very low prices. J. L. GRUNDY, Company's Agent.

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UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied 1, 3-8, ¼, and ½ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 99, Hatton Garden, H. Horn
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SOHO PLATE GLASS COMPANY, 26, Soho-square. Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured at the Soho Farm, St Quirin, and the Cristalleries, Paris. The Trade are informed that this Plate Glass, which is of very best colour and quality in the market, and in all sizes and dimensions, and at very reduced prices. Each Plate Glass for Skylights, quarter, three eighths, half, and three quarters cut to the Rafter.

ALFRED GOSLETT, Agent.

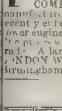
SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO SQUARE. ALFRED GOSLETT, Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass to be imported to the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

THE BIRMINGHAM PLATE-GLASS COMPANY beg to call the attention of the Trade to their manufacture of superior Polished and Rough Plate Glass. Having recently erected their works, and erected an additional 80 horse power engine, they are enabled to produce a much larger quantity. Their prices will be found to be upon the most reasonable scale. A large stock of Polished and Rough Plate always on hand.

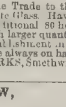
LONDON WAREHOUSE, 241, Fleet street; WORKS, Smethwick, Birmingham.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worth the notice of all engaged in building.





TO THE BUILDING WORLD.

H. BANKS,

Manufacturer of Shop-Fronts, Sashes, and Frames, and Joiner to the Trade, 78, Bethnal-Green Road, London. Parties engaged in building will find the charges at this establishment cheaper than any other house in London. A full list of prices forwarded by return of post to any part of the country.

N.B. Glazed Goods securely packed for the Country.

By Her Majesty's  Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS. To be had of EDWARD BAILLIE, Inventor and Patentee, 126, Cumberland Market, Regent's Park, and 3, Fleet-street, the first and successful application to Public Buildings, and the cure of Smoky Chimneys, prove their great utility. Forty per cent from the original Tariff.

VENTILATION IMPROVED, AND SMOKY CHIMNEYS CURED

BAILLIE'S PATENT TRANSPARENT VENTILATORS are at once efficacious, neat, and easily fixed to any sash, and, where they are wanting, ventilation, without draught to any room, will be found invaluable, and especially as a protection to Shop Windows. Supplied Wholesale and Retail by E. and W. H. JACKSON, Window-Glass Warehouse, 315, Oxford-street.

DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Ann-street, Oxford-street, begs to call the attention of Architects, Builders, Coach-makers, and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description. Prices from 7s. 6d. to 15s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of stove manufacture in business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been adopted extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.



The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweeps in use.

J. W. Wilson has had the honour of fixing upwards of 100 of the Patent Ventilating Chimney Pots, at the Royal Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most perfect, and the most effectual, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, and in Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs Wilson and Co, at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address, 4, Wharf, Macclesfield-street South, City-road Basin.

PATENT ARCHITECTURAL TILES.—The Company have just received a Large Importation of these Tiles in the blue colour from Belgium, and are therefore enabled to supply either the Tudor or Diamond Patterns, as also a new design called the "Leaf," which is much admired. For covering Churches, Schools, ornamental Villas, Railway Stations, &c. &c., they will be found to surpass every other kind of roofing, being equally light as slate, and although so highly characteristic and ornamental, the cost but little exceeds that of ordinary pan tiles.—For prospectuses and particulars apply to Mr. J. G. HUGHES, Secretary to the Architectural Tile Company, at their Offices, No. 158, Strand, London.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

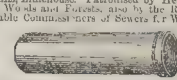
DRUCE'S, No. 2 WHARF, late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from ships from the Manufactories direct, at the lowest prices. A large Stock of every quality always on hand at the Wharf as above. Goods made to pattern at short notice. Patent Corn Drying Malting Tiles. Lime, Sand, Gravel, Bricks and Tiles of every description.—Dutch Clinkers.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS. A certain preventative of leakage, superseding the use of the metal plug tap which is so continually out of order. They are more durable, less expensive, and less intricate to clean, are now fixed and tried with perfect success. They have been tested under various pressures, and have given the greatest satisfaction. Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 31, New Cut, Blackfriars-road.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth; at Albion Wharf, Holland-street, Blackfriars; Kingsland Basin, Kingsland-road; and Lime Kilns, Limehouse. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honorable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Patentee and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape best to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.		
6-inch.	9-inch.	12-inch bore.
1s. 6d.	2s. 2d.	3s. 3d. each.

Bends and Junctions equally low.

The following unsolicited Testimonial is respectfully submitted.

Sewers' Office, 1, Greek-street, Soho, July 20, 1847.

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Dear Sir, Should you at any time be in want of Stone ware Drain-pipes, I take the liberty of recommending you to purchase them of Mr. Wm. Northen, Stone Potter, Vauxhall-walk, Lambeth. I have used some hundreds of his Pipes, and have found them to be made of the best material and workmanship. As such, therefore, I beg to recommend them.—I am, dear Sir, yours truly,

JOHN PHILLIPS, Surveyor.

By Her Majesty's  Royal Letters Patent.

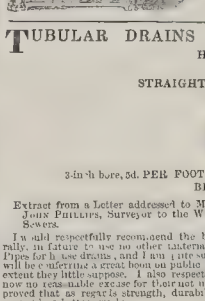
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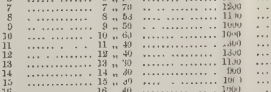
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From Mr. John Roe, Surveyor to the H. Horn and Commission of Sewers.

Sewers Office, Hatton-garden, 21st Oct. 1847.

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I am, Dear Sir, yours truly,

JOHN ROE

Mr. H. Doulton.

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RESIDENCE, WORKSHOPS, &c. To Builders, Cabinet-makers, Coach-painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, early in March (unless an acceptable offer is previously made), that eligible RESIDENCE, situate No. 12, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Rammell, together with the well-arranged and roomy Workshops at the rear, and having entrances in New-street mews, with four-stall stable, coach-house, &c., and in all, with the advantage of an abundant supply of spring water, held for upwards of 70 years, at a ground rent. May be viewed by application in the premises.

RE JOSEPH ROBINSON'S BANKRUPTCY.
Peremptory Sale—Paul's-road and Murray-street, Camden-town.

MR. H. BIERS has been directed by the Assignees, with consent of the Mortgagees, to SELL by AUCTION, at the Mart, on MONDAY, January 31, at Twelve, in Lots, SIX semi-detached DWELLING-HOUSES, situated in Paul's-road, the very best part of Camden-town. Two of them are fit for immediate occupation, two require a trifling outlay to complete them, the others are carcases. All four well built Carcases. Houses and interiors shall be private in Mortgagee's very nearly adjoining the Paul's-road property. The whole is eminently well built, and held for many years at very low ground rents. May be viewed.—Particulars had of Messrs. ABBOTT and HUTCHLEY, Solicitors to the Est., 3, Rolls-yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Great James-st., Lincoln's-inn; of Messrs. DAVIES, SON, and CAMPBELL, 21, Warwick-street, Regent-street; of WM. TURQUAND, Esq., 15, Old Jewry; at the AUCTIONEER'S, 3, Hart-st., and of Mr. H. BIERS, 13, Broad-street, Golden-square. A large proportion of the mortgage money may remain upon some part of this property, if required. The remainder of the property under this Sale, at Maldon-road, Dunsford place, and Munster-square, including the Newberry Arms—intended Public-house—as also the stock in trade, will be sold early in March.

To Noblemen, Gentlemen, Clergymen, Architects, and Admirers of Beautiful Carved Oak Church Fittings and Furniture, in the 15th and Elizabethan Styles.

MESSRS. EXENHAM and SONS will SELL by AUCTION, at their Rooms, 333, Oxford-street, near the Pantheon, on TUESDAY, February 8, at Twelve, a splendid assemblage of CARVED OAK CHURCH FITTINGS in the Perpendicular and Decorative styles, including altar chairs and tables, pulpits, lectern, stall ends, two magnificent brass lecturns of the fifteenth and sixteenth centuries; three sculptured stone fonts, one with richly-carved oak altar-piece, &c.; also beautifully carved oak and walnut tree sideboards of various dimensions, suits in Gothic and Elizabethan library and drawing-room chairs, bookcases richly carved with carving, drawing-room and library tables; and a variety of elegant, decorative, and useful furniture for the drawing-room, dining-room, library, and baronial hall (to be viewed on the Saturday preceding and catalogues of sale. Catalogues had at the "Oxford Journal" Office, Oxford; of Messrs. SWAN and SON, Sidney street, Cambridge; and at Messrs. OXENHAM'S Offices, 333, Oxford-street.

IN BANKRUPTCY.—To Builders, Contractors, Timber Merchants, and Others. The highly important and very extensive Waterside Business Premises of Mr. T. T. HERRING, situated Contractor, Commercial-road, Lambeth, entirely as to Waterboundage, presenting an opportunity to Builders and Timber Merchants of possessing one of the most complete and judiciously arranged Building Establishments in the Metropolis.

MR. MARSH has the honour to announce that he has been favoured with instructions from the Assignees of Mr. Thomas Burton, and with the consent of the Mortgagees, to SELL by AUCTION, at the MART, opposite the Bank of England, on MONDAY, January 31, 1848, at Twelve o'Clock, the valuable Lease, with possession of the extensive Business Premises, comprising Burton's Wharf, Commercial-road, Lambeth, consisting of an excellent Dwelling House, a nearly finished range of recently erected Workshops and Show-rooms, with suite of Offices attached, a noble range of Carpenters' Shops, Marble Masons', Bishops, Painters', ditto, Gas-fitters' ditto, spacious Stabling, with Lofts over, Drying sheds, Steam-moving Workshops, &c.; a Yard occupying a considerable area, with two entrances, affording every facility for conducting any business of magnitude. The Wharf possesses a frontage of 70 feet to the river, and also the great advantage of a Dock on the east side of the yard, where vessels can be docked and laid aside for repairs. May be viewed and descriptive particulars obtained on the Premises; of WILLIAM PENNELL, Esq., Official Assignee, Guildhall-chambers; of H. LLOYD, Esq., Solicitor to the Assignees, Mink-street, Cheapside; of Messrs. WILDE, REES, HUMPHRY, and WILDE, Solicitors to the Mortgagees, College-hill; and at Mr. MARSH'S Offices, 27, Bucklersbury, Mansion-house.

The Second Portion of the Valuable Stock in Trade of Mr. T. BURTON, Builder and Contractor.

MR. MARSH has been favoured with instructions from the Assignees of Mr. Thomas Burton, to SELL by AUCTION, on the Premises, BURTON'S WHARF, COMMERCIAL ROAD, Lambeth, on TUESDAY, FEBRUARY 1, 1848, and following Days, at Eleven o'Clock each day, the Second Portion of the valuable Stock in Trade, consisting of large Blocks of Portland stone, pebble land self-faced York Paving in Landings, Slabs, Curbs, &c.; Kerb Stone in Blocks, Landings, and Slabs, Slate Slabs, &c. A very excellent and powerful Crane, capable of raising 8 tons, with Chains, &c., in complete working condition; a strong Circular Saw and Apparatus complete; a Patent Mortising Machine; Yellow and White Deals, prepared Battens and Floor Boards, Wainscot, &c. The Fittings of the Dwelling-house, Offices, and Counting-house, comprising Fender and Lead Pipes, Force Pumps, &c., wet and dry Closets, coke cratch of Office, Brasher, &c., the very excellent and valuable Office Furniture, various other Articles. May be viewed the day prior and on morning of Sale, and Catalogues had on the premises; also of WILLIAM PENNELL, Esq., Official Assignee, Guildhall Chambers, Basinghall-street; of H. LLOYD, Esq., Solicitor, Milk-street, Cheapside; and at Mr. Marsh's Offices, 27, Bucklersbury, Mansion-house.

TO BUILDERS, CONTRACTORS, AND OTHERS
70,000 of very superior assorted BRICKS.

MR. MARSH has been favoured with instructions to SELL by AUCTION, in Wanstead Park, on TUESDAY, February the 8th, at Twelve o'Clock, in Lots adapted to the convenience of all Purchasers, 700,000 full-sized, washed, very hard stock, and other Bricks, made under particular inspection, and with great care. The Brick Field is most advantageously situated as to good hard roads, within half a mile of the Eastern Counties Railway, and a mile and a half of Water Carriage. The Bricks will be open to inspection Five Days prior to the Sale (Sunday excepted); and Catalogues obtained of Mr. J. C. PETRIE, near the Church, Wanstead Park; at the various Inns in the neighbourhood; and at Mr. MARSH'S Offices, 27, Bucklersbury, Mansion-house; or will be forwarded on application.

CUMBERLAND MARKET
TO SLATE MERCHANTS, BUILDERS, CARPENTERS, ENGINEERS, AND OTHERS.

MR. LEREW is instructed by the Proprietor, retiring from the Slate Trade, to SELL by AUCTION, on the Premises, Llanbedr Wharf, Augustus-street, Regent's Park, on MONDAY, January 31st, and following days, at Eleven for Twelve each day (unless previously disposed of by private treaty), the valuable Stock, together with the excellent Stock, comprising 150 Enamelled and other Slate Chimney-pieces; 100 gross National School Slates; enamelled and plain Washstand and Table Tops; rubbed, planed, and other Paving; Tombstones, Chimney Slabs, Chimney Garden Edging; Oak Bunches, Barrows, Truck, Wheeling Planks, Tools, excellent Crab, Timber Carriages, Van Carts, Horses, Harness; Driving Hands; 2,000 Spruce Planks, Deals, and Battens; 150 squares of prepared Floorboards; 4-inch American Birch Planks; quantity of Quartering and useful stuff, also Office Fittings, and miscellaneous items.—To be viewed the Saturday prior to the Sale, when Office, 2, Cardington street, Hampstead road, near the Euston Station.

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MR. G. H. LOVEGROVE has received instructions to SELL by AUCTION, without reservation, on THURSDAY, February 3, at Eleven for Twelve precisely, at the Greyhound Inn, West Ham, 600,000 STOCKS and other BRICKS, in Lots adapted to the convenience of all Purchasers. The brickfield is situate within a quarter of a mile of the Abbey Wharf, West Ham, and near to the Eastern Counties and North Woolwich Railway Stations, affording both cheap and expeditious water and railway carriage.—May be viewed two days prior to sale, and Catalogues obtained at the place of sale; King's Head and Yorkshire Grey Inns, Stratford; Crown Inn, Bincknall; Abbey Arms, Plaistow; Old King Harry Inn, Mile End-road; and of the Auctioneer, West Ham. The Brickfield, containing 13 acres of Land, to be Let on Building Leases, for the term of 99 years. For particulars, apply to Mr. LOVEGROVE, West Ham.

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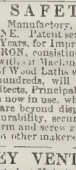
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of Sashes and Frames, and Joiner to the Trade, 121, Bunhill row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Estimates on 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings on any quantity. N.B. This Establishment is worth the notice of all engaged in building.



SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



JOHNSON and PASK,

1, Amwell street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Shop-fronts, Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.



SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the

following useful purposes:—

Foot Pavements.
Kitchen Floors (particularly where it is essential to keep damps from rising.
Garden Walks and Terraces.
Carriage Drives.
Cattle-sheds and Stabling.
Dog-Kennels.
Barn Floors.
Granaries.
Tan-room Floors.
Malt-house Floors.
Piggeries, &c. &c.
Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE in the Contract, as to the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

I. FARRELL, Secretary.

Seyssel Asphalte Company, Stangate, London.

SPECIAL NOTICE.

POLICIES effected on or before 1st MARCH next will secure the advantage of a full year's standing over those effected thereafter, and of a VESTED ADDITION at the Allocation of Profits in March, 1853, equivalent to SIX YEARS' BONUS.

SCOTTISH EQUITABLE LIFE

ASSURANCE SOCIETY.—Incorporated by Act of Parliament.—Edinburgh: 26, St. Andrew-square. London: 61, Moorgate-street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including additions, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE PROGRESS OF THE SOCIETY DOWN TO MARCH 1, 1847.

	Amount Assured.	Annual Revenue.	Accumulated Fund.
At 1st March, 1835....	£326,611	£11,364	£44,061
Ditto 1841....	1,569,670	55,636	153,329
Ditto 1847....	2,763,381	99,270	400,974

ADDITIONS TO POLICIES.

A Policy effected before 1st March, 1839, for 2,000l. and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, being the addition of 40 per cent. on the sum assured. Other Policies have received additions in proportion.

ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate-street.

WILLIAM COOK, Agent.

ATKINSON'S CEMENT.—WILLIAM

WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue and White Lias Lime, Stone Works, CHURCH STREET, ROTHERHITHE, London, Sole Consignee of Atkinson's Cement.

PORTLAND CEMENT.—Testimonials

received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other cement for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

KEENE'S PATENT MARBLE CEMENT

forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and effectual substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS Millbank street, Westminster, and Seel-street, Liverpool.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT

CAUTION.—Messrs. STEVENS and SON

Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously made of the same description. And they pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which exclusively possesses:—

1. It rapidly acquires the hardness of stone.

2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.

3. Its surface, which may be made equal to that of the finest marble, NEVER THROWS OUT ANY SALT, and will receive paint in four days, without coating, when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster's Wall Cement Manufacturers, 1st, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 26, Canning-place, Liverpool.

PATENT PORTLAND CEMENT WORKS, NORTHFLEET, KENT.

MESSRS. ROBINS and ASPDIN an-

nounce to Architects, Engineers, Contractors, Plasterers, Builders, and the Trade generally, that they have purchased the CEMENT WORKS erected by Messrs. MAUDES, JONES, and ASPDIN for the MANUFACTURE OF PATENT PORTLAND CEMENT, and that some of the properties of this superior article are:—

1. The colour of the Cement, which it permanently retains, perfectly resembles Portland Stone.

2. It is not subject to Atmospheric Influence, whatever the climate, and will resist the action of fire and Heat without cracking or decaying in any way affected by exposure to damp.

3. It does not require, like all other Cement, either painting or colouring, and will not vegetate, overgrade, or turn green.

4. It is stronger than ordinary Cements, harder and more durable, and will take three times more sand than any other description of Cement.

5. It is well adapted for Buildings and works of every description, as well external as internal, and for Pavements, both plain and ornamental. It is suitable for Artificial Stone Fountains, and for Sea and Canal Walling it cannot be surpassed,—its power to resist the action of water for any length of time having been tested in the Thames Tunnel for upwards of twenty years. It may be kept for years without impairing its strength, and will only be depreciated by the slowness of setting.

Particulars of the experiments made by Messrs. Grissell and Peto at the New Houses of Parliament, shewing the extraordinary strength and adhesive qualities of the Patent Portland Cement, may be obtained at the works at Northfleet, and at the wharf in Great Scotland-yard, Whitehall, London.

Manufactured by WILLIAM ASPDIN, Son of the inventor and patentee.

Sold in Casks of Five Bushels each, weighing about 4½ cwt., at 14s. per cask.—4s. allowed for each cask returned in good condition to Great Scotland-yard.

PREPARED FLOORINGBOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¾ inch to 1½ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVES Timber Yard, Wilton-road, Pimlico ate C. Moore and Son, and Great Smith-street, Westminster.

ouildings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor-boards nd Matched Boarding, planed to a parallel breadth and thickness, nd fit for immediate use; also a variety of machine-prepared ouildings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and d Barge Wharf, Upper Ground-street, Blackfriars.

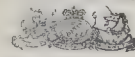
T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickmakers' Arms. SEASONED FLOORING, MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Panels, Oak, and Tar Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at all prices. Very extensive Drying Sheds.

MUIR'S PATENT  PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



TIMBER AND DEAL SAWING AND PLANING MILLS, Belvidere-road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, gratings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In shooting or groving and tongueing a board (although curved), the machine follows the edge, moving no more than the skin of the wood, and by the use of a circular saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness after to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending entirely on the public for moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS by DAVISON and MINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Sawing, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures by gentle removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, apply (free, post paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

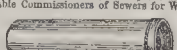
MOIR MATTING.—This article is found to be preferable to any other for Churches, Railway Stations, Gentlemen's Halls, &c. It is supplied wholesale only, at REDDEL and Co.'s, 3, Billiter-street, at trade price.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS. A certain preventive of leakage, superseding the use of the metal pipe tap which is so continually out of order. They are more durable, less noisy, and being nearly fitting, are quite dust closed with effect ease. They have been tested under various pressures, and have given the greatest satisfaction. Manufactured only by the patentees, THOMAS LAMBERT and SON, Brass and Cock Finishers, 39, New Cut, Blackfriars-road.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELF ACTING EFFLUVIA TRAP,
For Sewers and Drains of all kinds.
Registered January 5th, 1848.

A CHEAP, durable, and most effectual means of preventing the escape of noxious vapours, it is strictly self acting and self cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.
The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and COPPE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth; at Albion Wharf, Pond street, Blackfriars; Kingsland Basin, Kingsland-road; and Lime Kilns, Limehouse. Patronized by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.		
6-inch.	9-inch.	12-inch bore.
1s. 6d.	2s. 3d.	3s. 8d. each.

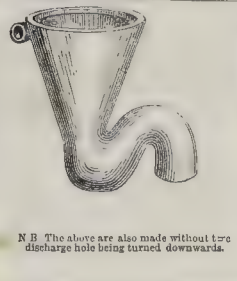
Bends and Junctions equally low.
The following unsolicited Testimonial is respectfully submitted.
Sewers' Office, 1, Greek-street, Soho, July 30, 1847.
Mr. ———
DEAR SIR,—Should you at any time be in want of Stone-ware drain-pipes, I take the liberty of recommending you to purchase those of Mr. Wm. Northen, Stone Potter, Vauxhall-walk, Lambeth. I have used some hundreds of his Pipes, and have found them to be made of the best material and workmanship. As such, therefore, I beg to recommend them.—I am, dear Sir, yours truly,
JOHN PHILLIPS, Surveyor.



H. MORRELL'S FINE PREPARED DRAWING PENCILS.—Under the patronage of her Majesty's Stationery Office, the Honourable Board of Ordnance, and the Honourable East-India Company.
The attention of Artists and the Public generally is respectfully solicited to these BLACK LEAD PENCILS, which are prepared perfectly free from grit, of great variety of shade, and possess all the requisites for the most highly-finished drawings.
Sold both loose at the Manufactory, No. 106, Fleet-street, London, and may be had retail of all the principal Books and Stationers in Town and Country.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.



N.B. The above are also made without the discharge hole being turned downwards.

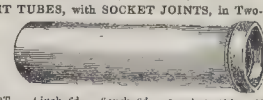
CHEAP PAN FOR WATER-CLOSETS,
With Trap in One or Two Pieces.

DOULTON AND WATTS,
LAMBETH POTTERY,
HIGH-STREET, LAMBETH,
LONDON,
Manufacturers of the annexed in superior
GLAZED STONE WARE,
Price 7s. 6d. each.

They are of the most durable ware, and are recommended in preference to iron, on account of their
CLEANLINESS AND CHEAPNESS.

Delivered in London or its vicinity free of charge.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS,
HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-Feet Lengths.



3 inch bore, 5d PER FOOT. 4-inch, 6d 6-inch, 8d 9-inch, 1s. 1d 12-inch, 1s. 10d. 15-inch, 3s.
BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Roe and Phillips, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains, and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, they cannot be a better article
I am, Dear Sir, yours truly,
Mr. H. Doulton JOHN PHILLIPS

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.



NOTT'S PATENT STOVE,
FOR
CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietor are enabled to offer these excellent Stoves at
THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.
Engravings of the Patterns, with
THE REDUCED PRICES,
will be forwarded on application to the Warehouse,
80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B.—Hot-water Pipes can be attached to the Stoves for warming distant apartments Conservatories, &c.

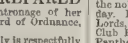
TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers" at the undermentioned VERY LOW PRICES for CASH."

Parcel 1	1,1845	Plates,	4	inches wide, from 6 to 70	inches long, about 550	feet superficial, at	8d per
Parcel 2	1,1845	..	4	.. 6 „ 70	550	..	8d. ..
Parcel 3	2,370	..	5	.. 6 „ 70	700	..	9d. ..
Parcel 4	1120	..	7	.. 7 „ 70	1200	..	11d. ..
Parcel 5	1264	..	8	.. 8 „ 53	1100	..	12d. ..
Parcel 6	886	..	9	.. 8 „ 61	1090	..	14d. ..
Parcel 7	799	..	10	.. 10 „ 60	1000	..	14d. ..
Parcel 8	800	..	11	.. 11 „ 40	1390	..	15d. ..
Parcel 9	860	..	12	.. 12 „ 60	1360	..	16d. ..
Parcel 10	660	..	13	.. 13 „ 30	1106	..	16½d. ..
Parcel 11	456	..	14	.. 14 „ 30	900	..	18d. ..
Parcel 12	450	..	15	.. 15 „ 30	1000	..	19d. ..
Parcel 14	260	..	16	.. 16 „ 40	1000	..	21d. ..
Parcel 14	360	..	17	.. 17 „ 30	1100	..	22d. ..
Parcel 15	360	..	18	.. 18 „ 50	1000	..	24d. ..
Parcel 16	240	..	19	.. 19 „ 50			
..	200	..	20	.. 20 „ 40	800	..	27d. ..
..	159	..	21	.. 21 „ 50			

The Plates measure above the sizes charged the fractional parts of the inch, both in length and width, upon each Glass being allowed. One Case a strictly correct Average sample may be seen at the Company's Warehouse, 12 Rathbone-place.
The Parcels will be carefully packed by the Company's Warehousemen, deliverable at the WORKS, SUTTON, near ST. HELEN'S. Cases allowed for when returned.
The Company not accountable for breakage.
By order of the Board,
LONDON: WAREHOUSE, 12, RATHBONE-PLACE. J. L. GRUNDY, Company's Agent.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and only Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by

Her Majesty's Woods and Forests,	Honourable Board of Ordnance,
Her Majesty's Commissioners of Customs,	Her Majesty's Estate, Isle of Wight,
Honourable East India Company,	Royal Botanical Gardens, Regent's Park.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL-ROW, LONDON.
Roofs covered with the felt to be seen at the Factory, also the new Vice Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

FREEHOLD BUILDING LAND to LET, in the immediate Neighbourhood of the REGENT'S PARK, and next to the Site on which a Church is about to be built.—Apply to Mr. LITTLE, 36, Northumberland-street, New-road, London.

BUILDING GROUND FOR SMALL, THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required. For Plans and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, 1, Iseware road.

ORPHAN WORKING SCHOOL, CITY ROAD.

TO be LET for BUILDING PURPOSES, a valuable PLOT of GROUND, land tax redeemed, known as the site of the premises recently occupied by the above charity. A plan of the ground and full particulars may be obtained of the Surveyor, JOSEPH JENNINGS, Esq., 14, King-street, Portman-square; or at the office of the Institution, No. 19, Gresham-street, city, or at the office of the Institution, No. 19, Gresham-street, daily, between 10 and 4. Sealed tenders must be forwarded to the office not later than 12 o'clock, at noon, of Wednesday, March 1, 1848. JOSEPH SOUL, Secretary.

February 1, 1848.

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c. -To Builders, Cabinet-makers, Coach painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, early in March (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 12, Dorset place, Dorset square, late in the occupation of Messrs. Austin and Rammell, together with the workshops erected and recently occupied by them, and having entrances in New-street mews, with four-stall stable, coach-house, sheds, saw-pit, with the advantage of an abundant supply of spring water; held for upwards of 70 years, at a ground rent. May be viewed by application on the premises.

REMOVED FROM THE PHŒNIX SAW AND PLANING MILLS, Edward-street, Regent's Park.

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Thus, one portion of the work is devoted to the illustration of the Interior Compartments of the different Churches selected—commencing from the earliest, and descending to the latest; another portion to the illustration of the Exterior Compartments; a third to the Transverse Sections; a fourth to the East Ends; two Plates present the profiles of the different Piers; others those of the Capitals and Bases, Arch-Mouldings, Ribs, Windows, Jaunbs, and so on.

The Perspective Views are generally taken from the same points of view, and the details drawn, as far as is practicable, to the same scale.

The whole work therefore comprises, as its title implies, a collection of such Parallels, and contains 121 Lithographic Plates, in Tinted and Outline, each 18 in. by 12 in.

The advantage of thus placing in juxtaposition and in chronological order the same parts of different buildings designed as the Abbey Churches were—for the same purpose, and remaining, as they almost exclusively do, without subsequent alteration or addition, will at once be apparent to those who are interested in the study of Ecclesiastical Architecture.

The First Part was issued April 1st, 1845, and the Twelfth and last Part is now ready for delivery.

PRICE OF THE WORK.

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London: JOHN VAN VOORST, No. 1, Paternoster-row.
January 1st, 1848.

THE Members of the First Society of Carpenters and Joiners, and the Trade in general, are respectfully informed that the Society is REMOVED from the Marquis of Granby to Mr. Thos. Jenkin, Blue Post, corner of Newman street and Oxford street, Oxford Market. Hours of Meeting, every Monday Evening at Seven o'Clock.

GEO. HOOPER, Secretary.

COMPETITION.

LUNATIC ASYLUM.—WANTED a PLAN for a COUNTY LUNATIC ASYLUM for Wiltshire, to accommodate two hundred and fifty patients, and capable of extension. Architects desirous of furnishing the above are requested to forward their Plans to JOHN SWAYNE, Esq., clerk of the peace, Wilton, near Salisbury, on or before the 29th day of February next, sealed and directed to the Chairman of the Visitors of the Wilts Lunatic Asylum.

CONTRACTS.

TO BUILDERS.

BUILDERS desirous of Contracting for DRAINING, by means of Tubular Pipes, Erection of Water Towers, Water Tanks, and other Works at the CARDIFF UNION WORKHOUSE, are requested to send in Sealed Tenders, on or before the 16th February next, addressed to the Chairman of the Drainage Committee, Union Workhouse, Cardiff.—The Plans and Specifications may be seen at the Office of Mr. JOHN PRICHARD, Architect, Landaff.

BRITISH LYING-IN HOSPITAL.

BUILDERS desirous of contracting for the ERECTION of the NEW HOSPITAL in Endell-street, Long acre may see the plans and specification at the Board Room, of the present Hospital, Brownlow-street, Long-acre, from February 14th to March 1st, on which day sealed tenders are to be delivered at the Hospital, endorsed "Tender," and addressed "To the Committee of Management of the British Lying-in Hospital." The lowest tender will not necessarily be accepted. PULLEIN and GINGELL, Architects, 3, College green, Bristol. Feb. 3rd, 1848

PRESBYTERIAN CHURCH IN ENGLAND
TO BUILDERS, &c.

THE Building Committee of the Presbyterian Church, Broad street, Birmingham, are prepared to receive TENDERS for the ERECTION of their NEW CHURCH, to contain 1,000 Sittings.—Plans, specifications, and conditions of contract to be seen, and full particulars obtained, at the office of J. R. BUFFAN, Esq., Architect, 26, Paradise-street, Birmingham, on and after Monday, 21st of February instant.—Sealed tenders, addressed to John Henderson, Esq., Chairman of the Committee, and endorsed "Tenders for New Church," to be sent in to Mr. Holbeach's Office, as above, at or before Twelve o'clock at noon, on Monday, the 6th of March next, at which time the Committee will meet to open the tenders, &c.

N.B. The Committee do not bind themselves to accept the lowest tender. The Committee will not receive or open any tenders delivered later than twelve o'clock at noon, on Monday, the 6th of March next.

BEDFORD STREET, PARISH OF ST. PANCRAS.
TO CONTRACTORS

PERSONS willing to Contract for CLEANSING and WATERING the Streets, and Removing the Dust from 250 houses on the above Estate, for one year, from the 25th of March next, are requested to send in offers for the same, on or before the 29th inst., at which time the Tenders for every information may be obtained, between the hours of 11 and 4 o'clock.—JOHN WOOD, Clerk and Surveyor to the Commissioners, 26, Gordon street, Gordon square.
February 10, 1848.

ACCOUNTS AND ESTIMATES.—Builders and others, whose Accounts may have fallen into arrear or require making up and balancing, may have the same properly effected, on moderate terms, by GEORGE LUCKWOOD and Co., Accountants, 17, Essex-street, Strand.

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	Amount Assured.	Annual Revenue	Accumulated Fund
At 1st March, 1835....	£836,611	£11,364	£34,681
Ditto 1841....	1,486,779	59,256	133,424
Ditto 1847....	2,703,381	96,259	406,563

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£ s d	£ s d	£ s d	£ s d	£ s d	£ s d.	£ s. d.	£ s. d.
1 15 8.	1 18 0	2 1 6	2 6 10	2 14 3	3 5 8	4 1 7	5 1 10

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The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.

Stone for Chimney-pieces, from .... 12s.
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RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

CAEN SUFFERANCE WHARF, ROTHERHITHE

LUARD, BEEDHAM, and Co., beg to inform Architects, Surveyors, Builders, and others, that they continue to carry on the Caen Stone business, at the above extensive premises, where a large Stock will be kept up by continual arrivals from their quarries at Allemagne Orders received at the wharf, and further particulars may be obtained of Mr. GEORGE GATES, 18, Southwark-square, Borough, London.

Orders shipped direct from the Quarries. Enamelled Slate Chimney pieces, Slabs, Marble Tablets, Baths, Fonts, &c &c

Address, Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place.

WELSH SLATE SLABS of the Finest Description, and planed both faces, supplied to the Trade at the same prices that rough self-faced Slabs are being sold at the principal Slate Wharfs in town. A large discount is also allowed, or, in lieu of discount, parties ordering for cash and upwards may, if they prefer it, have the Slabs delivered, carriage free, to any canal or railway point within fifty miles of London.

N.B Whole cargoes direct from the Quarries. Enamelled Slate Chimney pieces, Slabs, Marble Tablets, Baths, Fonts, &c &c

Address, Mr. MAGNUS, Pimlico Slate Works, Upper Belgrave-place.

CAEN STONE, of the last summer workings, from the most approved beds.

The importance attached to having this stone in a seasoned state, for buildings proceeding early in the spring, has induced Messrs. W and J FIREMAN to secure several years past to provide a considerable stock previous to the termination of each quarrying season.

They still have in stock at their Sufferance Wharf, Deptford, about 25,000 cubic feet in blocks of large dimensions, exclusively supplied by M. JOBERT with the strictest regard to quality, to which the attention of architects and contractors is invited. Apply on the premises, Grove-street, Deptford, or at 27, Mill bank-street, Westminster

TRUSTONE.—Noblemen, Gentlemen, Engineers, Architects, Builders, Stone-Masons, Grave-stone-cutters, and others, are again respectfully reminded of the CASTERTON TRUSTONE. This admirable Stone, a perfect oolite, is found in beds of 3 and 4 feet in thickness, of very beautiful and uniform colour and texture, and resists the effects of intense frost. It has been used by many of the most eminent architects in the kingdom, for the building and restoring of churches, and other public buildings, in its locality, and in all the stations from Wellingborough to Peterborough, on the Blisworth and Peterborough line of Railway. Its comparatively low price, and the facility with which it is wrought, present great advantages. The quarry is situate in the parish of Little Casterton, in the county of Rutland, about one mile from Stamford and its Railway, and the river Willand, about seven miles from the river Nene, at Wansford, and the Blisworth and Peterborough Railway, and ten from the Bourn Eau.—For further particulars and price apply to FRANCIS SIMPSON and SONS, Stamford.

February, 1848

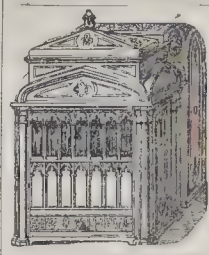
GREASE! GREASE! GREASE!—To Railway Contractors, Colliery Owners, and the Public.—JAMES THOMAS FITT begs to inform his friends that he is enabled to again reduce the price of Anti-friction Grease, the best quality, to 10l. per ton. Samples may be had by applying to J. T. FITT, Swan Mead, Bermondsey New-road, London.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 70, York Road, Lambeth, and at 28, Cross Street, Blackfriars Road.

STEPHENS'S PROCESS for DYEING or STAINING WOOD, as a substitute for Paint. The natural grain of wood is imitated by art, but the most successful imitation has a sameness of appearance when compared with the continual variety which different woods present in their natural grain. To give an ornamental colour to the wood without obscuring the grain is the object of this process, which surpasses paint in appearance, while at the same time it is so economical that the whole interior of a house, which would take a month or six weeks to paint in the usual manner, may be finished in one week by the process above named, and be more pleasing when finished. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 16s. per gallon. The oak or mahogany obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.—N. B. The Trade supplied.

Sold also at the office of "The Builder," 2, York-street, Covent Garden, London.

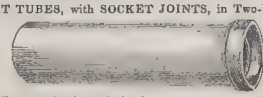


NOTT'S PATENT STOVE,
FOR
CHURCHES, HALLS, WAREHOUSES, &c.

THE PATENT having expired, the present Proprietor are enabled to offer these excellent Stoves at
THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.
Engravings of the Patterns, with
THE REDUCED PRICES,
will be forwarded on application to the Warehouse,
80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B Hot-water Pipes can be attached to the Stoves for warming distant apartments Conservatories, &c.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, with SOCKET JOINTS, in Two-Feet Lengths.



3 inch bore, 5d. PER FOOT. 4-inch, 6d. 6-inch, 8d 9-inch, 1s. 1d. 12-inch, 1s. 10d. 15-inch, 3s
BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Roe and Phillips, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

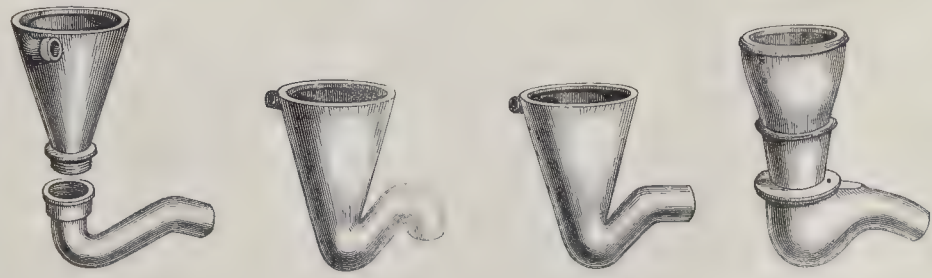
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

LAMBETH POTTERY.

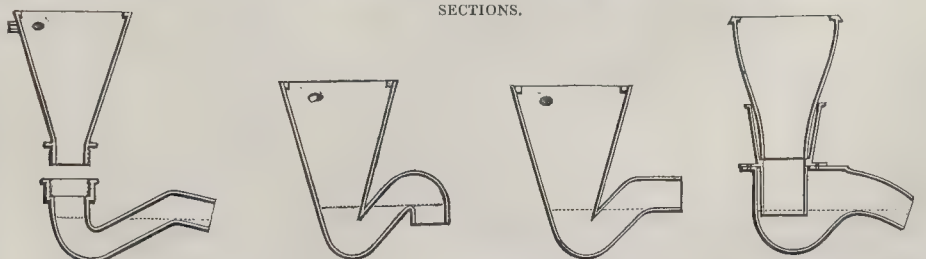
DOULTON AND WATTS, STONE POTTERS,
HIGH-STREET, LAMBETH, LONDON,

MANUFACTURERS OF CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE-WARE,
PRICE 7s. 6d. EACH.

No. 1. No. 2. No. 3. No. 4.



SECTIONS.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, to *every house*, is so fully established by the late Parliamentary enquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction: they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4, is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

TO BUILDERS, &c.

TO be SOLD, the Lease and Goodwill of one of the most convenient and respectable Concerns in London. Coming in about £60. This would suit any young man commencing in the above business, as he will be enabled to have good workshops and dwelling rent free.—Mr. J. SMITH, Auctioneer and Valuer, 12, Lamb's Conduit-street.

FREEHOLD LAND FOR BUILDING, NEAR THE RAILWAY STATION, AT STRATFORD, ESSEX.

TO BE SOLD, upon favourable terms, in consequence of the ill-health of the proprietor, about 13 acres of very valuable FREEHOLD LAND, together with some buildings, bricks, &c. It is tithe-free, and land-tax redeemed. Gravel of a superior description forms the sub-soil to a great depth. Excellent water and forest rights. Half the purchase money may remain at 4 per cent. To the capitalist, builder, &c., this presents an opportunity deserving attention, as houses are in great demand, owing to the easy and cheap transit by rail. Apply to Messrs. BECKWITH and SALMON, land agents, 23, Bucklersbury.

ROEHAMPTON, SURREY. ELM AND OTHER TIMBER FOR SALE BY TENDER

TO BE SOLD by TENDER, in lots, with the top and lop, 171 ELM TREES, together with about 175 other Timber Trees of various sizes, comprising Oak, Willow, Chestnut, Beech, Lime, &c., now growing on the Roehampton Park Estate, within about one mile of the Barnes Station on the London and Richmond Railway, and within a short distance of the river Thames, and about seven miles from London. Most of the Elm is of very large dimensions and of excellent quality. The estate abjoins good roads.—Particulars and conditions of sale to be had of Messrs. ROBERT and JOHN CLUTTON, 8, Whitehall place, London, and Hartswood, Reigate; and of Mr. LAX, at the gardens in Roehampton-park, who will show the timber. Tenders will be received at Messrs. CLUTTONS' Offices, 8, Whitehall place, on or before the 12th February, 1848.

ST PANCRAS VESTRY ROOMS, Gordon-street, Gordon-square, held under the Duke of Bedford for a long term, at a ground rent, with possession.

TO BE SOLD, by Private Contract, a valuable long Leasehold ESTATE, consisting of extensive premises, known as the late St. Pancras Vestry Rooms, situate in Gordon-square, late Gordon-square. The premises are most substantially built, and have a frontage to Gordon-street, and comprise a spacious Board-room, 47ft. by 24, with sitting rooms, Surveyors' and Clerks' offices, ante-rooms, housekeeper's apartments, fire-proof room, &c., and are peculiarly adapted for a County Court, Institution, Chapel, or for any purpose requiring large and well-arranged rooms and offices. Held for an unexpired term of 76 years, at a ground rent. The possession will be given.—For particulars apply to Mr. SAMUEL HEATH, Jun., Solicitor, 7 Churchcourt, Clements-lane, and at the New Vestry-room, Pancras-road.

By order of the Vestry, JOHN MCAHEY, Vestry Clerk.
December 1, 1847

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c To Builders, Cabinet makers, Coach-painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, early in March (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 12, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Hammell, together with the well-arranged and roomy workshops at the rear, and having entrances in New-street mews, with four-stall stable, coach-house, &c., and with the advantage of an abundant supply of spring water; held for upwards of 70 years, at a low rent, and may be viewed by application on the premises.

5,000 PIECES OF PAPER HANGINGS, AND SMALL STOCK OF ENAMELLED SLATE CHIMNEY-PIECES.

MR. BRAY, Jun. will SELL, at his Rooms, 289, High Holborn, on WEDNESDAY, February 16, at Twelve, upwards of 5,000 PIECES OF PAPER-HANGINGS, comprising elegant flocks, on satin and crimson grounds, dining-room satins, Elizabethan and Bouquet, Parlour and Bedroom Papers, including shaded and plain, trellis and bouquet; Hall and Staircase, in Gothics, grounds, oaks, painted and hand marble, scagliola, &c.; also some highly-polished enamelled slate Chimneypieces, and about seven gallons Gold Size. May be viewed, and Catalogues had at the Rooms, as above

ENFIELD, MIDDLESEX.—OAK, ASH, AND ELM TIMBER AND POLLARDS.—By

MESSRS. COBB, at the King's Head Inn, Enfield, on TUESDAY, February 22nd, at Twelve for One o'clock punctually, 160 OAK, ELM, AND ASH TIMBER TREES, standing in Old Park Farm, and Mrs. Swaine's and Mr. Slade's Farms; together with several lots of Oak Pollards, and 3 Oak Trees, felled and lying on the side of the road from Enfield to Barnet, near Mr. Nott's land, on the estate of the Rev. J. H. CLAYTON. Also, about 45 Oak Trees, on the estate of J. R. RIDDELL, Esq., lying in the fields near Byculiah House, Enfield.

The Trees are chiefly of large dimensions and good quality. They lie very conveniently within a short distance of the town of Enfield and the Eastern Counties Railway, and ten miles only from London.

Catalogues may be had one week before the sale, at the place of sale; the principal Inns at Barnet, Tottenham, Southgate, &c., and further information may be obtained in the meantime of Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's Inn-fields, London

MORTLAKE, SURREY. – Builder's and Undertaker's Stock, Implements of Trade, &c., by direction of the Administratrix

MR. GOMME will SELL by AUCTION, on TUESDAY next, the 15th of February, at Eleven for Twelve precisely, on the premises, near the George, High-street, Mortlake, all the Stock, Implements of Trade, of the late Charles Kishere, deceased, comprising oak and fir timber, oak and fir quartering, and posts, and deals, and battens of various thicknesses, prepared boarding, fir quarter and inch elm board, walnut-tree and sycamore planks; glazed and unglazed sashe and frames, in inch and 1½ inch moulded and other doors, framing, glazed shop fronts and shutters; timber trucks, ladders, screw jacks; a quantity of useful ironmongery in nails, screws, hinges, and bolts, brass work, mourners; two velvet palls, mourners' cloak, eight-day clock, and a few lots of furniture, brewing utensils, stone and loose materials.—To be viewed Monday and Morning of Sale. Catalogues on the premises; at the Black Horse, 409, Oxford-street; and of the Auctioneer, Hammersmith

TO BUILDERS AND OTHERS.—BANKRUPT'S STOCK

LENGLAND will SELL by AUCTION, on the premises, Caledonian-road, King's Cross, Islington, on TUESDAY, February 15, at 12 for 1 o'clock, the first portion of the STOCK in trade of Richard Langworth, a bankrupt, consisting of a quantity of good sound Stock and other Bricks, Tiles, capital planks and deals, and a quantity of new Scantling, of various dimensions. Also a very powerful 8-horse-power steam and other stone, a patent sawing machine, sundry prepared work, two lodging carts. An extensive quantity of scaffolding of various descriptions, and sundry effects. By order of the Assignee. May be viewed and catalogues had on the premises, and of the Auctioneer, Caledonian-road, and 1 Shepperton-street, Islington

IN BANKRUPTCY. To Engineers, Millwrights, Exporters to the Colonies, Planthrokers, and others.

MR. C. TURBER is instructed by the Assignees to offer by public COMPETITION, on the Premises adjoining the Southwark Literary Institution, Borough-road, Southwark, on TUESDAY, February 22, at 11 for 12, the valuable STOCK-IN-TRADE of an ENGINEER and MACHINIST; comprising a powerful cast-iron saw-mill for sawing logs of timber with sliding deal apparatus, portable cast-iron saw-mill with necessary apparatus, a superior 20-horse-power new wrought-iron cylindrical high-pressure boiler with cones, ends, an improved circular table mill for steam or hand power, large cast-iron drums, lengths of wrought-iron shafting, grilling machine, seven cwt. of gun-iron, two very excellent cast-iron circular saw tables with all the recent improvements, plunger pumps, about one ton of mill castings, sets of cast-steel circular and vertical saws, six-inch drilling machines, blocks and falls, a large assortment of tools, powerful crane, three match blocks, four chocolate pans, sundry Cornishes, useful iron, and numerous effects. May be viewed. Assignee's, Guildhall chambers, Basinghall-street; of E. ISAACS, Esq., solicitor to the flat, Jeffreys-square, St. Mary-axe; and at the Auctioneer's Offices, Warwick-court, Gray's-inn.

SMALL WHARF TO BE LET, very suitable for a Slate Merchant, Cement, or Brick Merchant, or any other trade connected with Building. Apply to Mr. HICKS, Builder, Palace-road, Lambeth.

TO BE DISPOSED OF, FOUR and SIX-ROOMED CARCASES. The Purchase-money allowed to remain until the Lease is prepared, near the Canal on Station of the North-Western Railway. Apply, Mr. LAWFORD, 15, New road, near Gower-street

TO IRON-FOUNDERS, ENGINEERS, &c.

TO BE DISPOSED OF, upon advantageous terms, the Lease, Plant, and Goodwill of an Iron Foundry in full work.—For particulars apply to Messrs. GRAHAM and SONS, Iron Merchants, Dog-lane, Upper Thames-street; or Mr. Rd. MORELAND, 149, Old-street.

FREEHOLD BUILDING LAND to LET, in the immediate Neighbourhood of the REGENT'S PARK, and next to the Site on which a Church is about to be built.—Apply to Mr. LITTLE, 36, Northumberland-street, New road, London.

TO SMALL CAPITALISTS AND BUILDERS.—BATTERSEA, ADJOINING THE NEW PARK.

FREEHOLD GROUND TO BE LET, in Small Plots, at a very low Ground Rent. Houses of a Small Class readily let in this rapidly increasing Neighbourhood. Boats running to and hourly from Battersea every ten minutes. Credit given for Bricks on the Field.—Inquire of Mr. HENRY BROWN, Hungerford Pastmarket.

ELIGIBLE PLOTS of BUILDING LAND.—Builders can have their attention directed to some very capital plots of Building Land, to be LET on Building Leases, at very favourable ground rents, and in situations where a want of Houses exist, by applying to Messrs. BECKWITH and SALMON, Law Agents, 23, Bucklersbury.

BUILDING GROUND FOR SMALL THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required.—For Plans and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, Edgware-road.

TO BUILDERS AND CAPITALISTS.

TO be LET or SOLD, nearly Two Acres of very valuable FREEHOLD BUILDING GROUND, in Battersea High-road, near the Bridge, and opposite the entrance to the new Park; it has a frontage to the road of upwards of 450 feet, with a depth averaging nearly 200 feet, presenting a most opportunity for business or investment. Inquire of Mr. MALLCOTT, Brickfield, opposite.

ORPHAN WORKING SCHOOL, CITY ROAD.

TO be LET for BUILDING PURPOSES, a valuable PLOT of GROUND, land tax redeemed, known as the site of the premises recently occupied by the above charity. A plan of the ground and full particulars may be obtained of the Surveyor, JOSEPH JENNINGS, Esq., 14, King-street, Portman-square, or at the office of the Institution, No. 34, Gresham street, daily, between 11 and 4. Sealed tenders must be forwarded to the office not later than 12 o'clock at noon, on Wednesday, March 1, 1848. JOSEPH SOUL, Secretary.

February 1, 1848.

TO BUILDERS AND OTHERS

TO BE SOLD for £140, a good SIX-ROOMED HOUSE, with good WORKSHOP and SHED, with above 100 feet by 12 of Ground adjoining. Rent £20. Let at £30 a-year; forty years of Lease unexpired.—For further particulars apply at 49, Ashford-street, Hoxton.

GENERAL PRACTICAL SCHOOL OF ART, at the New Gallery, 79, Newman-street, Oxford-street; Mr. J. M. LEIGH, Master. The above School is now open of a Morning, with Classes for Ladies, and of an evening for Gentlemen. Prospectuses, &c., may be obtained at the Gallery; and of Mr. R. W. HERMAN, Hon. Sec., 58, Green street Grosvenor square

TO ARCHITECTS, ENGINEERS, AND OTHERS.

MR. CHARLES D. LAING, Draughtsman and Engraver to "THE BUILDER," and other Periodicals, invites the attention of Gentlemen about to publish Architectural or Scientific Works, to the facilities he possesses for the execution of WOOD ENGRAVINGS for Works of the above-mentioned Class. Specimens of Elevations, Plans, Sections, Diagrams, &c. &c.—many of them being the most elaborate in detail ever executed on Wood—may be seen on application, personally or by letter, to Mr. CHARLES D. LAING, No. 5, Upper Smithstreet, Clerkenwell.

MR. I. S. H. HEAVISIDE, Architectural Engraver on Wood, 125, High-street, Oxford, begs to inform Publishers of Architectural Works, that since his separation from his late Partner, he has greatly reduced his prices for Architectural Illustrations.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, are published with Descriptions, &c. Buildings, Portraits, and Views of every description, Lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services to Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner. Address, Mr. BOYS, 81, Great Titchfield street, Oxford-street

BUILDERS' BENEVOLENT INSTI-TUTION, Freemasons' Tavern, Great Queen-street, Lincoln's-inn Fields, for the Benefit of Deserved Masters; and also to afford Relief in case of Accident to their Workmen.

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The Managing Committee have great pleasure in announcing that this Charity is progressing most satisfactorily, the support they have already received is far beyond their expectations; still it requires the united aid of the various branches of the Building Trade to carry out this laudable and philanthropic undertaking, so as to enable the Committee to commence granting relief at an early period, which appeal, they trust, will be responded to with energy and zeal.

Subscriptions will be thankfully received by the Treasurer, the Bankers, and the Collectors.

The Rules and Regulations will be sent on application, and a List of the Patrons of the Institution will shortly be printed.

Offices, Poland House, Broad-street, Golden-square, where all communications are requested to be sent.—Attendance, Mondays and Thursdays, from 10 to 4 o'clock.

SURVEYING, ARCHITECTURAL, and ENGINEERING OFFICES, 24, Guilford-street, Russell-square, London, for Preparing, Training, and thoroughly Qualifying the Pupil, in the most practical and scientific manner, for Surveyors, Builders, Engineers, Architects, Builders, Draughtsmen, Measurers and Valuers of land, timber, buildings, townships, &c., and for giving practical instruction, on the New System, in every branch of the profession. Conducted by Messrs. HYDE, SMITH, and LEWIS, Civil Engineers, Architects, Surveyors, &c., of extensive practice. Terms, till perfect, very moderate. Pupils, on completing the course, may be introduced to employment. – For Prospectuses, &c., apply at the Offices.

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JENNING'S SHOP SHUTTER SHOES and FASTENERS can now be had in Malleable Iron at 3s. per Shutter, or, if preferred, in Brass, as heretofore, at 5s. per Shutter Apply to the Inventor at 2½, Great Charlotte-street, Blackfriars-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, RIDGMOUNT-STREET, and 121, CHICHESTER LANE. Patent sealed on the 5th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of a New Method of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Lathes with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of Large Establishments, and Noblemen, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of any wheel worm and screw gear, or any other complicated machinery employed by other makers.

PORTER'S CORRUGATED and PA-TENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual.—The Trade supplied.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c. Cast-iron Water Pipes from 14 inch to 12 in. in diameter, with Heads, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes are made to stand hot liquor and gas without injury; and as they do not become stiff in the coldest temperatures, or crack by application to the cold of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot-water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

ARTESIAN WELLS, BORING TOOLS, PUMPS, &c. Engineers, Architects, Surveyors, Builders, or others requiring a supply of WATER, may have any quantity procured by applying to W. SPELLER, 14, York-street, Blackfriars-road, London; where can be had any quantity of Tools for Sinking or Boring Wells from 6 to 30 inches diameter, and from 100 to 2,000 feet depth; also, Men and Tools to Bore for Railroads, Minerals, &c., in any part of the world. Boring Tools and suitable Pipes for Exportation, with full instructions for their use.

Builders, Contractors, Brickmakers, Barge and Ship Builders, and others, can be supplied with Wrought or Cast-iron Pumps, Double or Single, for Excavation or Deep Wells, from three to twelve inches in the bore, and from 6 to 130 feet in length.

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TO ARCHITECTS.

NOTICE IS HEREBY GIVEN, that the Trustees appointed by SIR JOHN SOANE will meet at the Museum, No. 13, Lincoln's-Inn-fields, on Friday, the 24th of March, at Three o'clock in the afternoon precisely, to distribute the Dividends which shall have accrued during the preceding year from the sum of 5,000*l.* reduced 3 per cent. Bank Annuities, invested by the late Sir John Soane, among distressed Architects, and the Widows and Children of deceased Architects left in destitute or distressed circumstances.

Forms of application may be had at the Museum, and must be filled up and delivered there on or before Thursday, the 16th of March, after which day no application can be received.

CONTRACTS.

BRITISH LYING-INN HOSPITAL.

BUILDERS desirous of contracting for the ERECTION of the NEW HOSPITAL in Eldell street, Long-acre, may see the plans and specification at the Board Room, of the present Hospital, Brownlow-street, Long-acre, from February 14th to March 1st, on which day sealed tenders are to be delivered at the Hospital, endorsed "Tender," and addressed "To the Committee of Management of the British Lying-in Hospital." The lowest tender will not necessarily be accepted. FULLER and GINGELL, Architects, 3, College-green, Bristol, Feb. 3rd, 1848

PRESBYTERIAN CHURCH IN ENGLAND.
TO BUILDERS, &c.

THE Building Committee of the Presbyterian Church, Broad-street, Birmingham, are prepared to receive TENDERS for the ERECTION of their NEW CHURCH, to contain 1,000 Sittings.—Plans, specifications, and conditions of contract to be seen, and full particulars obtained, at the office of J. R. BOTHAM, Esq., Architect, 47, Paradise-street, Birmingham, on and after Monday, 21st of February instant.—Sealed tenders, addressed to John Henderson, Esq., Chairman of the Committee, and endorsed "Tenders for New Church," to be sent in to Mr. Botham's Office, as above, at or before Twelve o'clock at noon, on Monday, the 6th of March next, at which time the Committee will meet to open the tenders, &c.

N.B. The Committee do not bind themselves to accept the lowest tender. The Committee will not receive or open any tenders delivered later than twelve o'clock at noon, on Monday, the 6th of March next.

LINSLADE NEW CHURCH AND SCHOOLS.—TENDERS FOR BUILDING.

THE Committee are ready to receive TENDERS for BUILDING the CHURCH and SCHOOLS, near the Leighton Station, in the parish of Linslade. The plans and specifications may be seen by application to J. YOUNG, Book and Music Seller, Leighton Buzzard, to whom sealed Tenders, directed "To the Linslade Church and School Committee," must be delivered on or before Tuesday, 7th of March.—The Committee do not bind themselves to accept the lowest Tender, nor any if not approved.

By order of the Committee,
P. T. OUVRY (Perpetual Curate of Linslade), Secretary.
February 5th, 1848.

TO IRONFOUNDERS AND OTHERS.

THE Commissioners of Baths, &c., for the parish of Saint Martin-in-the-Fields, Westminster, hereby GIVE NOTICE, that they will be prepared on MONDAY, the 6th of March next, to RECEIVE TENDERS for PIPES, and Fittings connected with the Baths now building in Orange-street, Leicester-square. The drawings and specifications may be seen at the offices of P. PRICHARD BALY, Esq., Civil Engineer, 14, Buckingham-street, Adelphi, on any week day, from 10 a.m. until 4 p.m., from the 28th inst. to the 4th of March following, both days inclusive. The Tenders are to be delivered, sealed, addressed "To the Commissioners of Baths, &c.," 44, Castle-street, Leicester-square, London, on or before 12 o'clock at noon of Monday the 6th day of March next. The party whose Tender is accepted will be required, with two approved Sureties, to enter into such bond or securities as may be prepared by the Solicitor of the Commissioners, at the expense of such Contractor. The Commissioners do not pledge themselves to accept the lowest Tender.—11th February, 1848. By order of the Commissioners,

P. H. LE BRETON, Solicitor to the Board.

ST. PANCRAS, MIDDLESEX.

TO ARCHITECTS.—The Committee of Vestrymen of the said Parish appointed to carry into effect the ENLARGEMENT of ST. PANCRAS WORKHOUSE and INFIRMARY, are desirous of receiving Plans and Estimates for erecting an additional Building for the accommodation of upwards of 700 Male Adults.—For Particulars, apply at the Vestry-rooms, Pancras-road, between the hours of Nine and Six. The Plans, with Architect's Estimate, each distinguished by a cipher, referred to in a sealed letter, to accompany the Plans, and containing the Name of the Candidate, must be sent to the Vestry Rooms, Pancras-road, addressed to the Vestry Clerk, on or before the 30th day of March next. The Architect whose Plan shall be approved, if not employed, will receive a Premium of £30. The accepted Plans and Estimate are to be the Property of the Vestrymen of the said Parish.—By order of the Committee of Vestry,

JOHN M'GAHEY, Vestry Clerk.

Vestry-Rooms, Pancras-road,
February, 16, 1848.

TO BRICKMAKERS.

MIDDLESEX ADDITIONAL LUNATIC ASYLUM. The Committee of Visitors appointed to superintend the Erection of the ADDITIONAL COUNTY PAUPER LUNATIC ASYLUM at Colney Hatch, are prepared to receive TENDERS for the SUPPLY of Good and Sound BRICKS, to be made on their land at Colney Hatch, of a quality to be approved by their Architect: the Contractor being at liberty to use the earth on the estate, and the bricks to be paid for on approval and delivery. The quantity wanted will probably amount to Ten Millions. Written offers are to be made before Twelve o'clock on Wednesday, the 23rd day of February, and addressed to Mr. SKAIFE, Sessions House, Clerkenwell, who will supply further particulars, or give any information required; and the parties tendering should attend on the Committee, at the Sessions House, at Two o'clock precisely, on Wednesday next, the 23rd instant.

By order of the Committee
Sessions House, Clerkenwell-green, JOHN S. SKAIFE, Clerk.
February 16, 1848.

TO BUILDERS.

NOTICE IS HEREBY GIVEN, that the Trustees of St. Bartholomew's Charity in Newbury are desirous of receiving TENDERS from persons who may be willing to contract to TAKE DOWN THE OLD HOUSE, situate in the Kitchen, in Newbury, and to erect on the site thereof a NEW HOUSE, and also a SCHOOL-ROOM adjacent thereto.

Plans and Specifications for the same respectively are now deposited at my Office, and may be inspected at any time between the hours of Ten and Two from the 14th to the 28th of February instant, on which latter day, by Twelve o'clock at noon, the Tenders must be delivered at my office, sealed up.

The Contractor will be required to give security for the performance of his Contract in a good workmanlike manner to the satisfaction of the Surveyor of the said Trustees.

ROBERT BAKER, Secretary to the Trustees.
Newbury, 8th February, 1848

TO BUILDERS AND OTHERS.

THE Trustees of the Poor of the Parish of St. Leonard, Shoreditch, Middlesex, will meet in the Vestry Room, Shoreditch Church, on THURSDAY, the 24th day of February, 1848, at Six o'clock in the Evening, to receive Tenders and Contract for the ERECTION and COMPLETION of certain WARDS and BUILDINGS at the back of and adjacent to the Workhouse of that Parish. The particulars and quantities can be had on application to Mr. TRESS, Surveyor, Wilson-street, Finsbury, at whose office the plans and specifications may be seen. The tenders to be sealed and delivered at my office, at the Workhouse, Kingsland Road, before Three o'clock in the afternoon of the day of meeting. The Trustees do not pledge themselves to accept the lowest, or any one of the tenders.

By order of the Board
JOHN WARE, Clerk to the Trustees.
Feb. 1848.

TO BUILDERS.—CITY OF LONDON WORKHOUSE.

THE Guardians of the Poor are ready to receive TENDERS for the BUILDING of their proposed WORKHOUSE, according to the plans and specifications of Mr. RICHARD TRESS, Architect, of Little St. Thomas the Apostle, to whom are referred all persons who are desirous of competing for the same. The Guardians do not bind themselves to accept the lowest Tender, but will secure the party whose Tender shall be accepted to enter into a contract for completing the Works, and the usual bond, with sureties, for the due performance of such contract. —All tenders to be sealed and endorsed "Tender for Workhouse," and sent under cover to me, on or before Monday, the 13th March next.—The drawings may be seen at the office of Mr. Tress, any day on and after Thursday, the 17th instant.

JOHN THOMAS ROWSELL, Clerk to the Union.
Union-offices, 35, Cannon-street, February 11, 1848.

HOUSES TO BE LET.—DYERS' BUILDINGS, HOLBORN.

THE Committee of the Worshipful Company of Dyers HEREBY GIVE NOTICE, that they will meet on TUESDAY the 29th day of February, at 12 o'clock at noon precisely, at Dyers' Hall, College-street, Dowgate-hill, London, to receive TENDERS in WRITING for LETTING on LEASE, for twenty-one years from the 25th day of MARCH next, the HOUSES, Nos. 2, 3, and 8, in the above buildings, either separately or together. The draft of the proposed lease, and other terms and conditions, may be known upon application at the Company's Hall, daily (Sundays excepted) between the hours of 10 and 4 o'clock, where orders may be obtained for viewing the premises. Parties tendering must be prepared with references as to their responsibility, and the Committee do not pledge themselves to accept any particular offer. The tenders must be sent in by 11 o'clock in the forenoon of the day of meeting, addressed "Tender for House, No. , Dyers'-buildings, Holborn."

B. C. LUTTLY, Clerk to the Company.
Dyers' Hall, 13th February, 1848.

CONTRACT.—TO SCAVENGERS.

THE Commissioners for carrying into execution an Act of Parliament, passed in the 47th year of the reign of King George III., will meet at the Town-hall, in Williamstreet, Woolwich, on TUESDAY, the 29th February instant, at seven o'clock in the evening, to RECEIVE TENDERS, in writing, sealed up, from such person or persons as may be willing to contract for CLEANSING the town and parish of Woolwich, in the county of Kent, for a period of 12 months from 1st April next. The Contractor will be required to sweep the channels in all the public thoroughfares, lanes, and open passages and places excepting Hill-street to the gates of the Royal Arsenal—George-street, Albion-road, Ann-street, John-street, and Hardin-street) once in every week, and keep them thoroughly cleansed; also to scrape or otherwise cleanse all the public thoroughfares, lanes, and open passages and places (except as above stated) from time to time, when and as often as the same may be ordered and required to be done by the said Commissioners to carry away, or cause to be carried away (within 24 hours) as well the said sweepings and scrapings, as also the soil from the several public cesspools, which the Contractor will have to empty as often as occasion may be require, by order of the said Commissioners, at his own expense, such sweepings and scrapings not to be deposited within the boundary of the parish of Woolwich; all the work to be done to the satisfaction of the Commissioners, and in case complaint be made to them by their foreman of the roads, or any of the parishioners, touching any neglect in the execution of such contract, the Contractor to be amenable for any expenses that may be incurred on account of such neglect during the term of his contract. Payments to be made monthly; to commence on 1st of June, 1848. No tender to be received after the time above specified, nor unless it contain the address of the party tendering, with the name and address of one responsible person to become bound, in such sum as the Commissioners may deem necessary, for the due performance of the contract, the expenses of which, and the Bond, to be equally borne by the said Commissioners and Contractor.

By order of the Commissioners,
EDWARD SARGENT, Clerk.
1, George-street, Woolwich, Feb. 11, 1848.

GUILDHALL, February 11, 1848.

THE Committee for LETTING the CITY LANDS will meet at Guildhall, on WEDNESDAY, the 8th day of March, 1848, at One o'clock precisely, to receive TENDERS for LETTING on BUILDING LEASES for 80 years, from Lady-day next, a large PLOT of GROUND on the east side of Puddle-dock, on the south side of Upper Thames-street, and on the north side of the river Thames, and also a Piece of ground on the north side of Narrow-street, at the corner of Cross-street, at Ratcliff. Also to receive Tenders for letting on Leases for 21 years, from Lady-day next, a House, 19, on the north side of Broad street-buildings, and also a House, 8, on the north side of Crescent-place, Blackfriars.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

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TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Surveys, Plans, &c., if required. For Plans and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, Edgeware-road.

SPACIOUS WATERSIDE PREMISES

TO BE LET, with immediate possession, CANTERBURY WHARF, along Watson's Bridge, Old Kent Road, including a commodious Dwelling-house and ten large dry arches, also a Landing Wharf and Dock, with traveling crane, &c. Which will be let together or separately, and are particularly adapted for a stone or timber trade of any magnitude. For further particulars and terms, apply to Messrs. AMERSFIELD and HORNE, Auctioneers and Estate Agents, No. 7, Lord Nelson-street, Westminster.

ORPHAN WORKING SCHOOL, CITY ROAD

TO be LET for BUILDING PURPOSES, a valuable PLOT of GROUND, land tax redeemed, known as the Garden, fronting the City-road, partly occupied by the above charity. A plan of the ground and full particulars may be obtained of the Secretary, Joseph Soul, Esq., at the Institution, No. 1, Gresham-street, daily between 10 and 4 o'clock; tenders must be forwarded to the office not later than 11 o'clock on Wednesday, March 1, 1848.

JOSEPH SOUL, Secretary.

February 1, 1848.

KING'S ROAD, CHELSEA

TO BE SOLD, the LEASE of THREE HOUSES in Park-terrace, King's-road, Chelsea. They are underlet to respectable tenants at a low rental. Apply to Mr. GEORGE LOW, Architect, 1, Church-court, Clement's-lane, City.

TO BE DISPOSED OF, with immediate possession, the Lease of an excellent and remunerative BUILDING BUSINESS, situate in a convenient part of Kentish Road, carrying on by a respectable person, and has been established many years. The premises consist of workshop, yard, timber shed, and dwelling, with back entrance to the yard, and is replete with every convenience for the business. The whole is held for a long term at a low rental. Apply to Mr. Hall, builder, Kentish Road, Kentish Town.

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c. To Builders, Cabinet-makers, Speculators, or any Persons in want of Commodious Premises.

MR. H. BIERS will submit by AUCTION, at the Mart, unless an acceptable offer is previously made by private contract, on WEDNESDAY, March 8, at Twelve o'clock precisely, the RESIDENCE, Workshops, and Premises, No. 13, Carlton Villas, Edgeware-road, with the Workshops and Premises adjoining, in the occupation of Messrs. Austin and Rumbelt, together with the Dwelling-houses and workshops at the rear, and having entrances in New-street mews, with four-stall stable, coach-house, and loft over, with the advantage of an abundant supply of spring water, held for upwards of 70 years, at a ground rent.—May be viewed by application on the premises.

REMOVED FROM THE PHŒNIX SAW AND PLANING MILLS, EDWARD-STREET, REGENT'S PARK.

MR. LEREW is directed by the Proprietor to remove and prepare for SALE by Auction, at Llanbedr House, Augustus-street, Hampstead-road, on WEDNESDAY, February 23rd, and following day, at Twelve for One o'clock each day, the whole of the well-seasoned stock, comprising beech, American walnut, tree wood and burrs, planks, deals and battens, cheese-tree boards, dry cut stuff, prepared floor boards, oak posts, scantling, quarter and other pales, timber of various sizes, 1,000 superficial feet of glass, and the usual effects. May be viewed. Catalogues had on the premises; of W. PENNELL, Esq., official assignee, 3, Basinghall-street; of E. ISAACS, Esq., solicitor to the flat, Jeffreys-square, St. Mary-axe: and at the Auctioneer's Offices, Warwick-court, Gray's-inn.

TO CABINET AND FURNISHING IRONMONGERS, Builders, Private Families, Ewers, Lessees, and others.

MR. WILLIAM ELLIS has received instructions from the Assignee of Mr. William P. Barrett, a Bankrupt, to SELL by AUCTION, on the Premises, No. 5, Palestine-road, Shoreditch, on THURSDAY, 24th February, and Twelve following days, the whole of the Stock-in-trade, comprising cupboard locks, mortice and rim locks, a large assortment of screws, mortise rim, plate, and other locks; latches; butts, cross, garnet, and other hinges; pulleys and sash-fastenings; 50 basket grates; 50 bronze and cast-iron fenders; 100 dozen assorted spades, shovels, shares, and forks; 50 dozen assorted hinges, shovels, shares, and forks; 50 dozen assorted hinges, with the finds; counters, shelves, bins, &c. May be viewed by cards only, which may be had on the Premises of Messrs. LAWRENCE and PEARSON, solicitors, 39, Jewry Chambers; of WILLIAM WITHERS, Esq., official Assignee, 9, Basinghall-street; and at the Offices of the Auctioneer, 150, Minories, City.

DRAWING ROOM, Dining Room, Library, and Bed Room Furniture, Looking Glasses, Pianofortes, and other Effects.

MESSRS. MULLINS and REDGRAVE have received instructions from the Assignee of Mr. Thomas Nicholas, No. 24, Mortimer-street, near the Bank, to SELL by AUCTION, on the Premises, on WEDNESDAY, February 23, at twelve precisely, the whole of the genteel household furniture, chamber and dining-room requisites, comprising mahogany sideboards, wine and other tables, chairs and sofas, &c.; carpets and curtains; also excellent bed room furniture, consisting of four-post and French bedsteads, beds, mattresses, bedding, wardrobes, chests of drawers, washstands, dressing tables, and a fine 6½ octave cottage pianoforte, in rosewood case; linen, china, glass, &c.; 80 dozen fine Port and Sherry; kitchen and culinary utensils.—May be viewed. Catalogues may be had on the premises; and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

BOW-ROAD.—Extensive Sale of Building Materials, of two capital Residences, Workshops, and Premises, adjoining, to clear the site for the new Workhouses of the City of London Union.

PULLEN and SON respectfully announce that they are instructed by the Trustees, on the premises, to SELL by AUCTION, on Friday, and Two following days, March 3, 4, and 6, at Twelve o'clock each day, the whole of the excellent BUILDING MATERIALS, Fixtures, and Effects, of TWO capital detached Residences, Workshops, Counting-house, Yards, Gates, Palisading, and Iron Railing, situate on the North side of the Bow-road, and near the Church, comprising about 600 capital Seasoned Deals, Battens, and Flooring Boards, 1,000 feet of Oak Timber, 20 Cottage Sashes, 200 Squares of Glass, 20 Cottage Doors, Grates, Stoves, Kitchen Range, Copper, Pump, Lead Pipe, Cisterns, Iron Railing, Gates, and Palisading, and other articles of a superior description.—Particulars may be had of the Auctioneers, Bow-road; and of Messrs. HARDCASTLE, Lincoln's-inn-fields; and of Messrs. PULLEN and SON, Auctioneers, Poplar-street, Hackney-road.

FREEHOLD GROUND RENTS, amounting to £235 per annum, almost amply secured, and 10 Acres of Freehold Building Land, in Lots.

MR. FREDERICK CHINNOCK has been instructed to SELL by AUCTION, at the Auction Mart, on WEDNESDAY, March 8, at one precisely, value in FREEHOLD GROUND RENTS, in lots, amounting to 235l. per annum, secured upon a public-house, private houses, and shops, nearly all let to good tenants, situate in Williams-street, Uxbridge-road, near Kensington Park. The ground rents will be lotted under the different leases originally granted by the freeholder.—Printed particulars, together with the valuable freehold building land described above, accompanied with plans, may be obtained at the Auction Mart; and at Mr. CHINNOCK'S Office, 38, Regent-street, Waterloo-place.

FREEHOLD BUILDING LAND, near to Kensington Park and the Uxbridge-road, Notting-hill, containing about 10 Acres, in Lots.

MR. FREDERICK CHINNOCK is instructed to SELL by AUCTION, at the Auction Mart, WEDNESDAY, March 8th, at One precisely, about TEN ACRES of very valuable BUILDING LAND, situate as above, admirably adapted for the erection of semi-detached Villas of a moderate class, which are much needed in this very healthy locality. It is situate from, flatish on the north side of St. James's Church, and about—feet from the Uxbridge-road, from which there are three commanding entrances; the main sewers are built, and the plan made (it will be offered in lots to suit the convenience of purchasers) for forming the new open houses, and also for builders.—Lithographic plans and descriptive particulars may be obtained at the Mart, and at Mr. CHINNOCK'S Offices, 38, Regent-street, Waterloo-place.

CHURTON STREET, PIMLICO. FOR SALE BY AUCTION BY

MESSRS. COBB, at the Mart, near the Bank of England, on TUESDAY, February 29th, 1848, at Twelve o'clock, by order of the Mortgagee, an excellent well-built DWELLING AND SHOP, No. 6, Churton-street, near the Vauxhall Bridge-road, on the estate of the Marquis of Westminster, containing on the upper floors six large well-proportioned rooms; on the ground floor a capital shop and back parlour, with side entrance, and in the basement two kitchens, scullery, cellars, &c., in basement; and back walled yard. The house is held for a term of which Seventy nine years were unexpired at Christmas, 1847, at a ground-rent of 2l. 2s. 6d., including Fire Insurance. It is in hand, and offers a desirable property for occupation or investment, being well situate in a highly respectable and rapidly increasing neighbourhood.—Particulars may be had at the Mart; of Messrs SHEPPARD and DALE, Solicitors, Lincoln's-Inn-fields; and of Messrs. COBB, Surveyors, &c., 13, Lincoln's-Inn-fields, London.

ENFIELD, MIDDLESEX. OAK, ASH, AND ELM TIMBER AND POLLARDS.—By

MESSRS. COBB, at the King's Head Inn, Enfield, on TUESDAY, February 22nd, at Twelve for One o'clock punctually, 160 OAK, ELM, AND ASH TIMBER TREES, standing and growing on Messrs. Sparkes and Mr. Slade's Farms; together with several lots of Oak Pollards, and 21 Oak Trees, lying and standing on the side of the road from Enfield to Barnet, near Mr. Nott's land, on the estate of the Rev. J. E. CLAYTON. Also, about 45 Oak Trees, on the estate of J. E. RIDDELL, Esq., lying in the fields near Byeullah House, Enfield.

The Trees are chiefly of large dimensions and good quality. They lie very conveniently with a short distance of the town of Enfield and the Eastern Counties Railway, and ten miles only from London.

Catalogues may be had one week before the sale, at the place of sale; the principal Inns at Barnet, Tottenham, Southgate, &c.; and further information may be obtained in the meantime of Messrs COBB, Surveyors and Land Agents, 13, Lincoln's-Inn-fields, London.

IN BANKRUPTCY. To Engineers, Millwrights, Exporters to the Colonies, Paper Makers, and others.

MR. C. FURBER is instructed by the Assignees to offer to public COMPETITION, on the Premises adjoining the Cripplegate Literary Institution, Borough-road, Southwark, on TUESDAY, February 22, at 11 for 12, the valuable WORK of an ENGINEER and MACHINIST; comprising a powerful cast-iron saw-mill for sawing logs of timber with shifting deal apparatus, portable cast-iron saw-mill with necessary apparatus, a superior 25 horse-power new wrought-iron tubular boiler, with cast-iron circular ash tubes with all the recent improvements, plunger pumps, about one ton of mill castings, sets of cast-steel circular and vertical saws, six inch foot lathe, portable forges, anvils, benches, and batters, chest-nut drilling machines, blocks and falls, a large assortment of tools, powerful crane, three match blocks, four chocolate pans, sundry fittings, useful iron, and effects. May be viewed. Catalogues had on the premises; of W. PENNELL, Esq., official assignee, 3, Guildhall-chambers, Basinghall-street; of E. ISAACS, Esq., solicitor to the flat, Jeffreys-square, St. Mary-axe: and at the Auctioneer's Offices, Warwick-court, Gray's-inn.

TO BRICK MERCHANTS, LIGHTERMEN, BARGE OWNERS, STEAM BOAT COMPANIES, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at Mr. Carter's, late Mr. D. White's, Quay Wharf, on THURSDAY, March 2nd, at One o'clock precisely, by order of the executors of Jacob Holloway, deceased, FIVE SAILING BARGES; a decked Barge of 50 tons, and two Cabin Punts. Also a Wherry of the Long Ferry boat size, lately used as a depôt by the Coal Meters Committee; a nearly new open Barge; a decked Barge of 70 tons, and other Craft.—May be viewed three days previous, and Catalogues had at the place of Sale; of Messrs. PEACE and JONES, Solicitors, 190, Tooley-street; and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

GOVERNMENT STORES, WESTMINSTER.

MESSRS. EVERSFIELD and HORNE will SELL, by AUCTION, at the Store Yard, Great Smith-street, Westminster, on TUESDAY, February 22nd, at Twelve, by order of the Commissioners of Her Majesty's Woods, Forests, Land Revenues, Works and Buildings, the FIRST PORTION of a LARGE MISCELLANEOUS QUANTITY of CONVICT-MADE, comprising upholstery, waiting, sailmaking, and all other sorts of hard dimensions, desks and tables, bookcases, stools, chairs, cabinet, bunks, hair-cloth, matting, canvas, pins, tacks, rugs, &c.; also, 1,000 feet of elm boards, framing and doors, iron work, &c. May be viewed one day prior to the Sale, and Catalogues had at the OFFICE of WOODS, Whitehall, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

TO BUILDERS, CARPENTERS, STONE-MASONS, RAILWAY CONTRACTORS, ENGINEERS, CARMEN, AND OTHERS.

MESSRS. EVERSFIELD and HORNE have received instructions to SELL by AUCTION, on the premises, York-road, Lambeth, on WEDNESDAY, March 8th, and following day, at Ten o'clock precisely, in the day, by order of Mr. Grissell, who has relinquished the general building business. The first portion of the excellent and extensive Stock, comprising a large quantity of well-seasoned yellow and white deals, planks, battens, timber, lapped flooring, skirting and sawn boards, Memel oak, round and split rails, telegraph posts, fencing posts and rails, hedges, scaffold poles and boards; mortar boards and putlogs; wheeling planks, pug mills, ladders, grout tubs, sand screens, hoists, scaffolding, and a variety of other ironwork, &c. Also the carpenter's and other shops, sliding, &c. The second portion, which will be sold in a short time, will comprise the remainder of the stock of well-seasoned timber, powerful stone crane, 4 horse power, timber carriages, a locomotive truck, earth waggons, pile-driving engines, monkeys, crab engines, hoisting jacks, blocks, and falls; machine for planing, boring, and morticing, circular saws, iron bolts, dogs, and spikes; double and single-action pumps; about 100 tons of rod, bar, and scrap iron, iron rails, and wheels; fittings and contents of blacksmith, plumber, painter, and glazier shops; an assortment of sweeps, weighing machines, iron girders, and pipes; iron castings. Also a large quantity of Portland Cement, and other stone, and other marble chimney-pieces, parcels in slips and scantlings, fittings and contents of mason's shops and model rooms; Caen stone staircase, with turned balusters, new panelled doors, sashes, staircases, and all joiner's work, for 12 houses; 100 carpenter's benches; a capital fire engine and hose; old copper and brass work, and numerous other effects.—Applied bills at six in calls, to buyers of 20l. May be viewed two days prior to the Sale; and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

THE BUILDER.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King street, Baker-street, Portman-square.—Cash only.

PLATE GLASS

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 9, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates.

J. L. GRUNDY, Company's Agent.

12, RATHBONE-PLACE

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied 1, 3-8, ¼, and ½ inch thick. Particular attention is requested to the superior colour and evenness of this article

LONDON WAREHOUSE, 99, Hatton Garden, Holborn.

H. CHRISTIE, Agent.

SOHO PLATE GLASS COMPANY, 26, Soho-square.—Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Recy Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three-quarters inch thick.

ALFRED GOSLETT, Agent.

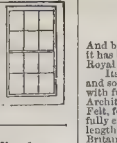
SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE.—ALFRED GOSLETT (Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass) begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Cutting room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



By Her Majesty's  Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS.—To be had of EDWARD BAILLIE, Glass Painter and Dasbener, 12a, Cumberland Market, Regent's park, London. Their extensive and successful application to Public Offices, Bed rooms, and the cure of Smoky Chimneys, prove their great utility. Forty per cent. from the original Tariff.

DR. ARNOTT'S CHIMNEY VENTILATOR.—F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.—Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, at the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the equitable terms of "no cure no pay."

SMOKY CHIMNEYS CURED by the PATENT PNEUMATIC TOP and SMOKE SPREADER. Landlords, Architects, House Agents and Builders are invited to inspect them at the Inventor's, 14, Belmont place, Wandsworth road; and G. B. PETTITT'S, 17, Brook-street, New-road, Regent's-park.

N.B. The usual effect of high buildings and trees is entirely checked, and can be swept by the machine.

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.



The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

GREASE! GREASE! GREASE!—To Railway Contractors, Colliery Owners, and the Public.—JAMES THOMAS FITT begs to inform his friends that he is enabled to again reduce the price of Anti-friction Grease, the best quality, to 30s. per ton. Samples may be had by applying to J. T. FITT, Swan Mead, Bermondsey New-road, London.

WOOD KNOTTING. — STEPHENS' COMPOSITION.—Will be found the best Preparation for Covering the KNOTS IN WOOD, previous to Painting, as it effectually prevents the exudation of the turpentine, which would otherwise act on the Paint, and cause a subsequent Discolouration of the Surface.

This Substance not being acted upon by either Turpentine or Oil, renders it perfectly effectual for the above purpose. It is easy of application, soon dries, and gets hard, when it may be easily rubbed down with Pumice-stone and Water, or Glass-paper, giving it the appearance of Enamel.

Price 12s. per Gallon; or in Pots, at 6d. and 1s. each.

Prepared and Sold by HENRY STEPHENS, 58, Stamford-street, Blackfriars-road, London; where also may be obtained his Stains for Colouring Wood, which may be had in Powder as well as in Liquid; also at Messrs. HOPKINS and PURVES', 20, Greek-street, Soho, and at the office of "The Builder," 3, York-street, Covent Garden.

PAPER-HANGINGS

BUILDERS and the Trade are respectfully invited to inspect the Stock of PAPER-HANGINGS always on hand at S. TUCKER'S, wholesale and retail Paper-hanging Warehouse, 261, High Holborn, which, for variety of pattern, quality, and price, are not surpassed by any house in the Trade.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above—451, Oxford street.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only, 70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.

By Her Majesty's  Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SAFETY SPRINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, (from agent to St. Martin's-le-Grand, London, opposite the new Money-Order Office.



NOTT'S PATENT STOVE, FOR CHURCHES, HALLS, WAREHOUSES, &c.

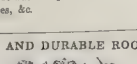
THE PATENT having expired, the present Proprietors are enabled to offer those excellent Stoves at THREE-FOURTHS OF THE PRICES HITHERTO CHARGED.

Engravings of the Patterns, with THE REDUCED PRICES, will be forwarded on application to the Warehouse,

80, GREAT QUEEN STREET, LINCOLN'S INN FIELDS.

N.B.—Hot-water Pipes can be attached to the Stoves for warming distant apartments, Conservatories, &c.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the only works in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMBS-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.



JENNINGS'S STREET MAIN COCK.—The great patronage my Invention for shoeing and securing Shop Shutters without a Bar has met with, has encouraged me to attempt other things, and I beg to inform those interested, I have since invented and patented several kinds of Joints for connecting Lead, Iron, or other Pipes without Solder. Also, a Water-Closet and a Cock, which, for distinction, I call Hermetic, from its effectually stopping all escape of Gas or Water, when closed. Those Inventions are all different in principle from any thing heretofore produced.

My PATENT JOINT requires no boring, cutting, or screwing, the water-way is not obstructed, and it is scarcely possible to make an unsound Joint.

My PATENT WATER-CLOSET has neither Pan nor Valve like other Closets, permits the escape of no impure Air, as do all other Water-Closets, and it is infallible in its action.

My PATENT HERMETIC COCK is applicable for the smallest Gas-light or the largest Water-main; it will resist any pressure, and for simplicity it is unrivalled. It is made by enclosing a flexible tube of any required size in one of metal, which gives the necessary strength, when open there is the same straight and unobstructed passage through the Cock as through the Pipe, as is shewn in the accompanying drawing. It is closed by a simple pressure. Myself and friends have tried several of these Cocks for a winter, I have had one in constant use for ten weeks, and I can perceive no change. I beg to invite the attention of the scientific to this most simple and evidently natural mode of stopping water and other fluids. This and my other Inventions can be seen in use at my Manufactory, 29, Great Charlotte-street, Blackfriars road; persons unable to visit my Manufactory can have a Patent Bib or Boiler Cock with Six Patent Joints, from half inch to two-inch, sent to any part on receipt of a post-office order for 30s., or a reference in London

My SHOP-SHUTTER FASTENER and SHOE can now be had, in Malleable Iron, at 3s. per Shutter, cast in Brass, as heretofore, at 5s. per Shutter, with a liberal discount to the Trade.

Builders and others requiring Pipes of any size or length, can have them ready fitted with Ferrules or Cocks by means of the Patent Joints, which only require to be screwed together: saving all fire and labour in buildings, without any extra cost. As the opinions of practical men will be more satisfactory than any statement of my own, I annex a few testimonials:—

Royal Mint, 14th Feb. 1848.

Mr. Jennings's Patent Joints have been extensively applied to the water pipes recently laid down in her Majesty's Mint, under the direction of the Board of Works. They have given general satisfaction, and appear to be a very important improvement upon the old mode of making soldered joints.

WM. THOS. BRANDE,
No. 2, Finsbury Circus, London.

SIR,—At the various works in the country and at her Majesty's Royal Mint executed by you under my directions, where any of your Patent Joints have been used, they have answered in the most satisfactory manner. In future I shall recommend them with confidence wherever I have an opportunity.—I am, Sir, yours obediently,

THOS. CLARK, Engineer.
To Mr. Jennings.

Royal Mint, Feb. 1848.

SIR,—You write to me for a testimonial, and ask for leave to publish the same. I am not desirous of appearing in print, but the simplicity of your inventions prevent my refusal, for the information of those to whom you may shew this letter. I beg to add, that the tank lately erected at the Royal Mint is 100 ft. long, 30 ft. wide, and 5 ft. deep; it contains upwards of 70 thousand gallons of water, and is elevated 50 feet from the ground. From this tank your men laid the whole of the pipes, and connected the same with your Patent Joints. Many hundreds of these joints have been made, and not one was found to be imperfect. We had several of the lead pipes burst this winter, and although we found it necessary to exchange the pipes, the joints I had re-used.

G. PULMAN.
London, Feb. 1848.

SIR,—You are welcome to my opinion, but I cannot allow you to publish my name, nor is it required, for your inventions are so simple and so easily understood, they must succeed. Great results may always be obtained by taking, as you have done, nature for our guide.—Yours obediently,

AN ENGINEER
Mr. Geo. Jennings.

Tottenham and Edmonton Gas Works, 2nd Feb. 1848

SIR, I have subjected your Patent Cock to immersion in gas tar and ammoniacal liquor for ten days, it has not at all changed save in colour: its elasticity remains the same. I would thence infer that it is proof against the chemical action of these liquids.

I am Sir, yours obediently, GEO. ANDERSON, Superintendent.
Mr. George Jennings.

Grantham, Feb. 1848.

DEAR SIR,—I received your Patent Joints and Cocks this morning, and this afternoon I tried one of the cocks, under considerable pressure, and it continues to act as it does at present. I shall use them for all purposes in future. I have not tried the joints, but expect to find them most useful in deep wells, as lowering but metal and irons is at all times dangerous. Hoping to receive one of your Patent Closets on Tuesday next, I am, Sir, yours obediently.

G. PAWSON.
Mr. G. Jennings.

For the guidance of Architects and others, I beg to say, any of my Inventions can be had by the Trade, at Prices not exceeding those charged for articles used for purposes such as mine are intended for.

GEORGE JENNINGS, 29, GREAT CHARLOTTE-STREET, BLACKFRIARS-ROAD, LONDON.

TUBULAR DRAINS IN GLAZED STONE WARE,

MANUFACTURED BY

HENRY DOULTON AND CO., POTTERS,

HIGH-STREET, LAMBETH.

The only perfect mode of forming house drains is by the use of GLAZED STONE WARE TUBES. The material of which they are composed is imperishable, impervious to moisture, and cannot corrode; they are easily laid down, and are now offered at such prices as to admit of their universal application. From their anti-corrosive nature these tubes are well adapted for the conveyance of water.



PRICES OF STRAIGHT TUBES WITH SOCKET JOINTS.

In 3 feet lengths.		In 2 feet lengths.				
2 in. bore, 4d.	3 in. 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per foot.

TESTIMONIALS

From Messrs. Roe *and* Phillips, *Surveyors to the New Metropolitan Commissioners of Sewers.*

Dear Sir,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.—I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

Dear Sir,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

JOHN ROE.

Mr. H. Doulton.

Extract from the Evidence of Henry Austin, Esq., *Consulting Engineer to the New Metropolitan Commission of Sewers.*

I believe that a very considerable part of the question of a perfect system of drainage of towns lies in the consideration of the best material to be used in the formation of drains and sewers, and that any attempt to found a general arrangement in construction of brick will retain many of the present errors. *The glazed pipes are to be preferred in every point of view.* From their even and glassy surface there is a great reduction of friction, and consequent increase of the flow with the same quantities of water which admits of their size being materially reduced. . . . With equal inclination they will keep themselves clearer of deposits, and consequently be free from the present offensive effluvia of the brick sewers and drains, and being perfectly impermeable, all soakage of the neighbouring ground is prevented, and foul emanations from this source obviated. . . . They would forbid the harbouring of rats, and no longer form the channel for the entrance of these disgusting vermin into our houses. . . . They would be much more quickly and economically laid than brick drains, and would afford security against much of the defective and careless construction which now characterizes drainage works. . . . They would require much less excavation both from diminished size and less thickness of material, and they could be laid in loose and treacherous soil, where brickwork would fail without great caution and expense. . . . The pipe drains would never want repair. They would be, in fact, of everlasting durability. The drain pipes of ancient Rome are at the present day perfect, although of far inferior material to vitrified glazed stone ware. . . . They would not only be far less expensive, but they would be what brick drains never can be, perfect in efficiency.

LAMBETH POTTERY.

DOULTON AND WATTS, STONE POTTERS,

HIGH-STREET, LAMBETH, LONDON,

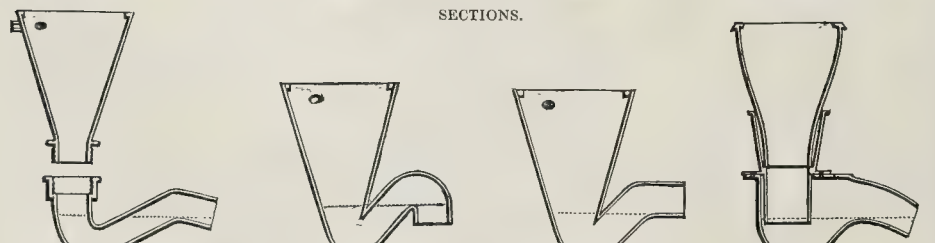
MANUFACTURERS OF CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE-WARE,

PRICE 7s. 6d. EACH.

No. 1. No. 2. No. 3. No. 4.



SECTIONS.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary enquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction: they are cleanly and imperishable, require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4, is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.]

London: Printed by Charles Wyman, of 16, Castelnau Villas, in the Parish of Barnes, in the County of Surrey, Printer, at the Printing-office of J. & H. Cox, Brothers, 74-5, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said Charles Wyman, at the Office of "The Builder," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, February 19, 1848

The Builder.

AN ILLUSTRATED WEEKLY PAPER FOR THE

Architect, Engineer, Operatives & Artist.

VOL. VI.—No. 264. FEBRUARY 26, 1848. PRICE FOURPENCE. *Stamped 5d.*

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ADVERTISEMENTS.

WANTED, a CLERK, who can take the Management of a set of Books, and Measure Painters' Work.—Apply to H. S., Mercury Office, Sheffield.

TO PLUMBERS AND BUILDERS.

WANTED, in London or its Suburbs, by a respectable YOUNG MAN, a SITUATION as PLUMBER, being out of employ through the failure of his master. Wages moderate.—Letters to be addressed to A. B., the office of "The Builder," 2, York-street, Covent Garden.

TO ORNAMENTAL PAINTERS AND GRAINERS

WANTED, a SITUATION for a Young Man, who has been four years in the BUSINESS of HOUSE PAINTING. A moderate premium would be paid, as he would require to be boarded.—Apply to A. B., Post-office, Tunbridge Wells.

CLERK OF THE WORKS.

WANTED, an Active and Experienced Man as CLERK of the WORKS, who is conversant with the duties, and is willing to undertake the conduct of a building at the distance of at least 200 miles from London.—Apply by letter, stating terms and all particulars, to J. C., 96, Great Russell-street, London.

TO TIMEKEEPERS.

WANTED, a Person for Railway Works, in Lincolnshire; one who has been accustomed to Timetaking, measuring stone, &c., and who can square dimensions expeditiously and correctly.—Address, till Wednesday, March 1st, to A. B., 19, Cornwall place, Holloway.

WANTED by the Advertiser, aged 32, a SITUATION. Is capable of making out fair and detail drawings, understands estimating, measuring, &c., and possessing a thorough practical knowledge of building; would undertake the superintendence of works. Address A. Y., Mr. Turnbull, Old Change, City.

TO BUILDERS AND SURVEYORS.

WANTED, by a respectable Young Man, a SITUATION either in a Builder's or Surveyor's Office, has been used to Drawing, Estimating, Measuring, Bookkeeping, and the usual routine of the Office. Unexceptionable references can be given.—Address, A. G., 2, Norfolk-place, Lower-road, Islington.

WANTED, by a Young Man, aged 25 years, and a good practical Carpenter and Joiner, EMPLOYMENT at the BENCH. Is accustomed to the routine of a Builder's office, the setting out of works, and the superintending of workmen, and has some knowledge of preparing Drawings, Estimating, Measuring, &c.—Address H. H., No. 5, Mulgrave-place, Woolwich, Kent.

TO ARCHITECTS AND BUILDERS.

WANTED by a Practical and Experienced Clerk of Works, a RE-ENGAGEMENT. Is competent to take charge of works of magnitude, or superintend an estate where works are in progress. Is a good draughtsman, and perfectly understands measuring artificer's work. Satisfactory references can be given. Address, A. Z., Office of "The Builder," 2, York-street, Covent-garden.

TO BRICKLAYERS, &c. &c.

WANTED, a Young Man of Experience and good connection, who thoroughly understands and can conduct a small, but long-established general business. He must be well acquainted with the various branches, especially Bricklaying, Plastering, Paper-hanging, Painting, &c., and a good knowledge of Accounts would be desirable. He would be engaged with a view to future partnership, or ultimately to take the business himself. Real name, address, and salary, required to be directed to A. A., Messrs. Knight and Foster, Stationers, 5, East Cheap.

TO ARCHITECTS, SURVEYORS, SPECULATIVE BUILDERS, &c.

AN ENGAGEMENT is WANTED in either of the above offices, by a Practical Person, having been employed in each of the offices many years, being fully competent in Drawing, both in theory and practice, Measuring, taking out Quantities, Book keeping, Superintending Works, &c. &c.—Moderate salary required. — Address A. B., 66, Seymour-street, Euston-square.

TO ARCHITECTS

THE Advertiser not having his time fully occupied, would be glad to make perspective and coloured drawings from the designs of architects (for competition or otherwise) who may require such assistance. Address G. H., 14 Catherine-street, Strand.

THE Advertiser, a Young Man, who is a good practical Carpenter, wishes for a situation as SUPERINTENDENT of WORKS, has a good knowledge of Drawing, and would have no objects to go abroad. Most satisfactory references can be given.—Address F. T., 11, Draycott-street, Sloane-square, Chelsea.

TO ARCHITECTS CIVIL ENGINEERS, &c.

A CLERK of WORKS, who has just concluded an Engagement, is desirous of being RE-ENGAGED. Satisfactory references can be given as to character and ability. Address R. S., 22, Fendall street, Bermondsey, London.

TO CIVIL ENGINEERS

A CLERGYMAN, in the country, wishes to place a Son, 17 years of age, with a Civil Engineer; a moderate premium will be given; board and lodging required, or an equivalent allowance.—Apply by letter, prepaid, to D. Z., Messrs. Mudie, 15, Coventry-street, Haymarket, London.

TO SURVEYORS AND BUILDERS.

A YOUNG MAN of experience in Builders' Accounts, Measuring, Drawing, &c., wishes for an ENGAGEMENT. He is thoroughly acquainted with the routine of an office, and can offer satisfactory testimonials.—Address, A. Z., Mr. Frampton's, 15, West Course place, Paddington

TO ARCHITECTS.

A YOUNG MAN, aged 21, a student of the Royal Academy, wishes for an ENGAGEMENT in an Architect's office. He has been upwards of five years with an architect and surveyor, since which he has been gaining practical knowledge at works in the country. He is a good draughtsman, and accustomed to the general routine of office business. A small salary only is required, improvement being the main object. References will be given. Address J. G. G., Mr. BURN'S Library, Kennington-green

COMPETITION.

TO ARCHITECTS. SOUTH STONEHAM UNION.

THE Guardians of the South Stoneham Union are desirous of receiving PLANS and ESTIMATES for a NEW WORKHOUSE, capable of accommodating 250 Inmates. The Plans to be so prepared that the portions of the Building intended for the Children may be omitted, if the Guardians should think fit. If the Gentleman whose Plan and Estimate shall be accepted shall be employed as the Architect, no payment will be made for his Plan and Estimate; but if he should not be so employed, he will be paid 5 per cent. for such Plan and Estimate. No remuneration will be made for any Plan or Estimate not accepted. Plans and Estimates to be delivered at the office of Mr A. F PATTERSON, Solicitor, Portland-street, Southampton, on or before the 13th March, 1848.

ALEX. FRED. PATTERSON, Clerk.

CONTRACTS.

TO BUILDERS

NEW PARISH CHURCH AT SWINDON, WILTS.

ANY Builders wishing to TENDER for the ERECTION of the new PARISH CHURCH at Swindon, may obtain orders to see the drawings and specification, and the conditions of competition, by applying to the Rev. H. G. BAILY, or to JAMES BRADFORD, Esq., Solicitor, Swindon, Wilts, or to the Architect, Mr. GEORGE G. SCOTT, 20, Spring gardens, London. The drawings, &c., will be at Swindon for inspection, on and after Tuesday, the 22nd inst., and the tenders to be delivered by post or otherwise, to JAMES BRADFORD, Esq., Solicitor, Swindon, on or before Tuesday, the 21st of March next.

Feb. 9th, 1848.

All Saints, Poplar, Feb. 23, 1848.

TO MASONS, PAVIORS, AND OTHERS.

THE Trustees of this parish will meet at the Town Hall, High street, Poplar, on MONDAY the 6th day of March next, at Seven o'clock in the evening precisely, to receive TENDERS (sealed up), and to CONTRACT for the REPAIRS of the PAVEMENT of the several streets, and other public places, for one year, from Lady-day next. The particulars and conditions of the contract may be seen on application to Mr. JOHN MORRIS, Surveyor to the Trustees, Trinity-terrace, East-India-road, or at the Town Hall, aforesaid.

RICHARD KEMP, Clerk to the Trustees.

BRITISH LYING-INN HOSPITAL

BUILDERS desirous of contracting for the ERECTION of the NEW HOSPITAL in Endell-street, Long-acre, may see the plans and specification at the Board Room, of the present Hospital, Broad-street, Long acre, from February 14th to March 1st, on which day sealed tenders are to be delivered at the Hospital, endorsed "Tender," and addressed "To the Committee of Management of the British Lying-in Hospital." The lowest tender will not necessarily be accepted. FULLER and GINGELL, Architects, 3, College green, Bristol, Feb. 3rd, 1848.

TO BUILDERS AND OTHERS.

BUILDERS desirous of CONTRACTING for the ERECTION of the NEW CHURCH of ST. MATTHIAS, in the WEIR DISTRICT, BRISTOL, may see the Drawings and Specifications at the office of Mr. STRICKLAND, Solicitor, All Saints'-court, from Monday, February 28, to March 13, on which day the sealed tenders are to be delivered, directed to the "Building Committee, at the residence of the Rev. A. C. Rowley, 34, Bishop-street, St. Paul's.—Any further information may be obtained of the Architect, Mr. JOHN NORTON, 8, Kingstreet, St. James's-square, Westminster.—The lowest Tender will not necessarily be accepted.

CONTRACTS.

CONTRACT FOR DREDGING HARWICH HARBOUR.

THE Commissioners for executing the office of Lord High Admiral of the United Kingdom of Great Britain and Ireland are desirous of receiving TENDERS for DEEPENING HARWICH HARBOUR.—Plans with Specifications and Form of Tender may be seen by intending Contractors, on application to Messrs WALKER and BURGES, 33, Great George-street, Westminster, on and after the 1st day of March, 1848.—Tenders are to be delivered at the Admiralty before 12 o'clock noon, on Saturday, the 25th March, 1848.

The Lords of the Admiralty will not be bound to accept the lowest or any of the tenders.

17th February, 1848.

TO BUILDERS.—CITY OF LONDON WORKHOUSE.

THE Guardians of the Poor are ready to receive TENDERS for the BUILDING of their proposed WORKHOUSE, according to the plans and specifications of Mr. RICHARD TRESS, Architect, of Little St. Thomas the Apostle, to whom are referred all persons who are desirous of competing for the same. The Guardians do not bind themselves to accept the lowest Tender, but will require the party whose Tender shall be accepted to enter into a contract for completing the Works, and the usual bond, with sureties, for the due performance of such contract. —All tenders to be sealed and endorsed "Tender for Workhouse," and sent under cover to me, on or before Monday, the 13th March next. The drawings may be seen at the office of Mr Tress, any day on and after Thursday, the 17th instant.

JOHN THOMAS ROWSELL, Clerk to the Union.

Union-offices, 35, Cannon-street, February 11, 1848.

GUILDHALL, February 11, 1848.

THE Committee for LETTING the CITY LANDS will meet at Guildhall, on WEDNESDAY, the 8th day of March, 1848, at One o'clock precisely, to receive TENDERS for LETTING on BUILDING LEASES for 80 years, from Lady-day next, a large PLOT of GROUND on the east side of Paddle-dock, on the south side of Upper Thames-street, and on the north side of the river Thames, and also a Piece of ground on the north side of Narrow-street, at the corner of Cross-street, at Ratcliffe. Also to receive Tenders for letting on Lease for 21 years, from Lady-day next, a House, 19, on the north side of Broad-street-buildings, and also a House, 6, on the north side of Crescent-place, Blackfriars.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOMAS SAUNDERS, Comptroller.

BUILDING GROUND, OLD BAILEY.

THE Governors of St. Thomas's Hospital will meet at Twelve o'Clock on TUESDAY, the 14th March, at the Hospital, to receive TENDERS for parties for a Building Lease, on a long term, of a Plot of Ground in the Old Bailey, having a frontage of 36 feet, and being of an average depth of 95 feet. For further particulars, apply to Mr. HENRY CURREY, Architect, No. 4, Lancaster Place, Strand; or at the Counting-house of St. Thomas's Hospital, where Plans may be seen.

HOUSES TO BE LET.—DYERS' BUILDINGS, HOLBORN.

THE Committee of the Worshipful Company of Dyers HEREBY GIVE NOTICE, that they will meet on TUESDAY the 29th day of February, inst., at 12 o'clock at noon precisely, at Dyers' Hall, Cole-street, Dowgate hill, London, to receive TENDERS in WRITING for LETTING on LEASE, for twenty-one years from the 25th day of MARCH next, the HOUSES, Nos. 2, 3, and 4, in the above buildings, either separately or together. The draft of the proposed lease, and other terms and conditions, may be known upon application at the Company's Hall, daily (Sundays excepted) between the hours of 10 and 4 o'clock, where orders may be obtained for viewing the premises. Parties tendering must be prepared with references as to their responsibility, and the Committee do not pledge themselves to accept any particular offer. The tenders must be sent in by 11 o'clock in the forenoon of the day of meeting, addressed "Tender for Houses, No. , Dyers'-buildings, Holborn."

B. C. LUTTLY, Clerk to the Company.

Dyers' Hall, 15th February, 1848.

ROYAL INSTITUTE OF BRITISH ARCHITECTS. The Council having reported to the Members at the general meeting, on Monday, the 21st inst., their decision relative to the Designs and Essays submitted in competition for the Soane Medallion, and for the Medals of the Institute for the year 1847, Competitors are hereby informed that the REPORT IS OPEN to their inspection, in the Library of the Institution, on MONDAYS, THURSDAYS, and FRIDAYS, between the hours of Ten a.m. and Five p.m., and that the Drawings and Essays, together with the sealed Letters of unsuccessful Competitors will be delivered to them on application to the Librarian.

16, Lower Grosvenor-street, Feb 24 1848

ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE.

NOTICE TO ARTISTS.—All works of Painting, Sculpture, or Architecture, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 3rd, or by Six o'Clock in the Evening of TUESDAY, the 4th day of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. The other Regulations necessary to be observed may be obtained at the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A., Secretary.

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package which may be forwarded by carriers.

The prices of works to be disposed of may be communicated to the Secretary.

ACCOUNTS AND ESTIMATES.—Builders and others, whose Accounts may have fallen into arrear, or require making up and balancing, may have the same properly effected, on moderate terms, by GEORGE LOCKWOOD and Co., Accountants, 17, Essex-street, Strand.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.—M. COON having discovered a NEW METHOD of LITHOGRAPHING PLANS of every Description, in about half the usual time and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be entrusted with will be promptly attended to. It answers admirably for multiplying tracings.—Lithographic Printing-office, 15, Cheapside, London.

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Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death. IMMEDIATE ANNUITIES [illegible] and the plans for securing Endowments for Children [illegible].

Parties desirous of providing for the Renewal Fine in their Leases [illegible].

[illegible] Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering [illegible] Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

Prospectuses and further information, free of expense, from
ARTHUR SCRATCHLEY, Actuary.

SPECIAL NOTICE.

To secure the advantage of this year's Entry. Proposals must be lodged at the Head Office, or with the Society's Agents, on or before 1st MARCH.

SCOTTISH EQUITABLE LIFE
ASSURANCE SOCIETY. Incorporated by Act of Parliament.—Edinburgh: 26, St. Andrew-square. London: 61, Moorgate-street.

This is a MUTUAL ASSURANCE SOCIETY, in which the whole profits are divisible amongst the policy-holders every three years.

The existing ASSURANCES, including additions, amount to TWO MILLIONS NINE HUNDRED THOUSAND POUNDS.

The ACCUMULATED FUND exceeds FOUR HUNDRED THOUSAND POUNDS.

The ANNUAL REVENUE exceeds ONE HUNDRED and SEVEN THOUSAND POUNDS.

VIEW OF THE [illegible] OF THE SOCIETY DOWN TO MARCH 1, 1847.

	Amount Assured	Annual Revenue	Accumulated Fund
At 1st March, 1835	[illegible],611	£11,[illegible]	£24,661
Ditto 1841	[illegible]	[illegible]	[illegible]
Ditto 1847	2,7[illegible]	[illegible],27[illegible]	400,5[illegible]

ADDITIONS TO POLICIES.

A Policy effected before 1st March 1832 for 2,000*l.* and becoming a claim after 1st March next, will receive Two Thousand Eight Hundred and Four Pounds, [illegible] per cent. on the sum assured. Other Policies have received additions in proportion.
ROBERT CHRISTIE, Manager.

Prospectuses and Forms of Proposal may be had by application at the London Office, 61, Moorgate-street.
WILLIAM COOK, Agent.

SCOTTISH EQUITABLE LIFE
ASSURANCE SOCIETY.
26, ST. ANDREW SQUARE, EDINBURGH.
61 A, MOORGATE-STREET, LONDON.

In order to obtain the BENEFIT OF THIS YEAR'S ENTRY, proposals must be lodged either at the head office in Edinburgh, or with any of the Society's Agents, ON OR BEFORE 1st MARCH.
WILLIAM COOK.

61 A, Moorgate-street, February 4, 1848.

SCOTTISH PROVIDENT INSTITUTION,
Edinburgh, Glasgow, Manchester, London.—For Mutual Life Assurance, with these peculiar advantages:—
1.—Mutual Assurance by the most moderate rates of premium.
2.—Whole Profits divided amongst the Assured exclusively.

ANNUAL PREMIUMS PER 100*l.*, WITH WHOLE PROFITS.

Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1 15 8	1 18 [illegible]	2 1 6	2 6 10	2 14 9	3 5 9	4 1 7	5 1 11

Reports, Tables, and every information may be had of the Secretaries.

Edinburgh Office—14, St. Andrew's-square; London Office—12, Moorgate-street.

BRITISH MUTUAL LIFE OFFICE.—
[illegible] JAMES THICKE, Secretary. [illegible], Blackfriars.

LONDON ASSURANCE CORPORATION
FOR LIFE, FIRE and MARINE ASSURANCE. Established by Royal Charter of King George the First, A.D. 1720. Offices, 7, Royal Exchange, Cornhill; and 10, Regent-street.
JOHN LAURENCE, Sec.

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STOCK LIFE INSURANCE COMPANY. The Directors [illegible] Building Societies and Borrowers, [illegible] this office.

[illegible] LIFE ASSURANCE INVESTMENT, and LOAN Business transacted. LOW RATES of PREMIUM, and THREE FOURTHS of PROFITS [illegible]. For Prospectuses &c. apply to
JOHN MASSON, Secretary.
Offices, No. [illegible], Nicholas-lane, Lombard-street, London.

MITRE GENERAL LIFE ASSURANCE,
ANNUITY, and FAMILY ENDOWMENT ASSOCIATION, [illegible] Pall Mall, London.
(Established pursuant to Act 7 and 8 Vict., cap. 110.
[illegible] GEORGE [illegible], Chairman.
[illegible] HOWARD, Deputy Chairman.

[illegible] of every description, upon the very lowest, safest, and most equitable terms, calculated on the experience of more than 62,000 assured Lives [illegible].

[illegible], and for persons afflicted [illegible] dangerous to life.

Endowments and Annuities granted on most advantageous terms.

Application may be made to SPENCER P. PLUMER, Esq., Secretary, 2[illegible] Pall Mall.

TO BUILDERS, ENGINEERS, FOUNDERS, &c.

WARD and HART, Honduras Wharf,
Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire Bricks, Lumps, Tiles, Clays, &c. &c., have got an extensive and superior stock, and invite Builders, Gas Companies, [illegible], Shippers, &c., to inspect it and purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large [illegible] of first-rate Stourbridge, Welsh, and Newcastle Bricks, and Patent Corn-drying Kiln Tiles, so admirably adapted for Malting, &c &c. Stock Bricks, Dutch Clinkers, Windsor and other [illegible] Tiles and Bricks, [illegible] and Paving Tiles; Chimney-pots, Drain Tiles, Pipes, &c. Goods made to pattern.
[illegible] Welsh [illegible] the River.

THE INDEPENDENT BENEFIT
BUILDING ASSOCIATION.

Shares £[illegible] each. Subscription 5s. 6d. per Month, per Share. Entrance Fee 2s. 6d. per Share. 300 Shares already subscribed for.

The first appropriation will take place at the Subscription Meeting in March.

The Meetings, to enrol Members and receive Subscriptions, are held at the LONDON TAVERN, on the FIRST MONDAY in each MONTH, from Seven till Nine o'Clock.

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John Deane, Esq., London-bridge.
F. A. Tiddeman, Esq., Earl-street, Blackfriars.

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BORROWERS ALONE BENEFITED.

£300 borrowed from a society, on the principle of doubling the amount invested in ten years, would cost	£150 10 0
£300 from a society with fixed tables, calculated at 7 per cent., would cost	116 16 3
£300 from this society would cost	18 18 0

Prospectuses, copies of the Rules, or any further information, may be obtained of the Secretary, or of Messrs. G. and J. Deane, London-bridge.

ZINC WORK.

MESSRS. F. and J. HARLAND beg to
call the attention of Builders and others to the following list of prices, for cash:—

2-inch Pipe ......per foot 4d. | 3½-inch Gutter ...... per foot 4½d.
2½ ditto .... 4½d. | 4-inch ditto .... 5d.
Including fixing.

Flats Covered and Cisterns Lined from 4½d. to 6d. per foot superficial. Cornice Gutters 5d. to 7d. No. [illegible], Cumberland-place, Newington, Surrey, opposite to the Fishmongers' Almshouses.

N.B. Orders by post punctually attended to.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER
MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c.; also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1. Works, 15, Wellington Street North, Strand.

ARGUS LIFE ASSURANCE COMPANY,
39, Throgmorton-street, Bank.
Empowered by special Act of Parliament, 5 & 6 Will. 4, c. 76.

THOMAS FARNCOMB, Esq., Alderman, CHAIRMAN.
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Low Rates of Premiums.

Persons Assuring in this Office have the benefit of the lowest rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an annual bonus: they have likewise the security of a large subscribed capital—an Assurance Fund of a quarter of a million—and an annual income of 65,000*l.*, arising from the issue of nearly 6,000 Policies.

Annual Premium to Assure 100*l.*

Age.	For One Year.	For Seven Years.	Whole Term.
20	£0 17 3	£0 19 1	£1 11 10
30	1 1 3	1 2 7	2 0 7
40	1 5 0	1 6 9	2 14 10
50	1 14 1	1 19 10	4 0 11
60	3 2 4	3 7 0	6 0 10

One half of the "whole term" Premium may remain on credit for seven years, or one-third of the Premium may remain for life as a debt upon the Policy at 5 per cent., or may be paid off at any time without notice.

Policies assigned as a security to others will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid in one month after proofs have been approved.

The Medical Officers attend daily at a quarter before Two o'clock, and Policies issued the same day.
E. BATES, Resident Director.
A liberal Commission to Solicitors and Agents.

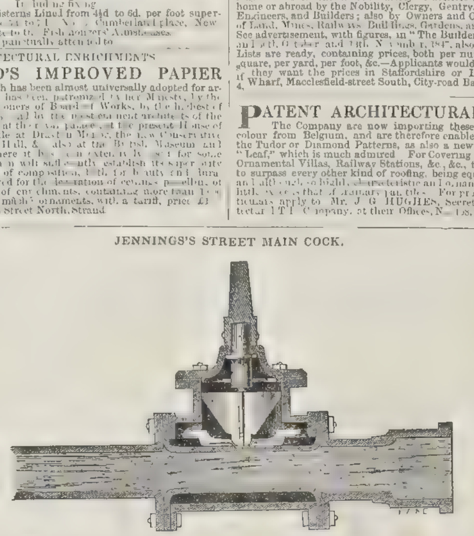
TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS
and WRITERS to the Trade only.
70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.

PEAKE'S TERRO-METALLIC TILES,
PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already, this Material may be moulded into a great variety of articles required either at home or abroad by the Nobility, Clergy, Gentry, Architects, Civil Engineers, and Builders; also by Owners and Occupiers generally of Land, Mines, Railways, Buildings, Gardens, and other property. See advertisement, with figures, in "The Builder" of the 2nd, 16th, and 30th October and 13th November, 1847, also 1st January, 1848. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c.—Applicants would oblige by stating if they want the prices in Staffordshire or London.—Address 4, Wharf, Macclesfield-street South, City-road Basin.

PATENT ARCHITECTURAL TILES.—
The Company are now importing these Tiles in the blue colour from Belgium, and are therefore enabled to supply either the Tudor or Diamond Patterns, as also a new design called the "Leaf," which is much admired. For Covering Churches, Schools, Ornamental Villas, Railway Stations, &c., &c., they will be found to surpass every other kind of roofing, being equally light as slate, and although so highly characteristic and ornamental, the cost but little exceeds that of ordinary pantiles. For prospectuses and particulars apply to Mr. J. G. HUGHES, Secretary to the Architectural Tile Company, at their Offices, No. 1[illegible]8, Strand, London.

JENNINGS'S STREET MAIN COCK.



JENNINGS'S PATENT HERMETIC COCK, is applicable to the smallest Gas-light or
the largest Water-main; it will resist any pressure, and for simplicity is unrivalled. It is formed by enclosing a flexible tube within one of metal. When open, there is a straight and uninterrupted passage through the Cock, as shewn in the above engraving; it is closed by simple pressure. These Cocks are equally applicable to hot or cold water. The attention of scientific men is invited to this most simple and natural method of stopping water and other fluids, which may be seen at the Manufactory, 29, Great Charlotte-street, Blackfriars-road; or, persons unable to visit the Manufactory can have a Patent Bib or Boiler Cock, with six patent joints, from half inch to two inch, sent to any part of the country on enclosing a post-office order for 20s., or a reference in London.

JENNINGS'S PATENT JOINTS for connecting lead, iron, or other Pipes without solder, are made in various sizes. Builders and others requiring pipes of any size or length can have them ready fitted with ferules or cocks, by means of the Patent Joints, which only require to be screwed together; thereby effecting a great saving of labour, and doing away with the risk of fire in buildings, without any extra cost. With these Joints the water-way is unobstructed, and an unsound or defective joint impossible.

JENNINGS'S SHOP SHUTTER FASTENER and SHOE, supersedes the unsightly and inconvenient Shutter-Bar. They have been most extensively adopted, and can be had in malleable iron, at 3s. per shutter; or in brass at 5s. per Shutter; with a liberal allowance to the Trade.

JENNINGS'S PATENT WATER-CLOSET has neither pan nor valve; it permits the return of no impure air, is infallible in its action and not liable to derangement.

The following are a few from the many testimonials with which G. JENNINGS has been furnished by eminent practical men, of the efficiency of his Patent Joints.

Royal Mint, 14th Feb. 1848.

Mr. Jennings's Patent Joints have been extensively applied to the water pipes recently laid down in her Majesty's Mint, under the direction of the Board of Works. They have given general satisfaction, and appear to be a very important improvement upon the old mode of making soldered joints.
WM. THOS. BRANDE.

No. 2, Finsbury Circus, London.

SIR,—At the various works in the country and at her Majesty's Royal Mint (executed by you under my directions) where any of your Patent Joints have been used, they have answered in the most satisfactory manner. In future I shall recommend them with confidence whenever I have an opportunity.—I am, Sir, yours obediently,
THOS. CLARK, Engineer.
To Mr. Jennings.

Royal Mint, Feb. 1848.

SIR,—You write to me for a testimonial, and ask for leave to publish the same. I am not desirous of appearing in print, but the simplicity of your inventions prevent my refusal, for the information of those to whom you may shew this letter. I beg to add, that the tank lately erected at the Royal Mint is [illegible] feet long, [illegible] ft. wide, and 5 ft. deep; it contains upwards of 70 thousand gallons of water, and is elevated 50 feet from the ground. From this tank your men laid the whole of the pipes, and connected the same with your Patent Joints. Many hundreds of these joints have been made, and not one was found to be imperfect. We had several of the lead pipes burst this winter, and although we found it necessary to exchange the pipes, the joints I had re-used.
G. PULMAN.

London, Feb. 1848.

SIR,—You are welcome to my opinion, but I cannot allow you to publish my name, nor is it required, for your inventions are so simple and so easily understood, they must succeed. Great results may always be obtained by taking, as you have done, nature for our guide. Yours obediently,
AN ENGINEER.
Mr. Geo. Jennings.

Tottenham and Edmonton Gas Works, 2nd Feb. 1848.

SIR,—I have subjected your Patent Cock to immersion in gas tar and ammoniacal liquor for ten days; it has not at all changed save in colour: its elasticity remains the same. I would thence infer that it is proof against the chemical action of these liquids.
I am, Sir, yours obediently, GEO. ANDERSON, Superintendent.
Mr. George Jennings.

Grantham, Feb. 1848.

DEAR SIR,—I received your Patent Joints and Cocks this morning, and this afternoon I tried one of the cocks, under considerable pressure, and if it continues to act as it does at present, I shall use them for all purposes in future. I have not tried the joints, but expect to find them most useful in deep wells, as lowering hot metal and irons is at all times dangerous. Hoping to receive one of your Patent Closets on Tuesday next, I am, Sir, yours obediently,
G. PAWSON.
Mr. G. Jennings.

For the guidance of Architects and others, I beg to say, any of my Inventions can be had by the Trade, at Prices not exceeding those charged for articles used for purposes such as mine are intended for.

GEORGE JENNINGS, 29, GREAT CHARLOTTE-STREET, BLACKFRIARS-ROAD, LONDON.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY-LANE

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £100 to £1500 [illegible], or so much as the property will bear, by applying to Mr. BRAY, surveyor, at the offices as above.

N B To expedite the preparation, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

ARCHITECTURAL CARVING COM-PANY, Eccleston-place (late Sir F CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone — Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed —Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF ROAD, CITY ROAD N B Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.

FONTS from 5l. upwards

MONUMENTS and TOMBS in great variety of design

The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view

Stone box Chimney pieces, from .... 12s.

Vein Marble " " .... [illegible]s.

RESTORATIONS Estimated for in which Branch S. C. has had considerable practice Dairies fitted up, &c &c

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CAEN SUFFERANCE WHARF, ROTHERHITHE.

LUARD, BEEDHAM, and Co., beg to inform Architects, Surveyors, Builders, and others, that they continue to carry on the Caen Stone business, at the above extensive premises, where a large Stock will be kept up by continual arrivals from their quarries at Allemagne. Orders received at the wharf, and further particulars may be obtained of Mr GEORGE GATES, 18, Southwark square, Borough, London.

Orders shipped direct from Caen to any port.

The Waterman Steamboats call at Lavender-pier, adjoining Caen Wharf.

CAEN STONE, of the last summer workings, from the most approved beds

The importance attached to having this stone in a seasoned state for buildings proceeding early in the spring, has induced Messrs. W and J FREEMAN for several years past to provide a considerable stock previous to the termination of each quarrying season

They still have in stock at their Sufferance Wharf, Deptford, about 25,000 cubic feet in blocks of large dimensions, exclusively supplied by M. JOBERT with the strictest regard to quality and to which the attention of architects and contractors is invited — Apply on the premises, Grove-street, Deptford, or at 27, Millbank street, Westminster

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SLATE SLABS. — The Finest Slabs pro-duced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr MAGNUS, at the PIMLICO SLATE WORKS, Upper Belgrave-place planed both faces at the price that inferior Slabs in the rough self faced are [illegible] selling These reduced prices are also subject to a very large trade discount These Slabs have been extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goldsmiths' [illegible], Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects Whole cargoes supplied direct from Mr Magnus's Works in Wales, planed both faces, at very low rates Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cantilevers Chimney Pieces, &c &c

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FREESTONE. —Noblemen, Gentlemen, En-gineers, Architects, Builders, Stone-Masons, Gravestone-cutters and others, are again respectfully reminded of the CASTERTON FREESTONE This admirable Stone, a perfect oolite, is found in beds of 3 and 4 feet in thickness, of very beautiful and uniform colour and texture, and resists the effects of intense frost It has been used by many of the most eminent architects in the kingdom, for the building and restoring of churches, and other public buildings in its locality, and in all the stations from Wellingborough to Peterborough, on the Blisworth and Peterborough line of Railway Its comparatively low price, and the facility with which it is wrought, present great advantages The quarry is situate in the parish of Little Casterton in the county of Rutland, about one mile from Stamford and its Railway, and the river Welland, about seven miles from the river Nene, at Wansford and the Blisworth and Peterborough Railway, and ten from the Bourn Eau For further particulars and price apply to FRANCIS SIMPSON and SONS, Stamford

February, 1848

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAP

For Sewers and Drains of all kinds

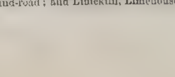
Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORPE, Engineers, 26, Lombard street, London, and at the works, Deptford, Kent.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS A certain preventative of leakage superseding the use of the metal plug tap which is so continually out of order They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease They have been tested under various pressures, and have given the greatest satisfaction Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 30, New Cut, Blackfriars road.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall walk, Lambeth Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices: —

Straight Barrel Pipes, with Socket Joints, in 2 ft. Lengths.

4-inch	6-inch	9-inch	12-inch bore
6d	8d	1s 1½d	1s. 10d per foot.

Bends and Junctions equally low

N B Drain pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs Albion Wharf, Holland-street, Blackfriars, Millbank street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse

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By Her Majesty's Royal Letters Patent.

PATENT ASPHALTE ROOFING FELT, as used by

Her Majesty's Woods and Forests,
The Royal Agricultural Society of England,
The Leeds and Manchester,
The London and North Western,
The Liverpool and Manchester,
The Chester and Holyhead,
The Norfolk and other Railways,
And the Corporation of the City of Edinbro'.

PRICE ONE PENNY PER SQUARE FOOT.

Also "DRY HAIR FELT" of superior make, at very reduced prices, for preventing the Radiation of Heat, and deadening sound.

THOS. JNO CROGGON, 8, Laurence Pountney Hill, Cannon-street, London.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT

Established March, 1838, for working the Mineral Asphalte Rock of Pyrmont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:

Foot Pavements.
Kitchen Floors particularly where it is essential to keep damps from rising.
Garden Walks and Terraces.
Carriage Drives.
Coach houses and Stabling.
Dog-kennels.
Barn Floors.
Granaries.
Tun-room Floors.
Malt-house Floors.
Piggeries, &c &c.
Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company, and as a further protection it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

J FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.

TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers at the undermentioned VERY LOW PRICES for CASH"

Parcel	1	1945 Plates,	4 inches wide, from	6 to	70 inches long, about	5[illegible] feet superficial, at	8d. per foot.	
Parcel	2	[illegible]	4	6	70	550	8d.	..
Parcel	3	2520	5	6	70	1100	9d.	..
Parcel	4	1129	7	7	70	1200	11d.	..
Parcel	5	126[illegible]	8	8	53	1100	12d	.
Parcel	6	883	9	9	50	1000	13d.	..
Parcel	7	799	10	10	60	1[illegible]	14d	..
Parcel	8	800	11	11	40	1[illegible]	15d	..
Parcel	9	800	12	12	40	1300	1[illegible]d	..
Parcel	10	600	13	13	50	1[illegible]0	1[illegible]d	..
Parcel	11	4[illegible]	14	14	30	900	18d	..
Parcel	12	430	15	15	30	1[illegible]	19d.	..
Parcel	13	2[illegible]	16	16	40	1000	21d.	..
Parcel	14	36[illegible]	17	17	[illegible]	1100	22d	..
Parcel	15	30[illegible]	18	1[illegible]	[illegible]	1000	24d	..
Parcel	16	2[illegible]	19	19	50	800	27d.	..
		200	20	20	40			
		1[illegible]	21	21	50			

The Plates measure above the sizes charged the fractional parts of the inch, both in length and width upon each Glass being allowed One Case as a strictly correct average sample may be seen at the Company's Warehouse, 12 Rathbone place

The Parcels will be carefully packed by the Company's Warehousemen, deliverable at the WORKS, SUTTON, near ST. HELEN'S. Cases allowed for when returned

The Company not accountable for breakage.

By order of the Board,

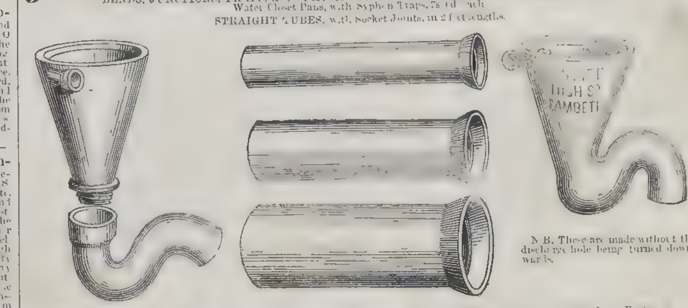
LONDON WAREHOUSE, 12, RATHBONE PLACE

J. L. GRUNDY, Company's Agent.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c. &c., HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s 6d each

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N B. These are made without the discharge hole being turned downwards.

[illegible] 3 in. bore [illegible]d 4 in 6d 6 in. 8d 9 in 1s 1½d 12 in 1s 1[illegible]d. 15 in [illegible] per Foot

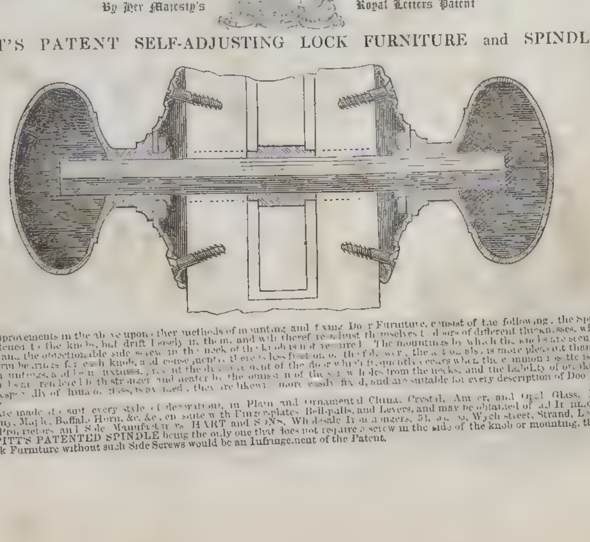
The great advantages attending the use of these articles are now so generally understood, as to render any commendation of them almost superfluous Their cleanliness, efficacy and durability, is universally admitted while the rapidly increasing demand for them proves the estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware

---

By Her Majesty's Royal Letters Patent

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February 1, 1848

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N.B. There is a part of the Cemetery ground not consecrated. Table of charges and other particulars may be obtained at the office, 123, Piccadilly.

The public are also invited to visit the Cemetery, which is open daily from Seven in the morning till sunset.

JOHN H. RUDDICK, Secretary.

COMPETITIONS.

DURHAM NEW COUNTY INFIRMARY.—TO ARCHITECTS.

THE Committee appointed to superintend the erection of the new Durham County Infirmary are desirous of receiving PLANS and Estimates for the construction of the work, upon a scale calculated for the accommodation of forty-eight patients: without any fever ward, to be capable of easy enlargement; and the offices, therefore, to be built for a greater number. The estimates are not to exceed 5,000*l.*; and these, with the plans, must be transmitted to E. W. Hutchinson, Esq., Secretary and Treasurer to the Institution, on or before Friday, the 7th day of April next.—Persons wishing to examine the site are requested to apply at the Infirmary for information.

Durham, 29th February, 1848.

TO ARCHITECTS.

SOUTH STONEHAM UNION.—The Guardians of the South Stoneham Union are desirous of receiving PLANS and ESTIMATES for a new Workhouse, capable of accommodating 250 inmates. The Plans to be so prepared that the portions of the Building intended for the Children may be omitted, if the Guardians should think fit. If the Gentleman whose Plan and Estimate shall be accepted shall be employed as the Architect, no payment will be made for his Plan and Estimate; but if he should not be so employed, 20*l.* will be paid to him for such Plan and Estimate. No remuneration will be made for any Plan or Estimate not accepted.—Plans and Estimates to be delivered at the Office of Mr. A. F. PATTERSON, Solicitor, Portland-street, Southampton, on or before the 13th March, 1848.

ALEX. FRED. PATTERSON, Clerk.

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PERSONS desirous of CONTRACTING for the PAPERING and PAINTING of a small House at Gravesend, may learn particulars, by application at Mr. LAMBERT'S, west side of Bethnal green.

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THE DIRECTORS of the LONDON, BRIGHTON, and SOUTH COAST RAILWAY are prepared to receive TENDERS for STEEL WHARF CRANES, to lift two tons; FIFTY CAST-IRON COLUMNS; and TWENTY WAREHOUSE CRANES, to lift one and a-half tons. The whole to be delivered upon the Company's Wharf, at New Cross. For Specifications and Drawings, apply to Mr. HOOD, Engineer's Office, Brighton. Tenders to be sent in to the Secretary, at the London Terminus, on or before the 25th of March next.—By order,

THOS. JNO. BUCKTON, Secretary.

London Terminus, February 29, 1848.

TO BUILDERS, CITY OF LONDON WORKHOUSE.

THE Guardians of the Poor are ready to receive TENDERS for the BUILDING of their proposed WORKHOUSE, according to the plans and specifications of Mr. RICHARD TRESS, Architect, of Little St. Thomas the Apostle, to whom are referred all persons who are desirous of competing for the same. The Guardians do not bind themselves to accept the lowest Tender, but will require the party whose Tender shall be accepted to enter into a contract for completing the Works, and the usual bond, with sureties, for the due performance of such contract. —All tenders to be sealed and endorsed "Tender for Workhouse," and sent under cover to me, on or before Monday, the 13th March next. The drawings may be seen at the office of Mr. Tress, any day on and after Thurs day, the 9th instant.

JOHN THOMAS ROWSELL, Clerk to the Union.

Union-office, 39, Cannon-street, February 24, 1848.

TO BUILDERS.

KENT COUNTY LUNATIC ASYLUM, Barming Heath, near Maidstone.—Persons willing to CONTRACT for the ERECTION of the several WORKS to be done in building an Asylum for Chronic Lunatics, and also a Chapel on land adjoining the present Asylum, are requested to deliver Tenders for the same at the Asylum, before Eleven o'Clock on Friday, the 7th day of April next, and to attend personally at the Asylum, at One o'Clock on the same day. Plans and specifications of the works to be done may be seen every day between Nine and Five o'clock, at the office of Messrs. Whichcord and Scott, Architects, Week-street, Maidstone. The Committee of Visitors will not accept the lowest Tender unless approved in all respects; and the approved Tender, if any, will be accepted subject to the approbation of the Court of General Sessions of the Commissioners in Lunacy and Secretary of State. The Contractor will be required to sign a contract, to be similarly approved, and to provide two sureties for the performance thereof, who must be named in the Tender, and be satisfactory to the Visitors.

By order of the Committee,

WILLIAM BEALE, Clerk to the Visitors

Maidstone, February 26th, 1848.

BUILDING GROUND, OLD BAILEY.

THE Governors of St. Thomas's Hospital will meet at Twelve o'Clock on TUESDAY, the 14th March, at the Hospital, to receive TENDERS from parties for a Building Lease, on a long term, of a Plot of Ground in the Old Bailey, having a frontage of 36 feet, and being of an average depth of 55 feet. For further particulars, apply to Mr. HENRY CURREY, Architect, No. 4, Lancaster Place, Strand, or to the Counting-house of St. Thomas's Hospital, where Plans may be seen.

GUILDHALL, February 11, 1848.

THE Committee for LETTING the CITY LANDS will meet at Guildhall, on WEDNESDAY, the 8th day of March, 1848, at One o'clock precisely, to receive TENDERS for LETTING on BUILDING LEASES for 80 years, from Lady-day next, a large PLOT of GROUND on the east side of Puddle-dock, on the south side of Upper Thames-street, and on the north side of the river Thames, and also a Piece of ground on the north side of Narrow-street at the corner of Cross-street, at Ratcliffe. Also to receive Tenders for letting on Leases for 21 years, from Lady-day next, a House, 19, on the north side of Broad-street-buildings, and also a House, 5, on the north side of Crescent-place, Blackfriars. Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

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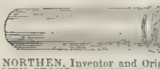
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Reports, Tables, and every information may be had of the Secretaries.

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JOHN PRESCOTT KNIGHT, R.A., Secretary.

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Parcel 11	450	14	14 „ 30	900	18d.
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Parcel 13	260	16	16 „ 40	1000	21d.
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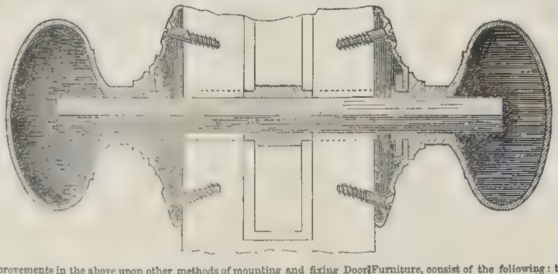
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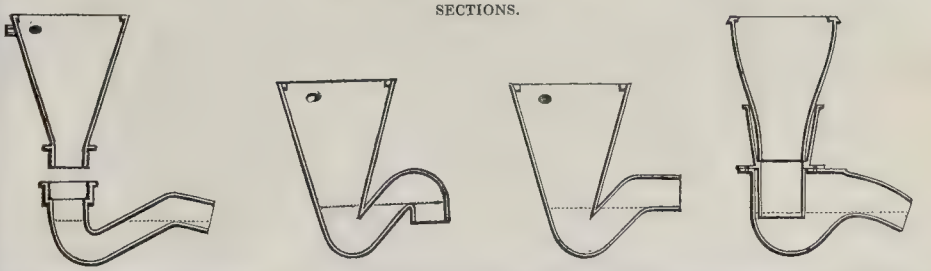
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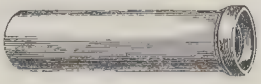
Testimony in favour of the first three of these Closet Pans, and their suitability for general adapta- tion, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4, is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

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The Builder.

Architect, Engineer, Operative & Artist.

VOL. VI.—No. 266. MARCH 11, 1848. PRICE FOURPENCE. Stamped 5d.

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A YOUNG Gentleman wishes for an ENGAGEMENT in an Office of an Architect or Surveyor. Is a good Draughtsman, understands Perspective, also Surveying and Leveling, and is perfectly acquainted with the routine of an office. Unexceptionable reference can be given.—Address, Q. Z., office of "The Builder," 2, York-street, Covent Garden.

TO ARCHITECTS, &c

A YOUNG MAN of persevering habits wishes for a SITUATION; he is a good draughtsman, accustomed to the routine of the office, and can give good references. A small salary will be required. Address, R. L., Post-office, Pentonville, New road.

A YOUNG MAN, aged 21, wishes for an ENGAGEMENT in an Architect's Office. He has been upwards of five years with an Architect and Surveyor, since which he has been gaining practical knowledge at works in the country. He is a Student of the Royal Academy, a good Draughtsman, and accustomed to the general routine of office business. A small salary only is required, improvement being the main object. References will be given.—Address, A. G., Mr. Burn's Library, Kennington green.

A STEADY, Respectable Young Man, a superior Writer, Graiuer, and Marbler, is desirous of a constant SITUATION, either in town or country. Would undertake the care of Jobs, or a Business, if required. No objection to the Brush, in the absence of other work.—Letters addressed P. M., Office of "The Builder," 2, York-street, Covent Garden.

AS CLERK OF WORKS OR BUILDER'S CLERK

THE Advertiser, 27 years of age, is desirous of an ENGAGEMENT in either of the above capacities.—Address, post-paid, to C. W., office of "The Builder," 2, York-street, Covent Garden.

TO BUILDERS AND OTHERS

THE Advertiser, having a small CAPITAL at his command, would invest the same, if required, in any respectable Firm, and having had the entire management of a Builder's office, wishes for a similar engagement. Is a good draughtsman. Address, A. B. C., at the office of "The Builder," 2, York street, Covent Garden.

ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE.

NOTICE TO ARTISTS.—All works of Painting, Sculpture, or Architecture, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 3rd, or by 8 o'clock on the Evening of TUESDAY, the 4th day of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. The other Regulations necessary to be observed may be obtained at the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A., Secretary.

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package which may be forwarded by carriers.

The prices of works to be disposed of may be communicated to the Secretary.

TO RESPECTABLE YOUNG MEN, OR SONS OF BUILDERS

SUPERIOR INSTRUCTION given in ARCHITECTURAL DRAWING, MEASURING, and QUANTITIES, by an EXPERIENCED SURVEYOR. Also a respectable, well-educated Youth, who may have a taste for Drawing, will be taken without a Premium for three years.—Address, A. O., office of "The Builder," 2, York-street, Covent Garden.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.—M. COON having discovered a NEW METHOD of LITHOGRAPHING PLANS of every Description, is about half the usual time and at a considerably less expense, begs to offer his services for that purpose, promising that any orders he may be entrusted with will be promptly attended to. It answers admirably for multiplying tracings. Lithographic Printing Office, Chapside, London.

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MR. CHARLES D. LAING, Draughtsman and Engraver to "THE BUILDER," and other Periodicals, invites the attention of Gentlemen about to publish Architectural or Scientific Works, to the facilities he possesses for the execution of WOOD ENGRAVINGS in Works of the above-mentioned Class. Specimens of Elevations, Plans, Sections, Diagrams, &c. &c.—many of them being the most elaborate in detail ever engraved on Wood—may be seen on application, personally or by letter, to Mr. CHARLES D. LAING, No. 8, Upper Smith-street, Clerkenwell.

*** A Vacancy for a Pupil.

H. MORRELL'S FINE PREPARED DRAWING PENCILS.—Under the patronage of her Majesty's Stationery Office, the Honourable Board of Ordnance, and the Honourable East India Company.

The attention of Artists and the Public generally is respectfully solicited to these BLACK LEAD PENCILS, which are prepared perfectly free from grit, of great variety of shade, and possess all the requisites for the most highly finished drawings.

Sold wholesale at the Manufactory, No. 149, Fleet-street, London, and may be had retail of all the principal Booksellers and Stationers in Town and Country.

ALLEGED INFRINGEMENT OF PATENT.
BROCKEDON v. WOLFF AND SON.

E. WOLFF and SON beg to apprize the Trade and Public that on the 14th February last Mr. Brockedon filed a bill, and applied to the Court of Chancery for an injunction to restrain them from infringing his alleged Patent of December 8, 1843, for rendering Black Lead Dust or Powder into solid blocks by means of dies and pressure. E. Wolff and Son filed numerous affidavits in opposition to the motion, one of which was made by an eminent engineer, who was decided in opinion that E. Wolff and Sons mode of manufacturing Black Lead Dust or Powder into solid blocks by means of dies and pressure was no infringement whatever, and which process had been in use by them many years prior to the date of Mr. Brockedon's alleged Patent, consequently Mr. Brockedon could not be the first and sole inventor of such process, as, by his advertisement, the public were led to believe. When the affidavits were filed, and Mr. Brockedon found he had not the remotest chance of gaining an injunction, he, on the 2nd March, 1848, petitioned the Court of Chancery to dismiss the said Bill upon his paying all the costs that Messrs. Wolff and Son had incurred by reason of such proceedings; therefore no injunction has been granted, but the Bill filed in Chancery by Mr. Brockedon has been dismissed upon his own application, and he have to pay the costs of both sides.

Mr. Brockedon has shewn that he had no grounds whatever for his application to the Court of Chancery; and his own petition for the dismissal of his Bill is the strongest proof that he has no right to claim the said use of this invention. These proceedings on the part of Mr. Brockedon can only be a resentful flourish to cover the superiority of WOLFF and SON'S PURIFIED LEAD PENCILS, and the extensive estimation in which they are held by the public in general.

E. WOLFF and SON, 20, Church-street, Spitalfields.
March 9, 1848.

CONTRACTS.

TO BUILDERS

NOTICE is HEREBY GIVEN, that TENDERS, for the performance of the branches of Artificers' Work hereafter mentioned, for the CHIEN'S DEPARTMENT, at the following Stations, will be received at the Finance Office, Pall-mall, London, on or before the 17th of March, viz.:

For Plymouth, Devonport, and Dependencies—1. Carpenters' work and Ironmongery; 2. Plasterers' and Slaters' work; 3. Plumbers', Painters', Glaziers', and Paper-hangers' work; 4. Iron-founders', Smiths', and Coppersmiths' work.

For Pendennis and St. Mawes Castles—1. Masons', Bricklayers', and Pavions' work; 2. Carpenters' work and Ironmongery; 3. Plasterers' and Slaters' work; 4. Plumbers', Painters', Glaziers', and Paper-hangers' work; 5. Ironmongers', Smiths', and Coppersmiths' work.

Separate Tenders will be required for each Station, for the combined branches of work, agreeably to the above classification—Conditions and Schedules of the Contracts may be obtained on application at the Royal Engineers' Office, Devonport, and Barrack Master's Office, at Pendennis Castle on week days, between the hours of Nine and Four o'Clock, until the 16th instant.

Royal Engineers' Office, Devonport, 3rd March, 1848.

TO BUILDERS.

THE Churchwardens of Ware, Herts, are ready to receive TENDERS for the REPAIR AND RESTORATION of the PARISH CHURCH. The Plans and Specifications may be seen on and after TUESDAY, the 14th inst., in the Vestry-room of the said Church, between the hours of Ten and Four, and at the Office of the Architect, Mr. GEORGE GODWIN, 25, Alexander square, Brompton, from Ten till Five. The tenders are to be delivered free of expense at the residence of either of the Churchwardens, on or before Friday, the 7th day of April next. The Churchwardens do not pledge themselves to accept the lowest tender, and will require security for the due performance of the works.

TENDERS FOR IRON RAILING,
PARISH OF ISLEWORTH, COUNTY OF MIDDLESEX.

THE Churchwardens give notice, that they are ready to receive TENDERS from Persons desirous of CONTRACTING to erect an IRON RAILING, with GATES, &c., in the Churchyard of the above parish, and to do some other WORKS for the appropriation of the new Burial ground.—Plans and specifications may be seen at the office of Mr. M. ADAMS, Surveyor and Auctioneer, Isleworth, and tenders sealed and endorsed "Tenders for Graham Island Churchyard, &c.," must be sent to his house on or before Saturday, the 25th instant. Information may also be obtained of Mr. C. F. MALTBY, Architect, Hounslow; Churchwardens, Isleworth. The Churchwardens do not bind themselves to accept the lowest, or any other tender, unless satisfactory to them.

HORATIO G. DAY,
SAMUEL GOODENOUGH, } Churchwardens.

Isleworth, March 8, 1848.

WESTBOURNE GARDENS BUILDING SOCIETY.
TO BUILDERS

THE Trustees and Directors of this Society are willing to receive TENDERS for the ERECTION of TWENTY-ONE THIRD-RATE HOUSES in Westbourne Grove West, in the parish of Kensington.—Plans and particulars may be seen at the offices of Mr. EDWARD N. CLIFTON, Architect, No. 9, Tokenhouse-yard, Lothbury, between the hours of Ten and Five, after Wednesday, the 15th inst. The Trustees and Directors do not pledge themselves to accept the lowest tender.

TO BUILDERS

TENDERS are required for the Erection of a VILLA RESIDENCE, with Stables and Appurtenances, at Sunbury, near Richmond. Drawings and Specification to be seen at the office of the Architect, Mr. RICHARD TRESS, 23, Little St. Thomas Apostle, City.

CITY OF LONDON UNION WORK-HOUSE—NOTICE IS HEREBY GIVEN, that the Guardians of the Poor have ENLARGED the TIME for sending in the TENDERS for the BUILDING of the LYING-IN HOSPITAL, from the 15th to the 25th March, on which latter day, at Twelve o'Clock precisely, each party is requested to deliver his Tender, either in person or by substitute duly authorized, in writing, to the Guardians then assembled, at the Union Board Room.

JOHN THOMAS ROWSELL, Clerk.

35, Cannon-street, March 8, 1848.

BUILDING GROUND, OLD BAILEY.

THE Governors of St. Thomas's Hospital will meet at Twelve o'Clock on TUESDAY, the 14th March, at the Hospital, to receive TENDERS from parties for a Building Lease, on a long term, of a Plot of Ground in the Old Bailey, having a frontage of 36 feet, and being of an average depth of 95 feet.—For further particulars apply to Mr. HENRY CURRIL, Architect, No. 4, Lancaster Place, Strand; or at the Counting-house of St. Thomas's Hospital, where Plans may be seen.

BREEZE FOR BRICKMAKING.

THE Phœnix Gas-Light and Coke Company are ready to receive TENDERS for quantities of not less than 300 CHALDRONS of the SMALL COKE or BREEZE made at their stations at Bankside and Vauxhall, during the next twelve months. The entire quantity will be about 3,000 chaldrons, and the contractors will be required to enter into an agreement, under a penalty, not to leave more than 50 chaldrons on the works at any one time, and to pay the account for the same quarterly. The tender is to state the price per chaldron of 36 bushels, delivered into craft alongside, or carts, and to be marked with the words, "Tender for Breeze," on the cover, and to be delivered at their office at Bankside, on or before Twelve o'clock on Wednesday, 15th March.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge road (the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railings, and other Iron and Smith's work Manufactured of the best quality. Iron and Fence Hurdles as usual. Trade supplied.

IRON WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouth pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very [illegible] UPSETS.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from 1½ inch to 12 in. in diameter, [illegible] also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

CAST-IRON PIPES, for Gas, Water, or Drainage, 1½ to 12 inches diameter, with every requisite connection [illegible] KELLY [illegible] Girder [illegible] drawing

FLEXIBLE PIPES AND [illegible] FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING of every description. These Pipes [illegible] and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for [illegible] Washers for steam and hot water joints &c., of all sizes. Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

IRONMONGERY WAREHOUSE.—To Builders, Carpenters, &c.—W. YOUNG and Co., 194, Oxford-street, [illegible] reduction in all their prices. Lists sent upon application by post.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS [illegible] Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels [illegible] BAKERS' OVEN WORK, Force Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c. [illegible]

IRON FOUNDRY,

163, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam Engine Patterns; Range Stove and Hot-plate Metal.

A stock of Rain Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c.

A very superior description of Soot Door, particularly suitable for [illegible] ESTIMATES given for IRON ROOFING [illegible] of Ironwork [illegible] every attention to [illegible]

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PATENT COPPER WIRE ROPE LIGHTNING CONDUCTORS, for the Protection of Churches, Towers, Chimney-Shafts, &c.

SMITH and ENGLISH, Princes-street, Leicester-square, London, beg to inform Architects, Builders and others [illegible] proving considerably cheaper first cost, much simpler of application [illegible] who have adopted it in preference.

Also [illegible] PATENT [illegible] PATENT CASEMENT FASTENINGS AND SILL-BARS, [illegible] IMPROVED [illegible] which they continue to manufacture [illegible] every improvement which experience and practical observation can suggest.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT [illegible] COPPER WIRE CORD for WINDOW SASH LINES [illegible] able Ironmongers.

ARTESIAN WELLS, BORING TOOLS, PUMPS, &c. [illegible] quantity procured by applying to W. SPELLER, 14, York-street, Blackfriars-road, London; where can be had any quantity of Tools for Sinking or Boring, from 2 to 20 inches diameter, and from 100 to 2,000 feet depth; also, Men and Tools to Bore for Railroads [illegible]

HOT-WATER APPARATUS.—The [illegible] BENJAMIN FOWLER [illegible] greenhouses, manufactories and warehouses, kilns, rooms for drying [illegible] buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction [illegible] to vouch for their efficiency. [illegible] seen in [illegible] upon the premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

IMPROVED COOKING APPARATUS.—MARRIOTT'S PATENT.—After forty years constantly manufacturing all kinds of Cooking Ranges, can confidently recommend this as the most perfect and economical one ever produced: it will roast, bake, boil, fry, stew, heat a steam closet and [illegible] IMPROVED WATER CLOSETS, PORTABLE [illegible] NEW PATENT CHIMNEY TOP for SMOKY CHIMNEYS. This article is the most unique and perfect Chimney top yet in use, [illegible] MANUFACTORY, FLEET-STREET, LONDON.

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JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c. &c.

Black Register Stoves [illegible] Self-acting Ranges, with Oven and Back Boiler, Wrought Bars [illegible]

3 ft.	3ft. 6 in.	4 ft.
[illegible]	[illegible]	[illegible]

[illegible]

TO BUILDERS and CARPENTERS.—Elliptic Stoves, Double backs, 3½ per inch. Registers, 6½, 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 35s.; 3 ft. 3 42s.; 3 ft. 6, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, Wrought Bars and Bright Fittings, 3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	1d.	1s 4d.	1s 1d. per 1,000.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	20d.

[illegible] Best Town Glue 38s. Do Scotch, 52s. per cwt.

Best Patent Sash Line.

4s. 1d.	5s.	6s. 6d.	[illegible]	1s.	12s per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, [illegible]

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 16, Blackfriars-road, and 117, Union street, Borough.

Strong [illegible] Kitchen Ranges, with Back Boiler and Oven and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
[illegible]	[illegible]	[illegible]	£4.	[illegible]

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	[illegible]	[illegible]	[illegible]	£7

Best Register Stoves, at 7d., 8d., and 9d. per inch. Do Elliptic do., at 3½d. and 4d. do.

Manufacturer of W. G. [illegible] PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving [illegible] Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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2 in.	2½ in.	3 in.	3½ in.	4 in.
1s. 1d.	1s. 3d.	1s. 5d.	1s. 9d.	2s. 2d. per yard

Sheet Floor Brads, 14s. per cwt. All other Nails in proportion. Register Stoves with inside backs, 6½d. and 7d. per inch, and upward.

A variety of Best Black Ground and Bright Register Stoves. Elliptic Stoves, with inside back, 3½d. per in. Self-acting Ranges, with Circular Ovens, Back Boilers and Wrought Bars:— 3 ft. 3 ft. 6 in. 4 ft. £3. [illegible] £3 13

Iron and Steel of every description

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Best Patent Cut Clasp

4d.	6d.	10d.	20d.	per 1,000.
6½.	8d.	1s 4d.	1s 10d.	,,

Cast Butts.

2 in.	2½ in.	3 in.	3 in.	
1½d.	1 3d.	[illegible]	[illegible]	per doz

Also Best Patent Sash Line

8	4	5	6	per doz. knots.
6s. 6d.	7s. 6d.	[illegible]	[illegible]	

[illegible] equally reasonable. Catalogues [illegible] tion, and will be executed either upon the receipt of a remittance for the same, or a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors.

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[illegible] 11s. 6d. per cwt. [illegible] Fitted with Duces' Patent Spindles, 36s. per dozen.

Best Butt Hinges, 2 in. 2½ in. and 3 in. 1s. 2d. 1s. 6d. 2s. 6d. per dozen pair.

Elliptic Stoves, 3d. per inch. [illegible]

Best Self-acting Ranges, fitted complete—

3 ft.	3 ft. 6 in.	4 ft.
2l. 17s. 6d.	3l. 7s. 6d.	[illegible]

[illegible] order (made payable at the Camden Town Post-office), forwarded [illegible]

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LONDON and PROVINCIAL JOINT STOCK LIFE INSURANCE COMPANY. The DIRECTORS invite the Public generally, also BUILDING SOCIETIES and BORROWERS through them or from other parties [illegible] EVERY DESCRIPTION of LIFE ASSURANCE, INVESTMENT and LOAN BUSINESS transacted. LOW RATES of premium, and three-fourths of profits divided. [illegible] JOHN MASSON, Secretary. Offices, No. 39, Nicholas-lane, Lombard-street.

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Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50
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Reports, Tables, and every information may be had of the Secretaries. Edinburgh Office—14, St. Andrew's-square; London Office—12, Moorgate-street.

MITRE GENERAL LIFE ASSURANCE, ANNUITY, and FAMILY ENDOWMENT ASSOCIATION, [illegible] London. (Established pursuant to Act 7 and 8 Vict., cap. 110. The Rev. [illegible] Chairman. The Hon. RICHARD E. HOWARD, Deputy Chairman.

This Association continues to effect Assurances of every description, upon the very lowest, safest, and most equitable terms, calculated on the experience of more than 63,000 assured Lives. [illegible] Endowments and Annuities granted on the most advantageous terms.

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LIFE PROFITS. [illegible] Insurances without profits may be effected at rates considerably reduced. [illegible] THOMAS LEWIS, Secretary.

A TRADING COMPANY, of small capital (under the sanction of an Act of Parliament, already obtained), is now forming for the more efficient working of a Business which [illegible] progressed beyond the limits of private management. The business alluded to is one of great importance, extensively adopted both at home and [illegible] capital may be extended *ad libitum*. A considerable portion of the [illegible] taking, and subscribers are now only sought who, upon due inquiry, are willing to embark their money as a *bona-fide* investment. To such further information will be given, by addressing a letter, with proper name and reference, to T. P. C., 43, Carey-street, Lincoln's-inn.

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THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, the entire STOCK of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers, at the under-noted VERY LOW PRICES for CASH:"

Parcel	Plates	Inches wide	Inches long	Per foot
Parcel 1.	1915 Plates,	4 inches wide, from 6 to	70 inches long, about 350 feet superficial, at	8d. per foot.
Parcel 2.	1915	5	6 ,, 70	[illegible]
Parcel 3.	2430	6	6 ,, 70	[illegible]
Parcel 4.	1125	7	7 ,, 70	11d.
Parcel 5.	1264	8	8 ,, 53	12d.
Parcel 6.	898	9	9 ,, 50	13d.
Parcel 7.	779	10	10 ,, 50	14d.
Parcel 8.	800	11	11 ,, 40	15d.
Parcel 9.	800	12	12 ,, 40	16d.
Parcel 10.	690	13	13 ,, 50	18d.
Parcel 11.	470	14	14 ,, 40	18d.
Parcel 12.	450	15	15 ,, 40	18d.
Parcel 13.	360	16	16 ,, 40	21d.
Parcel 14.	300	17	17 ,, 50	21d.
Parcel 15.	300	18	18 ,, 50	24d.
Parcel 16.	[illegible]	19	19 ,, 50	[illegible]
	200	20	20 ,, 40	27d.
	150	21	21 ,, 50	

The Plates [illegible] Cases allowed for when returned. [illegible] suitable for breakage.

LONDON WAREHOUSE, 12, RATHBONE PLACE.

By order of the Board, J. L. GRUNDY, Company's Agent.

PREPARED FLOORING BOARDS.

ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 4 inch to 14 inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH STUFF, &c.
Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico
to E. Moore and Son, 1 and 2 Great Smith street, Westminster.
Buildings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and at Barge Wharf, Upper Ground street, Blackfriars.

J. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickmakers Arms, SEASONED FLOORING, MATCH BOARDING, PLANK FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Ash, Oak, &c., in planks, boards, veneers, and logs; Panelled, Oak, and Fir Laths, Wheelwrights' Goods. All sawn and prepared goods delivered free of expense except timber. Sawing charged at the lowest prices. Very extensive Drying Sheds.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted Long free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.

TIMBER AND DEAL SAWING AND PLANING MILLS, Belvidere road, Lambeth, near Waterloo-bridge.

THE GENERAL WOOD-CUTTING COMPANY continue to receive the most satisfactory assurances from all who have given their improved machinery a trial, that there is no method of preparing floor-boards, matched linings, mouldings, &c., by which accuracy, despatch, and economy of material are so certainly obtained. In sheeting, or grooving and tonguing a board (although curved), the machine follows the edge, moving no more than the skin of the wood, and by the use of a circular saw for deep cutting, the board comes off with a perfect surface, thus obviating the necessity of reducing its thickness in order to plane out the hollows. The Company being neither builders nor timber merchants, unconnected with any trade but that of sawing and planing, and depending solely on the public for a moderate interest on their capital, are determined, by an assiduous attention to the interests of their customers, both as regards workmanship and general business arrangements, to merit a continuance of their support.

NOTICE. PLANING MACHINERY.

MR. F. ALLCOCK solicits the attention of the trade to his newly-erected and much-improved FLOORING WORKS; also Match Boarding, Ploughing, Moving, Rebating, &c. &c., with the greatest accuracy and despatch, together with the least possible waste, leaving the edges as free from the Twine Plane Box Makers and large consumers of Planed Boards contracted with, being drawn in, cut, planed, and delivered at a few hours' notice.—Commercial Sawing and Planing Mills and General Wood Preparing Works, Commercial-road, Lambeth, between Blackfriars and Waterloo Bridges, near Cornwall-road

WOOD THOROUGHLY SEASONED IN DAYS instead of YEARS, by DAVISON and MINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, checks further shrinkage, and strengthens the fibre. For sale of Deals, or license to work the patent, or any further information, letters, post-paid, or apply to W. H. TANQUERAY, Secretary, at the temporary offices of the Company, 28, New Broad-street, City.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELFACTING EFFLUVIA TRAP
For Sewers and Drains of all kinds.
Registered January 5th, 1843.
A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, and not get out of order, and may be readily applied in all situations without altering the present pattern.
The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 25, Aldgate-street, London; and at the works, Deptford, Kent.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS.—A certain preventive of leakage, superseding the use of the metal plug tap which is so continually out of order. They are more durable, less expensive, and less liable to get out of order, and lose little by disuse. They have been tested under large pressures, and are given the greatest satisfaction. Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 30, New Cut, Blackfriars-road.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 11, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—
Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

4-inch.	6-inch	9-inch.	12-inch bore.
6d.	8d.	1s. 1d.	1s. 10d. per foot.

Bends and Junctions equally low.
N.B. Drain pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland-road; and Limekiln, Limehouse.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

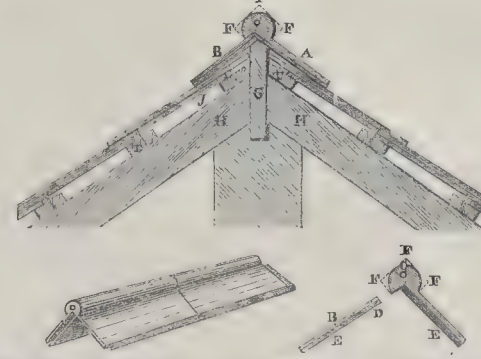
Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura
Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

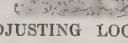
Foot Pavements.	Dog Kennels.	Covering of Railroad and other Arches.
Kitchen Floors particularly where it is essential to keep damps from rising.	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tan room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Piggeries, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a farther protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.
Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.
I. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London

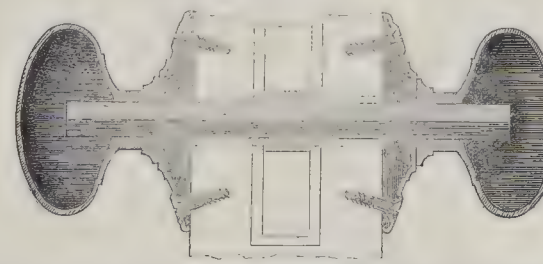
WILLIAMS'S PATENT SLATE RIDGES AND HIPS.



THE above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.—Sold by Messrs. J. and J. SHARP, Slate Merchants, Pooles-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere road, Lambeth, London.

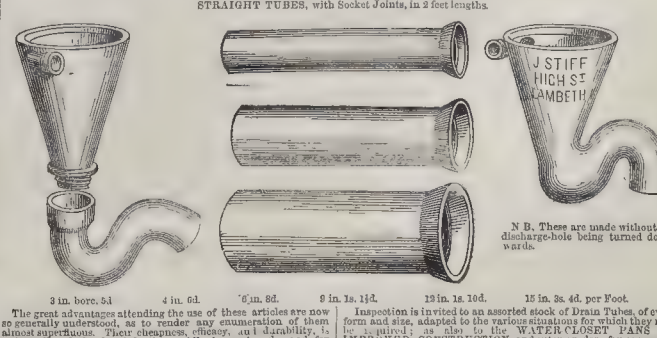
By Her Majesty's  Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following:—the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is dispensed with. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the follower; the action also is more pleasant than with ordinary mountings, and being fixtures, prevent the disinclination of the door which from other causes, such as the common rosette is used.
The knobs are retained both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.
They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger-plates, Bell-pulls, and Levers, and may be obtained of all Ironmongers or of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Ironmongers, 34, 34, 35, Wych-street, Strand, London.
N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore. 5d	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficacy, and durability, is universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c. To Builders, Cabinet makers, Coach painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, early in March (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 32, Bernard-street, Russell-square, late in the occupation of Messrs. Austin and Rommell, together with the well-arranged and roomy workshops at the rear, and having entrance in No. 4, Guilford-place, with detached stable, coach house, sheds, &c., all with the advantage of an abundant supply of spring water; held for upwards of 7 years, at a ground rent.—May be viewed by application on the premises.

SURREY IRON RAILWAY COMPANY.

To Wharfingers, Dock Companies, Water Companies, and Steam-boat Companies.—NOTICE is HEREBY GIVEN, that the Surrey Iron Railway Company's spacious Wharf, Basin, and Property, adjoining the Thames, Wandsworth, Surrey.

MESSRS. CRAWTER have been instructed to offer the above valuable Property to public competition in the course of the ensuing month. Particulars, advertisements and particulars, with the day of sale, will shortly appear.

7, Southampton buildings, Chancery-lane, March 9, 1848.

FREEHOLD BUILDING LAND, near to Kensington Park and the Uxbridge-road, Notting-hill, containing about 10 Acres, in Lots.

MR. FREDERICK CHINNOCK is instructed to SUBMIT for SALE by AUCTION, at the Auction Mart, on FRIDAY, March 10th, at the precise hour, valuable FREEHOLD GROUND RENTS, and lots, amounting to £75 per annum, secured upon a public-house, private houses, and shops, all well let to good tenants, situate in William street, Uxbridge-road, near Kensington Park. The ground-rents will be lotted under the different leases originally granted by the freeholder. Printed particulars, together with the valuable freehold building land described below, accompanied with plans, may be had 14 days before at Mr. CHINNOCK'S Offices, 28, Regent-street, Waterloo-place.

TO BRICKMAKERS, BUILDERS, CONTRACTORS, AND OTHERS.

MR. MARSH has received instructions to SELL BY AUCTION, on Wanstead Park, on TUESDAY, March 21, 1848, at Twelve o'clock, in lots, all the IMPLEMENTS appertaining to an extensive and well-established BRICK MAKING CONCERN, consisting of pug mills, crank mill, moulding tools, barrows, planks, iron plates, a Wedlake's patent chaff-cutting machine, hurdles, &c., a quantity of chalk, breeze, and dust, and a few lots of bricks; also a fast trotting mare, cart harness, a pony under duty, two broad-wheel carts, tumbrel cart, pony chaise, harness, and various effects. May be viewed and catalogues had on the premises of sale, and catalogues obtained of Mr. J. C. PERRIE, near the Church, Wanstead; at the various inns in the vicinity; and at the offices of Mr. MARSH, Auctioneer, Surveyor, and Land Agent, 27, Bucklersbury.

TO ARCHITECTS, BUILDERS, MASONS, CABINET-MAKERS, AND OTHERS.—Valuable Stock of the Pimlico Marble Works.

MR. G. HAINES announces for SALE by AUCTION, on the Wharf, Upper Belgrave place, on TUESDAY and WEDNESDAY, March 14 and 15, at Twelve o'clock, by order of the Proprietor, to make room for extension of workshops, a choice assemblage of 90 handsome black and gold statuary and vein marble chimneypieces; 60 marble tray-top washstands, part in mosaic frames; 3,000 feet of various marble slabs, of good qualities and useful thicknesses; marble butter-trays, plates, and coloured circles; sawn Portland and Hare Hill slabs; York sinks; Portland and York stone landings of about nine inches; steam-engine cylinder; iron pug-mill; various materials and useful items. May be viewed three days previous to the sale. Catalogues may be obtained at the LANDS Offices, Grosvenor-street West, Eaton-square, and No. 13, High-street, Kensington.

AUDLEY END, near Saffron Walden, Essex.—About 800 LARCH FIRS (many of which are of large dimensions in upwards of forty-two) growth of TIMBER TREES, several hundred dozen of Ash, Elm, and Oak Saplings, a Quantity of Willow and other Poles, Firewood, &c., the greater part of which are now lying on the side of Tilsbury-green-road and the Fulram-green; to be SOLD BY AUCTION, by MARTIN SOCKRIDGE, upon the Premises, at Ten o'clock on MONDAY, March 13th, 1848. May be viewed by application to Mr. HOPPO, at Audley End, of whom catalogues may be had, and at the office of the Auctioneer, Saffron Walden. Six months' credit upon approved security, and purchasers above £5 sole to commence near the Avenue Cottages on the Littlebury-green-road.

MR HENRY LYONS, capital STOCK of PAPER-HANGINGS, the Modern Blocks, Printing Tables, &c., in consequence of his retirement from the business. The capital Premises, with Manufactory, &c., to be Disposed of.

MESSRS. ROBINS are instructed to SELL by AUCTION, at 136, High Holborn, on WEDNESDAY, March 15, and two following days, at Twelve, the extensive

STOCK OF PAPER-HANGINGS

of Mr Henry Lyons, at No. 136, High Holborn, comprising at least 300 pieces of satins, gilt, and other papers, fashionable and novel and beautiful patterns, which have gained for this house a high and well-earned reputation. The stock, which will be sold to the best bidder, will be arranged in lots to suit Builders, whose attention to this desirable opportunity is especially invited; also upwards of

50 SETS OF BLOCKS

all of a modern and useful description, besides decorative blocks, printing tables and lining boards, lining and sized printing papers, all now available. Part of the Stock and Catalogues will be ready one week prior, and the paper hangings and Blocks will be on public view two days prior, at 136, High Holborn; catalogues also at the offices, in Covent Garden.

SECOND PORTION OF MR. GRISSELL'S VALUABLE STOCK.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, York-road, Lambeth, on MONDAY, March 20, and four following days, at Eleven precisely each day, by order of Mr. Grissell, who has relinquished the Contracts which he had upon hand, the SECOND PORTION of his valuable STOCK, in the following order:

First Day—A large quantity of joiner's work, boards, ironmongery, &c.

Second Day—The iron founder's work for many stages, complete, consisting of cast and wrought columns, builder's castings, and iron, six tue trucks, a locomotive truck, light cart, cart harness, two gigs, a fire engine, &c.

Third Day—Pile engines and monkeys, crab engines, hoisting jacks, powerful sets of blocks and chains, saw benches, machine for hoisting workmen, railway wheels, 50 tons of permanent railway bars, chairs, keys, and a quantity of sleepers.

Fourth Day—Three capital Hodgkinson's shaping, punching and cutting machines, new cast-steel picks, about 11 tons of best steel, &c.

Fifth Day—The contents of plumbers, painters, and glaziers' shops, a large quantity of new and old lead and marine metal, brass cocks, plate glass, and sundries. To be viewed two days prior to sale, and catalogues had upon the Premises, and of the Auctioneers, Cecil-buildings, No. 1, Little Smith-street, West minster.

N.B. The THIRD PORTION, comprising 1,000 planks, deals, and battens, sash, doors, mantle stone, plaster, casts, ironwork &c will shortly follow.—Approved bills from purchasers above 50l.

TO GAS FITTERS, BRASS FOUNDERS, AND OTHERS.

TO BE DISPOSED OF, the old BRASS CHANDELIERS and FITTINGS, formerly used in lighting the interior of the Church of St. Paul, Covent Garden.—The above may be viewed by application, and Tenders for the same will be received at the Vestry Clerk's office adjoining the Church, between the hours of Ten and Two, up to and including Tuesday, the 21st inst.

TO BUILDERS, MARBLE MASONS, &c.

A MOST desirable opportunity for any person of capital to embark in the above line now presents itself. The present existing business can be carried on for more than Midsummer and Easter. For particulars, apply to Mr. D. S. WHITE, Timber Merchant, Town, Maidstone.

TO BE SOLD, apply at 23, Wardour-street, an INSIDE MAHOGANY GLASS-CASE, glazed and French polished, fit for a Silversmith's shop; TWO SHOP FRONTS, glazed with plate glass in the best squares; a Spanish Mahogany Winged BOOK-CASE, 8 feet wide.

TO BRICKLAYERS, CARPENTERS, AND BUILDERS.

TO BE SOLD, on very Reasonable Terms, the Good-will of a WELL-ESTABLISHED BUSINESS at the east end of London, in which considerable jobbing and other works have been done up to the time of the death of the late proprietor. The Lease of the Premises has six or seven years to run at a low rent.—Apply on the Premises, No. 8, Osborn-street, Whitechapel. The above presents a favourable opportunity to any enterprising man of small capital, as the stock to be taken will be made light.

ST. PANCRAS VESTRY-ROOMS, Gordon-street, Gordon-square held under the Duke of Bedford for a long term, at a ground rent, will pass on

TO BE SOLD, by Private Contract, a valuable long Leasehold ESTATE, consisting of extensive premises, known as the late St Pancras Vestry Rooms, situate in Gordon-street, Gordon-square. The premises are most substantially built, and have a frontage to Gordon-street, and comprise a spacious Board-room, 47 ft. by 24, with waiting rooms, private and clerks' offices, auctioneers, assessments, &c., of four rooms, &c., and are peculiarly adapted for a Court, Institution, Chapel, or for any purpose requiring large and well-arranged rooms and offices. Held for an unexpired term of 76 years, at a ground rent. The possession will be given.—For particulars apply to Mr. SAMUEL HEATH, Jun., Solicitor, 1 Church-court, Clement's-lane, and at the New Vestry-room, Pancras-road.

By order of the Vestry, JOHN MCGAHEY, Vestry Clerk.
December 1, 1847.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

STATIONARY ENGINES FOR SALE.—

On pair of Condensing Engines of about 40 horse power each, with Air Cylinders, 57 inches diameter, 3½ feet stroke, made by Messrs. Maudsley, Field, and Co., now fixed at Croydon. One pair of ditto ditto, at Forest Hill. One pair of ditto ditto, at ditto. Each pair of the above engines is furnished with three Cornish boilers. Purchasers will have to take the engines down and load them on the company's trucks. Further particulars may be had on application to Mr. T. J. HOOD, Engineer, Brighton.—By order,

T. J. BUCKTON, Secretary

London Terminus, March 3, 1848.

STRATFORD, ESSEX.

LAND TO BE LET on Building Leases, in an open and healthy situation, at Stratford New Town, close to the Eastern Counties Railway Station and Factories, a populous and rising locality. Apply to Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's Inn fields.

SOME PLOTS of BUILDING GROUND to LET for respectable PRIVATE HOUSES of the third and fourth rate Property, pleasantly situated, and fronting an avenue of 40 yards of the Kensington Palace. All the Leases on the estate have readily let as fast as built. Leases direct from the freeholder; term, 90 years. Ground Rents moderate. Apply for cards to Mr. GARLICK, Ironmonger, 14, High-street, Kensington.

TO TIMBER DEALERS AND BUILDERS

TO BE LET, in High-street, Kensington, a compact BUSINESS in the Timber and Building line, with or without Dwelling-house.—For particulars apply to Mr. RIDGWAY, High-street, Kensington.

FREEHOLD BUILDING GROUND, CROYDON, SURREY.

TO BE LET OR SOLD, about Sixteen Acres of BUILDING GROUND, in Plots, to suit Purchasers. Roads in the town; the roads are completely made, and gas laid on, and the land to be relieved. Inquire of Messrs. DAVIS and VIGERS, 3, Frederick's-place, Old Jewry.

BUILDING GROUND FOR SMALL THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required.—For Plans and Particulars apply to Mr. H. BIERS, 13, Carlton Villas, Edgware road.

TO BE LET, in the immediate neighbourhood of Dorset-square, a capital FOUR-ROOMED HOUSE and BACK PREMISES, with Gateway, Yard, Stable, Loft, &c; with rooms over the stabling, suitable for any of the building trades, or any business requiring back premises. The whole is in excellent repair, and will be let for an unexpired lease.—For further particulars and cards to view apply to Mr GEORGE HEAD, House Agent, &c., 7, Upper Baker street, Regent's park.

MANOR PARK ESTATE, STREATHAM, SURREY.

TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Tulse Hill Railway, upwards of SIXTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-grown timber, is of singular beauty. Private rides, walks, and drives are laid out to be made within the Park. Taring bricks, both White and Red, Stocks and others of an excellent quality, and in any quantities, may be had on the Estate, and an allowance will be made in the price where used on the Estate. Gravel of a superior description is found in abundance on the ground, and is to be had. Advances will be made, and other accommodation afforded to respectable builders taking an adequate interest in the property, which is likely to be immediately remunerative to them, from a great and increasing demand for houses existing in this neighbourhood.—For Lithographed Plans and Particulars apply to Messrs. RANKEN, FORD, LONGBOURNE, and VICKERMAN, No 4, South-square, Gray's-inn; Messrs GOUGH and ROUMIEU, Architects, No. 10, Lancaster-place, Strand; or Mr. WILKINS, at the Manor-park Office, Streatham.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SELECT ASSORTMENT OF KNOBS

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common square lock, can be had through the Nearest Ironmongers. Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

MORTGAGE AND ANNUITY OFFICE, No. 123, CHANCERY LANE.

PERSONS requiring LOANS by way of MORTGAGE, or otherwise, upon any available security, may at all times procure an advance to the extent of from £20 to £10,000, or such as the property will bear, by applying to Mr BRAY, surveyor, at the offices as above.

N.B. To expedite the proceedings, personal application at the office would in all cases be better, the party bringing with them the abstract of title, plans, &c.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are as follows:—ONE SHILLING PER FOOT SUPERFICIAL for all the Flutes and Reeds, and TWO SHILLINGS PER FOOT SUPERFICIAL for Bands and Borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most reasonable terms.—CHARLES LONG, No. 1, King street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 19, RATHBONE PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

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Ventnor, March 9, 1848.

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METROPOLITAN SEWERS.—Whereas it appears that it is the practice in several Districts of Sewers, and more particularly in the Surrey and Kent and Tower Hamlets Districts, to construct Drains and Sewers, and to communicate the same with the public open and covered Sewers, without the leave of the Commissioners of Sewers being first obtained NOTICE IS HEREBY GIVEN, that all requisite information may be obtained at the following Offices of the Commissioners, viz.:—

Westminster, &c.—1, Greek-street, Soho-square.
Holborn and Finsbury—7, Hatton garden
Tower Hamlets and Poplar—15, Great Alie-street, Whitechapel.
Surrey and Kent, and Greenwich—Literary Institution, Borough-road

And all persons are hereby cautioned against proceeding with any Drain or Sewer without the consent of the said Commissioners.

LEWIS C. HERTSLET, Order Clerk

TO ARCHITECTS

PROPOSED NEW CHURCH in the Parish of Edmonton, Middlesex.—The Committee will be ready to receive PLANS on or before Friday, the 24th inst., before Five o'clock p.m. The Church to contain 800 sittings in the area, half at least to be free, and the whole expense, including fittings, not to exceed 2,000l. The Committee will not be answerable for any expense which architects may incur who use plans are not selected. Plans to be delivered, free of expense, to the Rev. THOMAS PAGE, Vicarage, Edmonton.

TO ARCHITECTS.

DESIGNS are required for a Building to be erected at the East end of Emma-place for the STONE-HOUSE MECHANICS' LITERARY and SCIENTIFIC INSTITUTION. The building to be from 110 to 120 feet long, and 50 feet wide, and to be recessed 15 feet from the street. The north half of the basement to be appropriated for watch and look-up rooms; the other half for kitchens, pantry, cellars, &c.

The north half of the first floor to contain a large room suitable for lectures, supper room, or Town hall, and the other half for a library, news room, museum, and committee-room. It is contemplated that the height of the town hall or supper room will admit of an intermediate suite of rooms over the library, &c., for the residence of the librarian, and other purposes. There will be required on the next floor, a large room for concerts or assemblies, at least 85 feet by 45, together with dressing and retiring rooms, and water closets. The building to contain all the rooms and conveniences necessary for a Mechanics' Institute, as well as to be adapted for public purposes, such as a town hall, balls, concerts, and for meetings of public bodies or companies. The main entrance to be in the centre of the west front, with a portico sufficiently lofty for carriages to drive under in order to set down company. The ground is a steep excavated, and the stone for building on the spot.

Plans, a computed to an estimate of the expense, which is not to exceed 3,000l. (the stone being a gift, the cost of quarrying only to be included), are requested to be sent to the Honorary Secretary, Mr JAMES PAYNE, No 2, Edgecumbe street, Stonehouse, Devon, on or before the 1st of May next, and from whom further information may be obtained. No Premium will be given for Plans, but the Architect whose plan is approved of will be employed with the usual commission.

CONTRACTS.

METROPOLITAN SEWERS TO BUILDERS AND OTHERS

NOTICE IS HEREBY GIVEN, the Commissioners of Sewers will be ready, at the Court House, No 1, Greek street, Soho-square, on TUESDAY, the 28th of March, 1848 to receive TENDERS for the BUILDING of 481 FEET of SEWER in the Marylebone and Finchley road, in the parish of Hampstead. Also for the performance, for one year, of bricklayers', carpenters', masons', paviours', and plumbers' work, not exceeding 200l. in amount for any one job. Specifications, forms of tender, and other particulars may be obtained at this office daily, between the hours of Nine and Four. Parties offering must be in attendance at Ten o'clock precisely, on the 28th March, with separate sealed tenders, specifying on the outside for which of the above works the tender is made. Each tender must be strictly in the printed form prescribed. The Court does not bind itself to accept the lowest tender

LEWIS C. HERTSLET, Clerk.

Sewers Office, No. 1, Greek-street, Soho-square, March 16, 1848

THE Visiting Justices of the Devon County Prisons are ready to receive TENDERS for the WARMING and VENTILATING the Additions about to be made to those Prisons, and of the Works connected therewith. Also for LAYING ON and DISTRIBUTING the WATER to the different parts of the same Prisons. Specification and particulars of both may be seen at the office of Mr. HAYWARD, the County Architect, in Exeter; and the tenders for either or both the works to be sent to him, on or before the 27th day of March instant.

R. EALES, Clerk of the Peace.

Castle of Exeter, 7th March, 1848.

TO BUILDERS.—LITLEMORE ANYLUM, NEAR OXFORD.

BUILDERS willing to CONTRACT for the Erection of an additional WING to the Male side of the Asylum are invited to inspect and copy, at the County Hall, Oxford, the Plans and Specification of the Works, and to deliver to the undersigned, on or before the fourth of April, Tenders of their terms for contracting to execute the works. Each Tender must be accompanied by the names of two responsible persons, who would join the Contractor in the usual bond for the performance of the same; but it shall not be deemed obligatory upon the Visitors to accept the Tender which may be lowest in amount. The contract and bond will be prepared by the Clerk of the Visitors, and a copy delivered to the Contractor, free of charge; and drafts of these documents in the form in which the contracts and his sureties will be required to execute them may be seen with the Plans. Any further particulars may be known of Mr. HENRY JONES UNDERWOOD, Oxford, the Architect, or of

JOHN M. DAVENPORT,
Clerk of the Committee of Visitors

County Hall, Oxford, March 18, 1848

ARCHITECTURAL CARVING COMPANY, Eccleston place (late Sir F. CHANTRYS Foundry, Pimlico, respectfully directs the attention of Architects, Builders, and others to the facilities afforded by their Machinery for producing Carved Work, Mouldings, and Enrichments, and at a great saving of time and expense. Designs in Wood or Stone Specimens may be seen at the Premises. Estimates obtained on application at the Premises.

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TO BRICK AND TILE MAKERS
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Algerton and at the Company's office, 164a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrimshaw, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Algerton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Paling station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 164a, Piccadilly. Models of Machines, &c. These can also be seen at Mr. Bush's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pendrigge, Staffordshire; Messrs. Drumond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

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ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from 1 inch to 4 inch thick.

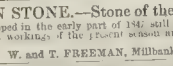
AT REDUCED PRICES.

TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH SILLS, &c.

Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late C. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship. Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. DAVIS, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms, SEASONED FLOORING, MATCH BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pannels, Oak, and Fir Laths; Wainscoting Books. All sawn and prepared goods delivered free of expense except timber. Sawing charged at mill prices. Very extensive Drying Sheds.



SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of unshipping and water carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Depôt adjoining for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, address, post paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices, of the Company, 28, New Broad street, City

TO DRAUGHTSMEN AND CIVIL ENGINEERS
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 12, Fleet-street, London. These Pencils are perfect in various degrees of hardness and shades

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering,	B black for shading,
H for sketching.	B B ditto ditto.
H B hard and black for drawing	B B B ditto ditto.
B B B ditto ditto
M medium.

Sold by all the principal Stationers in town or country.

ALLGOOD INFRINGEMENT OF PATENT.
BROCKEDON v. WOLFF AND SON.
E. WOLFF and SON beg to apprize the Trade and Public that on the 14th February last Mr. Brockedon filed a bill, and applied to the Court of Chancery for an injunction to restrain them from manufacturing his alleged Patent of December 8, 1846, for Excelsior Black Lead Dust or Powder into solid blocks by means of dies and pressure. E. Wolff and Son filed their affidavits in opposition to the application, of which was made by an eminent engineer, who was decidedly of opinion that E. Wolff and Son's mode of manufacturing Black Lead Dust or Powder into solid blocks by means of steam and pressure was no infringement whatever, and which process had been in use by them many years prior to the date of Mr. Brockedon's alleged Patent, consequently Mr. Brockedon could not be the first or sole inventor of such process, as by his advertisement, the public were led to believe. When the affidavits were filed and Mr. Brockedon found he had not the remotest chance of gaining an injunction, he on the 2nd March, 1848, petitioned the Court of Chancery to dismiss the said Bill upon his paying all the costs that Messrs. Wolff and Son had incurred by reason of his proceedings; therefore no injunction has been granted, but the said Bill filed in Chancery by Mr. Brockedon has been dismissed upon his own application, and he has to pay the costs on both sides.

Mr. Brockedon has shewn that he had no grounds whatever for his application to the Court of Chancery; and his own petition for the dismissal thus Bill is the strongest proof that he has no right to carry the case of this invention. These proceedings on the part of Mr. Brockedon can in no way affect in the least the superiority of WOLFF and SON'S PATENTED LEAD PENCILS, and the extensive estimation in which they are held by the public in general

E. WOLFF and SON, 23, Church-street, Spitalfields
March 1, 1848

MITRE GENERAL LIFE ASSURANCE, ANNUITY, and FAMILY ENDOWMENT ASSOCIATION, 23, Pall Mall, London.

Established pursuant to Act 7 and 8 Vict., cap. 110.

The Rev GEORGE PITCOCK, LL.B., Chairman.

The Hon. RICHARD E. HOWARD, Deputy Chairman.

This Association continues to effect Assurances of every description, upon the very lowest, safest, and most equitable terms, calculated on the experience of more than 62,000 assured Lives.

On half the premium may remain unpaid, at interest, for any time, if required.

Moderate rates for unhealthy climates, and for persons afflicted with any disease not immediately dangerous to life.

Endowments and Annuities granted on most advantageous terms.

Applications may be made to SPENCER P. PLUMER, Esq., Secretary, 23, Pall Mall.

FAMILY ENDOWMENT, LIFE ASSURANCE AND ANNUITY SOCIETY.
12, Chatham-place, Blackfriars, London.
CAPITAL £500,000.

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BONUS.

Thirty per cent. Bonus was added to the Society's Policies on the profit scale in 1845. The next valuation will be in January, 1853.

ANNUAL PREMIUMS WITH PROFITS

Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1 17 9	2 3 1	2 9 7	2 16 2	3 5 5	3 16 2	4 10 6	5 7 6

INDIA.

The Society also grants Policies to parties proceeding to or residing in India, at lower rates than any other office. The Premiums on which may be payable either in London or at the Society's Office in Calcutta.

Annuities of all kinds, as well as endowments for Children, are granted by the Society.

The usual commission allowed to Solicitors and others.

JOHN CAZENOVE, Secretary.

ART UNION OF LONDON: incorporated by Royal Charter.—The Subscription Lists for 1848 will CLOSE on the last day of March. Each Prizeholder at the Annual Distribution will be entitled to SELECT FOR HIMSELF a Work of Art as heretofore. Every Subscriber will receive for each Guinea an Impression of "The Prisoner of Glaros," engraved by F. Bacon, after F. H. Wehnert, now printing, and a quarto edition of Milton's "L'Allegro" and "Il Penseroso," illustrated by Wood Engravings by thirty leading Artists. Specimens of the engravings may be seen at the office.

GEORGE GODWIN, } Hon. Secs.
LEWIS POCOCK, }

4, Trafalgar-square, March, 1848.

ROYAL ACADEMY EXHIBITION.—To ARCHITECTS, &c.—Mr. WILLIAM CANSDELL, Architectural Artist, will be glad to receive instructions from the Profession, for Drawings in Elevation, Perspective, or Landscape, with Interiors, and Figures in appropriate Group and Costume.—Letters and Tracings to be addressed to Mr. CANSDELL, office of "The Builder," 3, York-street, Covent Garden; or 134, Blackfriars-road.

ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE
NOTICE TO ARTISTS.—All works of Painting, Sculpture, or Architecture, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 3rd, or by Six o'clock in the Evening of TUESDAY, the 4th day of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. The other Regulations necessary to be observed may be obtained at the Royal Academy

JOHN PRESCOTT KNIGHT, R.A., Secretary

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package which may be forwarded by carriers.

The prices of works to be disposed of may be communicated to the Secretary.

LONDON ASSURANCE CORPORATION.—For LIFE, FIRE, and MARINE ASSURANCE. Established by Royal Charter of King George the First, A.D. 1720. Offices, 7, Royal Exchange, Cornhill; and 10, Regent-street.

JOHN LAURENCE, Sec.

LONDON and PROVINCIAL JOINT STOCK LIFE INSURANCE COMPANY.

The DIRECTORS invite the Public generally, also BUILDING SOCIETIES and BORROWERS, through them or from other parties, to examine the peculiar system and striking advantages offered by this office

EVERY DESCRIPTION of LIFE ASSURANCE, INVESTMENT, and LOAN BUSINESS transacted.

LOW RATES of premium, and three forms of profits divided For prospectuses, &c. apply to

JOHN MASSON, Secretary

Offices, No. 39, Nicholas-lane, Lombard-street.

SCOTTISH PROVIDENT INSTITUTION, Edinburgh, Glasgow, Manchester, London.—For Mutual Life Assurance, with the peculiar advantages

1 Mutual Assurance by the most moderate rates of premium.
2 Whole Profits, divided amongst the Assured exclusively.

ANNUAL PREMIUMS PER £100, WITH WHOLE PROFITS:

Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1 15 8	1 18 0	2 1 6	2 6 10	2 14 9	3 5 5	4 1 7	5 11 3

Reports, Tables, and every information may be had of the Secretaries.

Edinburgh Office—14, St. Andrew's-square; London Office—18, Moorgate-street.

JACKSON'S PAPIER MACHE and CARTON PIERRE. Enrichments executed in the first style, at their Establishment, 9 and 5, Rathbone place.

Just published, a Series of Designs for SHOP FRONTS.—Elizabethan, Renaissance, and Italian. Price 7s. 6d.

Designs prepared, Ceiling Flowers, Mouldings, Wall-dressings, and general interior decorations in every style.

ARCHITECTURAL ENRICHMENTS
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Woods, by the highest of the building authority, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative and Bath House Lecture Hall, &c. also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an impartial public must ere long establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 26, REGENT STREET and ST. JAMES'S-PLACE. Patent sealed on the 21st day of February, 1845 for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Reducing and Strengthening, without Machinery, any Two or Three Inches Sheathing the Faces of Wood Laths with Iron Tr. Patentee having fixed up some hundreds, will feel pleased in forwarding to the respectable Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security and simplicity, without the use of cog wheel worm and screw gear or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c. IN BRASS, COPPER, ZINC, &c.

Sole Lincencees for the manufacture of MARVIN'S PATENT DIAGONAL GRATINGS, for Areas, Balcony Floors, &c.

The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by practical Working Experience has been adopted, and the price greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS

B. and C. have made great registered improvements in Revolving Wood Shutters, which are fitted up with proper metallic hinges that cannot rust with air when no water can be safe or durable, and are worked by the patent rumbler gear as for Iron Shutters, or counterbalanced in a new or peculiar way, and are wound up or down with the greatest ease, without the use of objectionable loose lines. A preference may be given to any of these, and prices respectfully solicited.

A modification of the above, working vertically, is especially adapted for Bar and Bow Windows.

The Patent Diagonal Ventilating Wrought Iron Grating will be found a great desideratum for use at shop fronts, in shop and warehouse floors, and for balcony floors, as it does not obstruct the light, yet admits of ladies walking over or standing on the same.

IMPROVED BEVELLED AND FLOORING CRAMPS FOR BUILDERS.

which are greatly superior to anything hitherto introduced.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painte l work on the most moderate terms. CHARLES LONG, No. 1, King-street, Baker-street, Portman-square. Cash only.

PLATE GLASS.

THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 12, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices.

ROUGH PLATE GLASS, of every thickness, at very low rates.

J. L. GRUNDY, Company's Agent.
12, RATHBONE-PLACE.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for that purpose.

ROUGH PLATE GLASS supplied 1, 3-8, ¼, and ⅜ inch thick. Particular attention is requested to the superior colour and evenness of this article.

LONDON WAREHOUSE, 29, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

SOHO PLATE GLASS COMPANY, 26, Soho-square. Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Clrey Companies, Paris. The Trade are informed that this Plate House and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Looking-glass and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

STAINED GLASS.—To the Clergy and Architects.—Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other Saints (some having canopy and pedestals), with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tablets.

Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 18, Foley-place, Langham place.

GLASS FOR CONSERVATORIES.—JAMES PHILLIPS and Co., 116, Bishopsgate-street Within, cut, are supplying SHEET GLASS at the following reduced Prices for Cash:

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG	SMALL SQUARES OF SHEET,	
	4 by 3 and 4½ by 3½	1d. ₰ ft.
18 oz. to the foot	5 .. 3 .. 5½ .. 3½	2 ..
.. ..	5 .. 4 .. 6½ .. 4	2½ ..
26	7½ .. 5 .. 7½ .. 5½	3½ ..
29	10 .. 6 .. 9½ .. 6½	4½ ..
	Not above 10 .. 8 .. 3	..

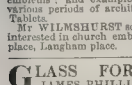
GLASS MILK-PANS, PROPAGATING GLASSES, and BEE GLASSES. GLASS TILES and SLATES.

CREAM-POTS, from 3 to 24 quarts, at 8d. per quart.

GUTTA PERCHA GLASSES, from 12 inches long, 1d. per inch.

LACTOMETERS for trying the quality of Milk, 4 tubes, 7s. 6d.; 6 tubes, 10s.; and every article in the trade.

CHAS. WM. WATERLOW,



MANUFACTURER
of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Enamel, and Embosser, 12a, Cumberland Market, Regent's park, London, where specimens are to be seen.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only,
70, York Road, Lambeth; and at 28, Cross Street, Blackfriars Road.
*** An Apprentice wanted.

ZINC WORK.

MESSRS. F. and J. HARLAND beg to call the attention of Builders and others to the following list of prices, for cash:—

2-inch Pipe	per foot 4d.	3-inch Gutter	per foot 4½d.
2½ ditto	4½d.	4-inch ditto	5d.
	Inch Ridge 6½d.		

Flats covered and Cisterns Lined from 1½d to 6d. per foot superficial; Cornice Gutters, 5d. to 7d.—No. 3, Cumberland-place, Newington, Surrey, opposite to the Freemasons' Almshouses.

N.B. Orders by post punctually attended to.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 16, Hampstead-road, 67, St. Mary's-lane, and 18, Argyle-street, Glasgow, having proved by actual wear and tear, during his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas, and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

THE REGISTERED HYDRAULIC RAM-VALVE, FOUNTAIN BASINS, in Iron; Waterwheels, Steam-engines, &c.; Pumps for deep Wells, &c.; Liquid-manure Pumps; Fountain Jets of every design; Shower Baths, and every description, erected and heated on scientific principles; Buildings heated by Hot Water; Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Table Fountains to play Scented Water during Dessert; Analysis of Water from 7s. 6d. to 42 lbs.; by FREEMAN ROE, Hydraulic Engineer and Fountain Maker, No. 70, Strand, London.—Wells sunk and boring executed in town and country.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBE[2] with Socket Joints, in 3 feet lengths.



N.B. These are made without the discharge-hole, being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficacy, and durability, is universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

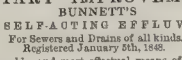
LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS.—A certain preventative of leakage, superseding the use of the metal plug tap which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and have given the greatest satisfaction.—Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 30, New Cut, Blackfriars road.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAP
For Sewers and Drains of all kinds.
Registered January 5th, 1842.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self acting and self cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.			
4-inch.	6-inch.	9-inch.	12-inch bore.
6d.	8d.	1s. 1½d.	1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

WILKINSON'S Improved SEWERS are guaranteed to be more durable than the hardest burnt bricks, quite smooth inside; can be supplied in lengths of 12 or 16 feet, either complete or the bottoms only. House Drains are made with house covers, to any shape or size. Further particulars may be had on application to W. B. WILKINSON, Prudhoe-street, Newcastle-on-Tyne.

PAPER-HANGINGS.—To BUILDERS and OTHERS.—About 20 to 30,000 Pieces of old stock, comprising a variety of most excellent patterns, to BE SOLD in small lots, at job prices, at the Paper-staining Manufactory of A. and R. WILCOXON, No. 1, Stones-end, Borough.

PAPER-HANGINGS.—Builders and the Trade are respectfully invited to inspect the immense STOCK of PAPER-HANGINGS always on hand at S. TUCKER'S Paper-hanging Warehouse, 261, High Holborn, near Lincoln's Inn-fields, and also at the Manufactory, 14, Cannon-street road, St. George's East, which consists of every variety of design, and suitable for every class of dwelling, and at astonishing low prices, as an inspection will prove. Bed-room papers from 4d. per yard. Please observe the address, 274, High Holborn.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 30,000 Pieces, of the newest designs, French and English, Bedrooms, 4d. per yard; Satins, 3d per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.
W. CROSBY, 22, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

ECONOMY!

STEPHENS'S DYES for STAINING WOOD, AS A SUBSTITUTE FOR PAINT, for decorating Churches, large Public Rooms, and Theatres, as well as Private Dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations; and art, and, at the same time, avoid the disagreeable smell and deleterious consequence of paint. The dyes or stains are prepared and sold by HENRY STEPHENS, 51, Stamford-street, Black friars road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. They may also be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and one pound will make one gallon of stain.

Sold also at the office of "The Builder," 2, York-street, Covent Garden, London; and at HOPKINS and PURVIS, Colourmen, Greek-street, Soho, where specimens may be seen.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue and White Lias Lime Works, CHURCH STREET, ROTHERHITHE, London. Sole Consignee of Atkinson's Cement.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of Fire and the attacks of Vermin.

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WITH PECULIAR ADVANTAGES TO BUILDERS.

TO LET, in a most respectable and picturesque Situation, about a quarter of a mile from Highbury, and within three miles from the new Post office several most desirable PLOTS of GROUND, Land Tax redeemed and Lease direct from the Freeholder—Plans and all particulars may be had at the office of Mr A. ASHPITEL, Architect, No 5, Crown-court, Old Broad-street.

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TO BE LET, a SMALL WHARF, most desirably situate, or an arrangement offered for Deposit and Sale of Goods by Commission.—Apply to Mr. HICKS, Builder, Palace-road, Stangate, Lambeth.

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TO ARCHITECTS, CARVERS, BUILDERS, AND OTHERS

FOR SALE, several Loads of fine, sweet, CHESNUT TIMBER, sawn into 3, 4, 4½, 5, and 6-inch Planks, lying a short distance from the River Medway, between Maidstone and Rochester.—For particulars, apply to Mr. D. S WHITE, Timber Merchant, Tovil, Maidstone.

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TO BE DISPOSED OF, an exceedingly profitable and well-established Business (now in full trade) in the Manufacturing of White Bricks, Tiles, and Ornamental Goods of every description, from the finest Clay this country can produce, with every convenience for carrying on an extensive trade The works adjoin a navigable river, from whence goods may be shipped to all parts Full particulars and terms may be obtained of Mr. D. NICHOLSON, Wandsworth, Surrey.

TO GAS FITTERS, BRASS FOUNDERS, AND OTHERS.

TO BE DISPOSED OF, the old BRASS CHANDELIERS and FITTINGS, formerly used in lighting the interior of the Church of St. Paul, Covent Garden.—The above may be viewed on application, and Tenders for the same will be received at the Vestry Clerk's office, adjoining the Church, between the hours of Ten and Two, up to and including Tuesday, the 21st inst.

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c.—To Builders, Cabinet makers, Coach painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, in March (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 13, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Ramsell, together with the well-arranged and roomy workshops at the rear, and having entrances in New-street mews, with four-stall stable, couch-house, sheds, saw-pit, with the advantage of an available supply of spring water; held for upwards of 70 years, at a ground rent.—May be viewed by application on the premises.

FREEHOLD BUILDING GROUND, near to the famed Epsom Race-course, the Surrey Hills, and the Railway Station at Ewell, by

MR. JAMES WHITE, at the Spring Hotel, at Ewell, on MONDAY, April 3rd, 1848, at Two o'Clock, in six lots, SIX PLOTS of FREEHOLD BUILDING GROUND, commanding extensive frontages, on the capital turnpike-roads leading to Dorking through Epsom, and to Reigate through Sutton, and also on the high-road from Epsom to Croydon, presenting attractive sites for the erection of cottage villas, or houses of a less pretending character, which are much sought after in this locality. The air is exceedingly pure, and an abundance of fine spring water. Mr. YATES, Builder, of Ewell, will shew the premises, and a plan of the lots. Full descriptive particulars may now be had of Messrs. POTTER and COLLINGRIDGE, Solicitors, No. 5, Basinghall-street, and of the Auctioneer, Dorking

SECOND PORTION OF MR. GRISSELL'S VALUABLE STOCK

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, York road, Lambeth, on MONDAY, March 20, and four following days, at Eleven precisely each day, by order of Mr. Grissell, who has relinquished the general building business, without reserve, the SECOND PORTION of his valuable STOCK, in the following order:—

First Day.—A large quantity of joiner's work, boards, ironmongery, &c.

Second Day.—The new joiner's work for nine cottages, complete, mahogany and oak timber, wheelers' goods, builder's carts and van, stone trucks, a locomotive truck, light cart, cart harness, two gigs, a fire-engine, &c.

Third Day.—Pile engines and monkeys, crab engines, hoisting jacks, powerful sets of blocks and chains, saw benches, machine for boring workmen, railway wheels, 30 tons of permanent railway metals, rod and bar iron, rain water pipes, &c.

Fourth Day.—The contents of blacksmiths' shops, punching and cutting machines, new files, stone picks, about 4 tons of best steel, &c.

Fifth Day.—The contents of plumbers, painters, and glaziers' shops, a large quantity of new and old lead and marine metal, brass cocks, plate, crown, and sheet glass, &c.—May be viewed four days previous, and catalogues had upon the Premises, and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

N.B. The THIRD PORTION, comprising 10,000 planks, deals, and battens, sawn boards, marble, stone, plaster, casts, ironwork &c. will shortly follow.—Approved bills from purchasers above 50*l.*

TO MASONS, BUILDERS, PLASTERERS, AND OTHERS

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the Premises, Belvidere road, Lambeth, on TUESDAY, March 28th and following day, at Ten for Eleven o'Clock precisely, by order of Mr Grissell, who has relinquished the general building business, a large quantity of Portland, Bramley Fall, Caen, Mansfield, and other STONE, in blocks; York coping, cills, steps, and sinks, 4,000 feet of paving, vein, bar lulls and dove marble in seantling and slips, chimney pieces, &c. Also, the contents of the plasterers sheds—cement, paving tiles, ridge tiles, and chimney-pots, southampton bricks, plaster casts, moulds, &c.; stone trucks, two light hand trucks, saw heads and poles, and numerous other effects May be viewed one day previous, and catalogues had on the Premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster

IRONMONGERY GOODS, fitted to suit private Buyers, Carpenters, Builders, and the Trade, No. 7, Hawley-place, Kentish-town. Lease, Good-will of Business, and Reversion

MR. T. TIMS will SELL BY AUCTION, without reserve, on the Premises, No. 7, Hawley-place, Kentish-town, on TUESDAY, March 21, and following days, at Twelve each day, the modern and well-selected stock of a Furnishing Ironmonger and Smith, including register and elliptic stoves, ranges, polished steel and other fenders, and fire irons, cast brass iron scuttles, saucepans, bronze tea-urns, japanned trays, metal tea-pots, candlesticks, gas metres, tin, japanned, plated, and toilet ware, anvils, smith's tools, and various effects. Also the lease of the capital premises and good-will of the above established business, and the reversion to a life interest, in a twenty-five years' term, to lease. May be viewed the day previous to, and mornings of sale Catalogues on the premises, at the offices of R. BAINES, Esq., Lavender-buildings, and of the Auctioneer, 63, Upper Charlotte street, Fitzroy square.

SURREY IRON RAILWAY COMPANY

To Wharfingers, Dock Companies, Water Companies, and Steamboat Companies.—NOTICE of SALE of the Surrey Iron Railway Company's spacious Wharf, Basin, and Property, adjoining the Thames, Wandsworth, Surrey.

MESSRS. CRAWTER have been instructed to offer the above valuable Property to public competition in the course of the ensuing month. Descriptive advertisements and particulars, with the day of sale, will shortly appear.

7, Southampton-buildings, Chancery-lane, March 9, 1848.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS' CABINET MAKERS, WHEELWRIGHTS, AND OTHERS.

MR. LERREW will SELL BY AUCTION, at Llanderch Wharf, Augustus-street, Regent's-park, near Cumberland Market, on MONDAY, March 20th, and following day, at Eleven for Twelve o'Clock each day, the well-assorted STOCK, viz., 3,000 feet mahogany, 3,000 planks, deals, and battens, 30 squares prepared floor boards, oak and elm coach and cart stocks and spokes, 2,100 feet ash and oak plank, 950 feet elm boards, 1,000 ash felloes, chaise, &c. To be viewed on Saturday and morning of sale, when catalogues may be had on the Premises, and of the Auctioneer, 2, Cardington-street, Hampstead-road, near the Euston Station.

PADDINGTON GREEN.—To Builders, Stone and Marble Masons, and Others

MR. G. DEEKS begs to announce that he is instructed by the Proprietor (who is leaving London) to SELL BY AUCTION, on the Premises, 62, Harrow-road, Paddington-green, without reserve, on TUESDAY, March 21st, 1848, at Twelve for One o'Clock, the remaining portion of the STOCK IN TRADE, UTENSILS, &c., comprising 90 chimney pieces, in black, black and gold, statuary, bardillo, dove, vein marble and stone chimney-pieces; quantity of statuary scantling, slips, lambs, &c., work benches, mason's tools, trade truck, &c.; also a small quantity of household furniture, and numerous other useful effects.—To be viewed the day prior and morning of sale, when catalogues may be had on the Premises, and at Mr. G. DEEKS' Auction and Estate Agency Offices, 26, Albion-street, Hyde Park-square

TO ENGINEERS AND MILLWRIGHTS.

W. and C. PUGH will SELL by AUCTION, on the Premises, No. 1, Wharf-road, Pritchard's-road, Hackney-road, near the London-bridge, Cat and Mutton-fields, the whole of the UTENSILS in TRADE and PATTERNS of an ENGINEER and MILLWRIGHT, comprising self-acting, cast-iron bed and other lathes, of a superior description, boring bars, screwing machinery, stocks, taps, dies, and all the other usual implements of a manufacturer; patterns of marine, high-pressure and condensing engines, pollard oak, suitable for fancy cabinet-makers; also a large bed stone for edge runners, now standing on Mr. Makelly's Premises, Pond-yard, Bankside, Southwark.—May be viewed the day before the sale, and Catalogues had on the Premises of the Auctioneers, 6, Blackman-street, Southwark.

TO BUILDERS AND OTHERS.

MR. WILLIAM ELLIS will SELL by PUBLIC AUCTION, at AMERICA MEWS, Minories, SMALL STOCK of a Builder removed for convenience of Sale on MONDAY, 20th March, at Twelve, comprising scaffold poles, boards, planks, ladders, pulleys, cords, &c.; ironmongery, consisting of about 45 gross of screws, various descriptions of hinges, rim, mortice, dead, and plate locks, latches, nails, sash fastenings, pulleys, bolts, &c.; two excellent office desks, copying machine, glazed sashes, coffee-house fittings, in excellent condition, fluted columns and pilasters, stoves, iron guard rails, some old lead and iron, and quantity of useful framing. May be viewed Saturday preceding and morning of sale. Catalogues had at the offices of the Auctioneer, 130, Minories, City.

TO CAPITALISTS.—Freehold and well-secured Leasehold Property, for long terms, FOUR FREEHOLD HOUSES, Lambeth-hill, Old Fish-street, in the City of London, and TWENTY-SEVEN LEASEHOLD HOUSES, held for long terms, at low ground rents, in the following rapidly-improving localities—Regency-square, Kennington; James-street, Southampton-street, Camberwell; Albert-street, Hemming-row, New Road; Penton-place, near the Surrey Zoological Gardens; Emerson-terrace, New Park-street, Southwark; and Union-road, Coburg-road, and Old Kent-road.—

W. and C. PUGH will SELL the above by AUCTION, at GARRAWAY'S COFFEE-HOUSE, Cornhill, on FRIDAY, March 24th, at Twelve o'Clock, without reserve, and invite attention both of large and small Capitalists to this selection of highly-eligible property, whether for occupation or investment. The Leasehold Property is held for long terms, at low ground rents, and from the improvements taking place in the various localities, will speedily command tenants.—Printed particulars of each property may be had of F. PRITTON, Esq., Solicitor, 3, Three Crowns-square; of Messrs. Stourney and Simpson, Solicitors, 7, Wellington-street, Southwark; of Messrs. Lapard, Williams, and Co., Solicitors, Cloak-lane, City; and at the Auctioneers' Offices, 6, Blackman-street, Southwark.

TO IRONFOUNDERS, RAILWAY CONTRACTORS, AND MACHINISTS.—New Cross Station, on the London and Brighton Line of Railway

MESSRS. BLAKE are directed to SELL BY AUCTION, at Cold Blow Wharf, New Cross, by order of the Directors of the London, Brighton, and South Coast Railway Company, on TUESDAY, the 4th of April next, at Eleven for Twelve o'Clock precisely, the various STORES and MATERIALS, lying principally at the New Cross Station, and comprising a large steam crane to lift 20 tons, fixed at Norwood, oscillating and rotary engines, 24 lap and tire wrought-iron columns and girders, nearly 1,000 feet of 14-inch iron water-pipe, 36 5-feet iron cog-wheels, with racks, girders, &c., large fly engine-wheels, two cylinder boilers with egg ends, 600 cheek rails, several hundred tons of atmospheric pipe, rail cleats, spikes, screws, scrap iron, a large quantity of leather atmospheric valves, water cranes and piping, large bellows, grindstones, 30 joiners' benches, a 15-feet swing bridge, five tons of old rope yarn, various machinery, building materials, and useful effects.

N.B. Cold Blow Wharf is on the bank of the Surrey Canal, which communicates with the Thames, offering to purchasers the advantage of water conveyance for the removal of the lots.

May be viewed four days before the sale, and catalogues had at the principal stations of the line; of Mr. HAWKINS, at Cold Blow Wharf; at the Inns at Deptford, Greenwich, and Woolwich; at Garraway's Coffee-house, Change-alley; at the Artichoke Inn, Newington-causeway; and of Messrs. BLAKE, Croydon, Surrey.

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Architect, Engineer, Operatives & Artist.

C. C. & Co.

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ADVERTISEMENTS.

WANTED, by a Young Man, a Situation in an Architect or Builder's Office as GENERAL CLERK. 's a good Land Surveyor. Unexceptionable reference will be iven.—Address, J. R., at the office of "The Builder," 2, York-treet, Covent Garden.

WANTED, by a Young Man (highly respectably connected) a SITUATION with an ARCHI-ECT and SURVEYOR; is fully competent to office duties, and measuring work, &c. Unexception able reference can be given.—ddress (pre-paid) A. G., Peele's Coffee house, London.

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THE Advertiser wishes for a SITUATION as FOREMAN or GRAINER. Warrants his work to be of the first class, both in Woods and Marbles. Understands Plain and Decorative Paper hanging, and has a thorough knowledge of the business throughout. No objection to the country.—Address, L. K., 17, Weber-street, Blackfriars-road, London.

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THE Advertiser is desirous of meeting Gentlemen who would require his services for completing Architectural Designs. Perspectives got up and coloured in the neatest style for Competitions, at moderate terms. The Advertiser further begs to state, that he makes a consideration in his charges should the Competition prove unsuccessful.

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TO PAINTERS AND BUILDERS.

A YOUNG MAN, who has just served his time to the House Painting, Writing, and Graining, is desirous of a SITUATION; pecuniary being the chief object.—Address, A. B., 15, Camden-street, Camden-town.

TO ARCHITECTS

A YOUNG GENTLEMAN of considerable experience, and who has lately returned from an architectural tour in Italy, Belgium, &c., is desirous of making an ENGAGEMENT as ASSISTANT.—Letters addressed to (" D. C." Mackenzie, Esq., 43, Stanhope-street, Mornington-place, Hampstead-road.

TO BUILDERS AND OTHERS.

A MIDDLE-AGED PERSON wishes to have an ENGAGEMENT as FOREMAN or PAINTERS and GLAZIERS (his late employers having retired from business); he having held a situation as above for twenty years. References as to character can be obtained from his late employer.—Address, A. B., 34, King-street, Soho.

TO ARCHITECTS, BUILDERS, FOUNDERS, &c.

A COMPETENT PERSON is desirous of obtaining a SITUATION as CLERK of WORKS, or in a Builder's Office or Foundry. Is well acquainted with Building, Measuring, Drawing, and Accounts, and would be willing to make himself generally useful.—Address to X. Y. Z., office of "The Builder," 2, York-street, Covent Garden.

TO ARCHITECTS.

A GENTLEMAN, who has completed his term of service, desires an ENGAGEMENT as CLERK of WORKS, or ASSISTANT in the office of an Architect. The advertiser has received a liberal education, is a good architectural draughtsman, can measure and estimate builder's works, is intimately acquainted with the details of construction, and can therefore prepare working drawings and specifications with great accuracy, and discharge the other duties of the profession. Although a fair remuneration would be required, his object is rather to obtain respectable employment than a large salary. Most satisfactory testimonials and references can be produced as to ability and character.—Address, Juvenis, Architect, at Messrs. Fisher and Co., 3, Westmoreland-street, Dublin

METROPOLITAN SEWERS.—Whereas it appears that it is the practice in several Districts of Sewers, and more particularly in the Surrey and Kent and Tower Hamlets Districts, to construct Drains and Sewers, and to communicate the same with the public open and covered Sewers, without the leave of the Commissioners of Sewers being first obtained. NOTICE IS HEREBY GIVEN, that all requisite information may be obtained at the following Offices of the Commissioners, viz.:—

Westminster, &c.—1, Greek street, Soho square.
Holborn and Finsbury.—7, Hatton-garden.
Tower Hamlets and Poplar—15, Great Alie-street, Whitechapel.
Surrey and Kent, and Greenwich.—Literary Institution, Borough-road

And all persons are hereby cautioned against proceeding with any Drain or Sewer without the consent of the said Commissioners.

LEWIS C. HERTSLET, Order Clerk.

ART-UNION of LONDON (incorporated by Royal Charter).—The Subscription List for 1848 will CLOSE on FRIDAY next, the 31st inst.—Each Prizeholder at the Annual Distribution will be entitled to SELECT FOR HIMSELF a Work of Art as heretofore. Every Subscriber will receive for each Guinea an Impression of "The Prisoner of Gisors," engraved by F. Bacon, after E. H. Wehnert, now printing, and a quarto edition of Milton's "L'Allegro" and "Il Penseroso," illustrated by Wood Engravings by thirty leading Artists. Specimens of the engravings may be seen at the office.

GEORGE GODWIN, } Hon. Secs.
LEWIS POCOCK, }

4, Trafalgar-square, March 25th, 1848

NOTICE is hereby given, that a MEETING of the Directors of the Charitable Fund for Aged and Incapacited Members of the INSTITUTION of BUILDERS' FOREMEN, will take place on Wednesday Evening next, March 29, at the Bay Tree Tavern, St. Swithin's-lane, for the purpose of ELECTING a GOVERNOR for the ensuing twelve months, and other general business. W. ALLARD, Secretary.

ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE.

NOTICE TO ARTISTS.—All works of Painting, Sculpture, or Architecture, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 3rd, or by SIX o'clock in the Evening of TUESDAY, the 4th day of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. The other Regulations necessary to be observed may be obtained at the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A., Secretary.

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package which may be forwarded by carriers.

The prices of works to be disposed of may be communicated to the Secretary.

INSTITUTION for the FREE EXHIBITION of MODERN ART. Exhibitors are informed that the 8th of April next is appointed for the Allotment of Space on the Walls of the Gallery, and that the only days for receiving Pictures are the 10th and 11th of April next, and the Exhibition will open on the 24th.

78, Newman-street. E. J. NIEMANN, Hon. Sec.

ELDRED'S ART EXPOSITION, for the Promotion of English Talent, for Manufactures and Commerce, 168, New Bond street.—The intention is (as far as possible) that constantly shall be placed before the public all productions of British design and manufacture, justly shewing the great improvement that has lately been introduced into manufactures connected with the Fine Arts, and if these productions are appreciated and patronised, "Great Britain" may assume an Artistic station proportionate to her rank in Manufacturing skill.—London, adjoining the Clarendon.

TO ARCHITECTS, CARVERS, BUILDERS, AND OTHERS.

FOR SALE, several Loads of fine, sweet, CHESNUT TIMBER, sawn into 3, 4, 4½, 5, and 6-inch Planks, lying a short distance from the River Medway, between Maidstone and Rochester.—For particulars, apply to Mr. D. S WHITE, Timber Merchant, Tovil, Maidstone.

TO CARPENTERS, BUILDERS, AND OTHERS.

TO BE SOLD, on very moderate terms, the GOODWILL of an old-established respectable JOBBING BUSINESS, at the West end, with the Lease of very compact Premises, Stabling, and Tenements, and the Stock in Trade, which is very light. The portions at present underlet nearly clear the rent.—Apply to R. S., office of "The Builder," York-street, Covent Garden.

ORGAN FOR CHURCH OR CHAPEL.

TO BE SOLD, a POWERFUL ORGAN, consisting of Great Choir and Swell, Octave of Pedals, Composition Pedals, &c.; it has a great variety of stops on each organ, and has cost more than 400*l*. Price 150 guineas.—It is at a gentleman's mansion in Surrey; but further particulars and cards to view may be had, between the hours of Nine and Five, of Mr. WATSON, Architect, 39, Manchester-street, Manchester-square, London.

ST. PANCRAS VESTRY-ROOMS, Gordon-street, Gordon-square held under the Duke of Bedford for a long term, at a ground rent, with possession.

TO BE SOLD, by Private Contract, a valuable long Leasehold ESTATE, consisting of extensive premises, known as the late St. Pancras Vestry Rooms, situate in Gordon-street, Gordon-square. The premises are well and substantially built, and have a frontage to Gordon-street, and comprise a spacious Board room, 47 ft. by 24, with waiting-rooms, principal and clerks' offices, ante-rooms, housekeeper's apartments, fire-proof room, &c., and are peculiarly adapted for a County Court, Institution, Chapel, or for any purpose requiring large and well-arranged rooms and offices. Held for an unexpired term of 76 years, at a ground rent. The possession will be given. For particulars apply to Mr. SAMUEL HEATH, Jun., Solicitor, 1 Church-court, Clement's-lane, and at the New Vestry-room, Pancras-road.

By order of the Vestry, JOHN M'GAHEY, Vestry Clerk.
December 1, 1847.

CONTRACTS.

CONTRACT to ERECT a BATTERY and BUILDINGS at COAL HOUSE POINT, below Tilbury Fort.

Royal Engineer's Office, Chatham, March 20, 1848.

The Commanding Royal Engineer, Medway District, HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before Thursday, the 6th day of April, 1848, from persons desirous of Contracting with the Honourable Board of Ordnance for Erecting a BATTERY and BUILDINGS at COAL HOUSE POINT, below Tilbury Fort, agreeably to plans and specifications, which may be seen at the Royal Engineer's Office, Gravesend.

The person whose Tender may be accepted will be required to enter into a bond, with two eligible Securities, jointly and severally, to be bound, under a penalty of 3,000*l.*, for the due performance of the Contract.

The Tenders to be addressed to "The Secretary to the Board of Ordnance," and indorsed, "Tenders for Erecting a Battery and Buildings at Coal House Point.

No Tender can be admitted after the said 6th of April, 1848.

METROPOLITAN SEWERS.—TO BUILDERS AND OTHERS.

NOTICE IS HEREBY GIVEN, the Commissioners of Sewers will be ready at the Court House, No 1, Greek street, Soho square, on TUESDAY, the 28th of March, 1848, to receive TENDERS for the BUILDING 460 FEET of SEWER in the Marylebone and Finchley road, in the parish of Hampstead. Also for the performance, for one year, of bricklayers', carpenters', masons', paviours', and plumbers' works, not exceeding 200*l.* in amount for any one job. Specifications, forms of tender, and other particulars may be obtained at this office daily between the hours of Nine and Four. Parties offering must be in attendance at Ten o'clock precisely, on the 28th March, with separate sealed Tenders, specifying on the outside for which of the above works the tender is made. Each tender must be strictly in the printed form prescribed. The Court does not bind itself to accept the lowest tender.

LEWIS C. HERTSLET, Clerk.

Sewers Office, No. 1, Greek-street, Soho-square, March 16, 1848.

ELHAM UNION.—TO BUILDERS.

BUILDERS desirous of Contracting for the ERECTION of SCHOOLS at the ELHAM UNION WORKHOUSE are requested to send sealed Tenders to the Board of Guardians, at Lyminge, on or before FRIDAY, the 7th day of April next, at Ten o'Clock in the forenoon.

The plans and specifications may be seen, and further particulars obtained at the office of Mr MESSENGER, Architect, Folkestone. The Board reserve to themselves the right of rejecting the lowest or any other tender.—By order of the Board,

March 20th, 1848 ROBERT THOMPSON, Clerk.

WEST HAM UNION.—TO BUILDERS.

THE Board of Guardians of this Union will, at their meeting, on FRIDAY, the 31st day of March inst., at this place, at Ten o'clock a.m., receive TENDERS for BUILDING a WARD for Epileptic Patients; also a SLEEPING and DAY ROOM for Infants, subject to the approval of the Poor-law Board.—A plan and specification of the work may be seen on application at the office of Mr. A. R. MASON, Architect, 24, Lime-street, City, on and after Friday, the 24th inst.

S. RICHARDSON, Clerk to the Guardians.

Board-room, Leytonstone, Essex, March 17, 1848.

TO CONTRACTORS.

EAST and WEST INDIA DOCKS and BIRMINGHAM JUNCTION RAILWAY COMPANY.—The Directors of this Company are prepared to receive TENDERS for the EXECUTION of the WORKS on that part of the line which extends from Dalston-lane, in the parish of Hackney, to King's-road, in the parish of Saint Pancras, being a distance of about 3 miles. Drawings and specifications may be seen at the Company's offices, No. 18, Old Broad-street, London; and sealed Tenders, according to a form, must be delivered to the Secretary, at the offices, on or before Three o'clock on Thursday, the 27th day of April next, when the Directors will meet to open the same. The Directors do not bind themselves to accept the lowest tender.—By order,

HARRY CHUBB, Secretary.

London, 13, Old Broad-street, London, March 22, 1848.

TO BUILDERS.

BEDFORD COUNTY PRISON.—The PLANS and SPECIFICATION of the proposed alterations and additions to the above Prison, may be seen at the Office of the Clerk of the Peace, St. Paul's-square, Bedford, on and after Friday, the 24th of March instant, until Monday, the 3rd of April next inclusive, between the hours of Eleven and Four each day. Tenders to contract for execution of the intended works sealed and marked "Tenders for Bedford County Prison Works," are to be delivered at the Office of the Clerk of the Peace not later than Six in the evening of Monday, April 3rd, to be submitted to the Justices at their Quarter Sessions on the following day. The contractor will be required to give unexceptionable security for the due performance of his contract. The Justices do not undertake to accept the lowest tender.—For further information, apply to Mr THOMAS SMITH, Architect, Hertford.—By order,

THEED PEARSE, Clerk of the Peace.

Bedford, March 22, 1848.

TO BUILDERS.—LITTLEMORE ASYLUM, NEAR OXFORD.

BUILDERS willing to CONTRACT for the Erection of an additional WING to the Male side of the Asylum are invited to inspect and copy, at the County Hall, Oxford, the Plans and Specification of the Works, and to deliver to the undersigned, on or before the 1st day of April, Tenders of their terms for contracting to execute the works. Each Tender must be accompanied by the names of two responsible persons, who would join the Contractor in the usual bond for the performance of the contract; but it shall not be deemed obligatory upon the Visitors to accept the Tender which may be lowest in amount. The contract and bond will be prepared by the Clerk of the Visitors, and a copy delivered to the Contractor, free of charge; and drafts of these documents in the form in which the contractor and his sureties will be required to execute them may be seen with the Plans.—Any further particulars may be known of Mr HENRY JONES UNDERWOOD, Oxford, the Architect, or of

JOHN M. DAVENPORT,
Clerk of the Committee of Visitors,

County Hall, Oxford, March 13, 1848.

ECONOMY!

STEPHENS'S DYES for STAINING [illegible] as well as Private [illegible] paint. The dyes or stains are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. They may also be obtained in powder at 8s. per pound which dissolves in water to form the liquid, and one pound will make one gallon of stain.

Sold also at the office of "The Builder," 2, York street, Covent Garden, London, and at HOPKINS and PURVIS, Colourmen, Greek street, Soho, where specimens may be seen.

E. WOLFF and SON'S Purified BLACK LEAD [illegible] that Artists can use with [illegible] will maintain a firm point, and will ensure perfect erasure.

To be had of ACKERMAN, 191, Regent street; HOUGHTON, 30, Poultry, and [illegible].

The following appeared in the *Times* of March 13, 1848.—

ALLEGED INFRINGEMENT OF PATENT
BROCKEDON *v.* WOLFF AND SON.

E. Wolff and Son beg to apprize the Trade and the Public that on the 14th February last Mr. Brockedon filed a bill, and applied to the Court of Chancery for an injunction to restrain them from infringing his alleged Patent of December 8th, 1843, for rendering Black Lead Dust or Powder into solid blocks by means of dies and pressure. E. Wolff and Son filed numerous affidavits in opposition, of the [illegible] one of which was made by an eminent engineer, who was decidedly of opinion that E. Wolff and Son's mode of manufacturing Black Lead Dust or Powder into solid blocks by means of dies and pressure was no infringement whatever, and which process had been in use by them many years prior to the date of Mr. Brockedon's alleged Patent, consequently Mr Brockedon could not be the first or sole inventor of such process, as, by his advertisement, the public were led to believe. When the affidavits were filed, and Mr. Brockedon found he had not the remotest chance of gaining an injunction, he, on the 2nd March, 1848, petitioned the Court of Chancery to dismiss the said bill, and [illegible] all the costs that Messrs. Wolff and Son had incurred by reason of his proceedings, therefore no injunction has been granted, but the Bill filed in Chancery by Mr. Brockedon has been dismissed upon his own application, and he has to pay the costs on both sides.

Mr. Brockedon has thus shewn that he had no grounds whatever for his application to the Court of Chancery; and his own petition for the dismissal of his Bill is the strongest proof that he has no right to claim the sole [illegible] of this invention.

23, Church-street, Spitalfields, London, March, 1848.

Mr Brockedon answered the foregoing by [illegible] such portions only of Wolff and Son's affidavits as suited his own purpose and enabled him to puff off his own material. He attempted also to damage the reputation of the Purified Black Lead by stating it to be a composition of Black Lead and Antimony. Messrs. Wolff and Son, therefore, caused a copy of the following to be inserted in the *Times* of the 18th inst.:—

ALLEGED INFRINGEMENT OF PATENT
BROCKEDON *v.* WOLFF AND SON

In the plaintiff's answer, which appeared in the *Times* of the 15th inst. to an advertisement of the defendants of the 13th inst., he has very carefully selected such portions only of the affidavits filed on [illegible] his own purpose, and to enable him to puff off his own material. The defendants, therefore, feel bound to state that several of the affidavits prove that they have manufactured Black Lead Powder into Solid Blocks, by pressure only, without the use of any agent whatever, many years prior to the plaintiff's patent, and that the plaintiff cannot, therefore, be the sole inventor of such process.

The defendants still continue the same process, as well as to manufacture Black Lead by means of an agent and powerful press, which they have done upwards of forty years.

The following is an extract from the office copy of Brockedon's Specification:—

"And I have found that the powder or dust of Black Lead may be [illegible] with more certainty by means of pressure in dies, by withdrawing the air from the dies, and from the powder or dust of Black Lead, thereinbefore operating by pressure; and such is the case in respect of [illegible] and medicated lozenges. I have not in practice found it necessary to exhaust the air in these latter cases.

"Secondly. I claim the mode of preparing or treating Black Lead when in a state of powder, granulation, or dust, by pressure in dies so as to solidify the same."

Now it is well known by all scientific persons, that heat is a great assistant in the expulsion of air, and may be considered superior to the air pump which is employed by Mr Brockedon, as stated in his affidavit; consequently, the fact of extracting the air, and using the press being known and adopted by Wolff and Son for many years, entirely destroys his claim to be the sole inventor of such process.

Persons will be disposed to doubt the purity of Mr. Brockedon's Lead if they will subject a thin piece of it to the action of boiling water for three or four minutes; they will then find that it will become quite soft; and by a touch of the finger, all the particles of dust will separate, and so become into a state of paste or pulp. Such result *cannot* take place with the Pure Cumberland Lead; it [illegible] will always remain unaltered. So much for Mr. Brockedon's assertion that his Patent furnishes the only pure lead to the market, when such a simple test as this will destroy his Lead instantaneously.

[illegible] Black Lead; and it is somewhat surprising that Mr Brockedon, who [illegible] should affect ignorance of the fact [illegible] that the presence of antimony can be [illegible] antimony is only used for manufacturing the Common Brick [illegible].

It is [illegible] well known by most Artists and Engineers that the Cumberland Lead from the mines of Borrowdale requires the assistance of a chemical agent to produce the different degrees of hardness, and which had been discovered and kept as a valuable secret [illegible] maker, Mr Wm Langdon, of the firm of Brookman and Langdon, who first established different degrees of hardness by means of such discovery, and which has since been adopted by other pencil makers, and termed [illegible] and without such process, the [illegible] neither will the lead make a good pencil unless so treated. This will prove that even nature does not produce Black Lead in so good a condition as to be suitable for pencils for the use of Artists, and it generally requires the [illegible] for its improvement. Messrs. Wolff and Son have therefore adopted such principle in [illegible] that it does not require any further preparation, when once made into a solid mass, all the different degrees being previously prepared; and which method of manufacturing their Purified Black Lead improves its firmness and does not interfere with the [illegible] Indian Rubber. Mr Brockedon [illegible] of Messrs. Wolff and Son's method of making their Lead, before his application to the Court of Chancery for an Injunction; but he complained of the mode in which it was formed into solid blocks—meaning the pressure; and when he found that he had not the remotest chance of obtaining an Injunction, he made overtures for a compromise, through the engineers, Mr Farey and Mr Cooper, which were declined by the defendants; [illegible] by his Patent [illegible] he was advised to petition the Court for leave to dismiss his Bill, which was granted on condition of his paying all the costs.

This attempt to place Messrs. Wolff and Son under the especial care of the Court of Chancery, evidently proves that the superiority of their Purified Black Lead, and the estimation in which it is held by the public [illegible] one who would improperly engross the merit and profit of an invention not his own. Messrs. Wolff and Son are quite ready to meet Mr. Brockedon in any Court to contest the validity of his patent, if he is inclined to do so; an offer which, after the withdrawal of his late proceedings, they presume he will not accept.

N.B. The Trade and Public are cautioned against an article which is puffed off under the title of "Brockedon's Patent Pure [illegible] boiling water, when, upon the pressure of the finger, all the particles of dust will be separated, and it will be reduced to a paste or pulp; [illegible] pure Cumberland Lead. [illegible] bought all the Cumberland Lead; the public sales take place the first Monday in every month [illegible] had of better quality [illegible] Brockedon.

ATKINSON'S CEMENT.—WILLIAM [illegible], Manufacturer of Roman, Portland, and Bath [illegible] CHURCH STREET, ROTHERHITHE, London [illegible].

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which [illegible] prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust. It is a cheap and [illegible] substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes—such as the Building and Lining of Reservoirs, Cisterns, Baths, Fishponds, &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and GOODWIN, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM 5, MAIDEN LANE TO 22, STEEL YARD, UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone—utterly resists Wet, does not discolour by Damp, wants no Paint, never cracks or blisters, adheres to any substance without previous preparation—is not affected by Frost or Heat—may be exported to every Climate—it improves by Age—it is the only Cement that is a prompt and perfect remedy for internal Damp Walls. It is very cheap, and very easily worked.

Where also may be obtained,

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT expressly for Painting over Exteriors of Houses that have been covered with Roman or other Cements, and which have become discoloured. This PAINT having an affinity for Stucco, binds itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, produceable by no other Paint whatever. It is cheap, and may be used by any Painter in any climate, even in the most exposed marine situations.—Specimens may be seen, and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 22, Steel yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON, Patentees, beg to caution their friends and the trade generally against confounding this invaluable Cement with others, erroneously said to be of the same description. S. and S. pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:

1. It rapidly acquires the hardness of stone.
2. Unlike other internal cements, its hardness is uniform throughout its entire thickness.
3. Its surface (which may be made equal to that of the finest marble) NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling when put upon dry work.

It is peculiarly adapted as an internal stucco for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its hardness, [illegible] and uniform surface give it an immense advantage over stone, being at the same time much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 185, DRURY LANE.

Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

EMERSON'S PATENT CEMENT PAINT.—This valuable and economic Paint is ready for use, is simple in its application, and only one-sixth the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of fine cut Portland or other stone; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 3 cwt., at 8s and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for ship's sides and bottoms; also for all kinds of wood or metal work, or the [illegible] spouts, and gutters, doors, sheds [illegible] and being perfectly water-proof, will preserve their surfaces from atmospheric influence and decay,—requires no preparation, and will dry in a few hours.—Price 3s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

[illegible] of the best quality, direct from the Manufactory, at low prices, for home and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Clare-court, Clement's-lane, Lombard street.

TO THE BUILDING PUBLIC

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-shafts, Shafts, Bosses, Pateras, &c., &c., 18-inch Centre Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker's street, Drury-lane.

W. HUGHES and CO., ORNAMENTAL PLASTERERS, ARCHITECTURAL MODELLERS, &c., manufacture every description of Cement and Plaster Ornaments for Internal and External Decorations; have a large variety of [illegible] and other ornamental Chimney-shafts, Vases, Flower Stands, Fountains, Aquariums and other Figures for Gardens and Pleasure-grounds, Pediment Scrolls, Ballusters, Trusses for Shop Fronts, Cantilevers, Capitals for Columns and Pilasters, Balustrading for Balconies, Terraces, &c.; Centre Flowers, Soffites, Friezes, Bed Moulds, Brackets, Pateras, &c., for inside work. Builders and the Trade can be supplied with all kinds of Cement and Plaster Castings on the shortest notice and the most liberal terms, by applying at the Workshops, No. 1, Brewer-street North, near Sadler's Wells, St. John-street-road, Clerkenwell, London, where specimens can be seen.

TO BUILDERS, ENGINEERS, FOUNDERS, &c.

WARD and HART, Honduras Wharf, Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire-Bricks, Lumps, Tiles, Clays, &c. &c., have got an extensive and superior stock, and invite Builders, Gas Companies, Engineers, Shippers, &c., to inspect it and purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large arrival of first-rate Stourbridge, Welsh, and Newcastle Bricks, and Patent Corrugating Kiln Tiles, so admirably adapted for Malting, &c. &c. Stock Bricks, Dutch Clinkers, Windsor and other Oven Tiles and Bricks, FOUNDERS' LOAM and MOULDING SAND, HOUSE SAND, (RED AND WHITE), Lime River Sand, Ballast, Cement Country Pan, Plain, Ridge, and Paving Tiles; Chimney-pots, Drain Tiles Pipes, &c. Goods made to pattern.

⁂ A quantity of Welsh Bricks now in the River.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament street, London.

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Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death, IMMEDIATE ANNUITIES on OLD LIVES, and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.

Parties desirous of providing for the Renewal Fine in their Leases can do so with facility in this Society.

Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

Prospectuses and further information, free of expense, from ARTHUR SCRATCHLEY, Actuary.

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ANNUAL PREMIUMS PER £100, WITH WHOLE PROFITS.

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JENNINGS'S PATENT INDIA-RUBBER TUBE COCKS,

FOR EFFECTUALLY STOPPING THE PASSAGE OF

GAS, WATER, OR OTHER FLUIDS.

Fig. 1.

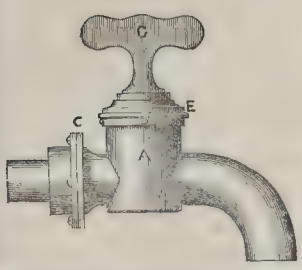


Fig. 2.

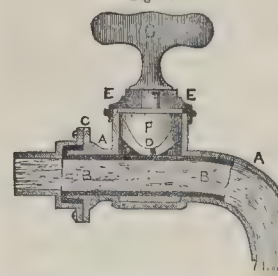
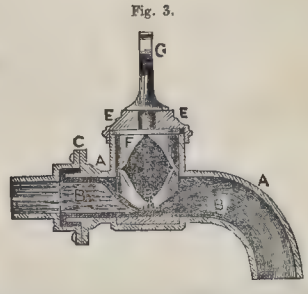


Fig. 3.



THIS INVENTION is submitted with confidence as an effectual remedy for the numerous evils inseparable from the *old plug taps*, the grinding, leaking, and setting fast of which are sources of perpetual annoyance to the users.

In the above engravings, Figure 1 is an external representation of JENNINGS'S PATENT HERMETIC COCK, which differs nothing in external form and appearance from other cocks; internally, however, there is a most essential difference. Figure 2 is a longitudinal section through the middle of the cock shewing the passage as it appears when open. AA is the external metal casing of the cock. BB an external lining or tube of Vulcanized India Rubber, one end of which is secured by the flanges CC. D is a cylindrical V shaped wedge of metal, lying above and directly across the flexible tube BB, and prevented from turning by two projecting pins, which slide up and down in grooves on each side of the cock. The upper part of the wedge D is formed into two inclined planes or horns, on opposite sides of the cylindrical part thereof. Within a case-piece, E, there is a corresponding pair of inclined planes, F, attached to and turned by the handle G. When the cock is open (as shown in Figure 2) the projections of the upper pair of inclined planes, F, fit into the hollows of the lower pair, but on turning the handle G the upper pair are carried round, and force down the lower ones to the extent of the projections of each, which causes the wedge D to press upon the flexible tube B and squeeze it together, thereby effectually closing the passage through it. There are two neutral points on the summits of the upper and lower projections which are perpendicular to each other when the cock is shut, and prevents its being open by any internal pressure; but on turning the angle, the wedge-piece D is drawn up, the flexible tube B restored to its cylindrical form, and a free way is afforded for gas or fluids; the passage through being the full and unobstructed size of the tube.

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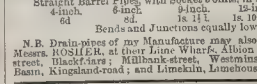
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Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.			
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TO IRONFOUNDERS, RAILWAY CONTRACTORS, AND MACHINISTS. New Cross Station, on the London and Brighton Line of Railway

MESSRS. BLAKE are directed to SELL BY AUCTION, at their Blow Wharf, New Cross, by order of the Directors of the London, Brighton, and South Coast Railway Company, on TUESDAY, the 4th of April next, at Eleven for Twelve o'clock precisely, the surplus STORES and MATERIALS, lying principally at the New Cross Station, and comprising a large steam crane to lift 20 tons, fixed at Norwood; oscillating and rotary engines, 24 large iron columns and girders, nearly 1,000 feet of 14-inch iron water-pipe, 36 6-feet iron cog-wheels, with racks, ends, six 6-inch cog-wheels, seventy hundred tons of atmospheric pipe, rail ends, screws, scrap iron, a large quantity of lead, air-pump, atmospheric valve, water cranes and piping, large bellows, grindstone, various machinery, building materials, and useful effects.

N.B. Cold Blow Wharf is on the bank of the Surrey Canal, which communicates with the Thames, offering to purchasers the advantage of water conveyance for the removal of the lots.

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MR. SINGLE will SELL by AUCTION, at the Mart, on TUESDAY, April 4th, at One precisely, FREEHOLD PLOTS of LAND, land-tax redeemed, desirably situated, Bath-road, Queen's-road, near High-street, Peckham, in the parish of Camberwell. The road is a direct communication between the Old Kent-road and the Queen's-road, two such roads of great thoroughfare. The soil is principally GRAVEL and SAND, and the situation is the best in the entire neighbourhood. Particulars at the Drovers', High-street, Peckham; Rosemary Branch, Camberwell-green; Green Man, and Marquis of Granby, Old Kent-road; and of Mr. SINGLE, 34, Coleman-street, City, and Shepherd's-bush.

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MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the Premises, Belvidere-road, Lambeth, on TUESDAY, March 28th, and following day, at Ten for Eleven o'Clock precisely, by order of Mr. Grissell, who has relinquished the general building business, a large quantity of Portland, Bramley Fall, Caen, Mansfield, and other STONE, in blocks; York coping, cills, steps, and sinks; 4,000 feet of paving, granite blocks and spur stones, turned Caen balusters, statuary, vein, bardilla and dove marble in scantling and slab, chimney-pieces, &c. Also, the contents of the plasterer's sheds—cement, paving tiles, ridge tiles, and chimney-pots, Southampton bricks, plaster casts, moulds, &c.; stone trucks, two light hand trucks, saw heads and poles, and numerous other effects. May be viewed one day previous, and catalogues had on the Premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

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MR. BELTON is instructed to SELL by AUCTION, at Garraway's, on THURSDAY, April 6, at Twelve (unless previously disposed of by Private Contract), a valuable LEASEHOLD ESTATE, consisting of capital and spacious livery and bait stables, situate in Bridge-street, Southwark, and having accommodation for sixty horses, covered ride, &c., and nine brick-built tenements adjoining, held for a term of 33 years, at a trifling ground rent, and producing a profit rental of 214l. per annum. May be viewed, and particulars had, at Garraway's; of Messrs. WILKINSON and GURNEY, Solicitors, 3, Nicholas-lane, Lombard-street; of the Auctioneer and House-agent, 46, Hatton-garden.

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MR. BELTON will SELL by AUCTION, at Garraway's, 'Change-alley, on THURSDAY, April 6, at Twelve (unless an offer is made to purchase meantime made by Private Contract), in Four Lots, the LEASES, for fifty-nine years, at ground rent is of 8l each house, of FOUR DWELLING-HOUSES (two with shops), situate, and being No. 71, Great Suffolk-street, and Nos. 1, 2, and 3, Gravel-lane, Southwark, with extensive Workshops in the rear. They have recently been put into substantial repair, and are all let to good tenants, two of them producing 32l. per annum, and the other two 30l. per annum.—May be viewed, by leave of the tenants, and particulars obtained, at Garraway's; of Mr. SMITH, Solicitor, 6, Barnard's-inn, Holborn; and of the Auctioneer, 46, Hatton-garden.

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Suffolk-street, Pallmall East, 9th March, 1848

ROYAL ACADEMY OF ARTS, TRAFALGAR SQUARE.

NOTICE TO ARTISTS.—All works of Painting, Sculpture, or Architecture, intended for the ensuing EXHIBITION at the ROYAL ACADEMY, must be sent in on MONDAY, the 3rd, or by Six o'clock in the Evening of TUESDAY, the 4th day of April next, after which time no work can possibly be received, nor can any works be received which have already been publicly exhibited. The other Regulations necessary to be observed may be obtained at the Royal Academy.

JOHN PRESCOTT KNIGHT, R.A., Secretary.

Every possible care will be taken of works sent for exhibition, but the Royal Academy will not hold itself accountable in any case of injury or loss, nor can it undertake to pay the carriage of any package which may be forwarded by carriers.

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HARRY CHUBB, Secretary.

London, 12, Old Broad street, March 22, 1848.

BUILDERS desirous of CONTRACTING for the ERECTION of the CHURCH, and PARSONAGE HOUSE, at PRESTWOOD, BUCKS., may see the drawings, specifications, and conditions, at Mr. COUGHTREY'S, Great Russendon, from the 8th of April to the 1st of May next; and also at the office of Mr. E. B. LAMB, Architect, 26, Charlotte-street, Portland-place, London, from Ten till Five o'clock. Sealed Tenders addressed "To the Committee for the erection of the Church, &c., Prestwood," to be delivered at Mr. COUGHTREY'S, by Eleven o'clock in the forenoon of the 1st of May next. The Committee do not pledge themselves to accept the Lowest Tender. The party whose Tender shall be accepted will be required to enter into the usual bond, with sureties, for the due performance of the work.

March 28th, 1848.

TO BUILDERS.

UNION HOUSE for 600 INMATES.—Persons desirous of CONTRACTING with the Guardians of the Aylsham Union for building in Aylsham a UNION HOUSE for 600 inmates, may inspect the Working Plans and Specifications at the Office of the Clerk of the Union at Mundesley, near Aylsham; and at the Office of the Architect, Mr. DONTHORN, No. 18, Hanover street, Hanover square, London.

All Tenders for the performance of the work to be sent, free, to the Clerk, before Tuesday, the 25th day of April next, under cover, addressed to the Building Committee, Aylsham Union, marked "Tender for building," and delivered by the parties themselves to accept the lowest tender. Security will be required for the performance of the work.—By order of the Committee.

Marsham, 29th March, 1848. WM. HILL, Union Clerk.

YORK UNION NEW WORKHOUSE. —To BUILDERS, &c.—Such Bricklayers, Masons, Plasterers, Carpenters, Joiners, Plumbers, Glaziers, Slaters, and Painters as are willing to CONTRACT for the ERECTION of, and WORK to be done at, the YORK NEW WORKHOUSE, may inspect the plans and specifications at the Board-room, in Lendal, York, between the hours of 10 a.m. and 4 p.m., from the 7th of April to the 19th, both inclusive; and further particulars may be obtained on application to Messrs. J. B. and W. ATKINSON, Architects, York. The Tenders are to be delivered to me, sealed, on or before THURSDAY, the 20th of April next, at 9 a.m., when the Board will meet to receive and consider the Tenders. Security will be required for the due performance of the contracts; and it is hereby notified, that the guardians do not pledge themselves to accept the Lowest Tender.—By order of the Board,

York, April 1st, 1848. HENRY BREAREY, Clerk

PRICE ONE SHILLING.

THE BUILDERS' FRIEND, published in a concise form, so as to fit the pocket-book. It shows, in one line, the relative prices plank, deals, battens, and timber, from 1 inch to 4 inches thick, from 6*d.* the hundred foot run. Any person about building will easily discover which is cheapest for him to buy.

Sold at the office of "The Builder," 2, York-street, Covent Garden, and to be had by order of all Booksellers in the United Kingdom. Forwarded by post for 13 penny stamps.

Just published, price 7*s.* 6*d.*,

A PROPOSED SYSTEM for the more Ready and Correct VALUATION of the REPENTERS' and JOINERS' WORKS, as depending on the Prices and Quantities of the Materials used; also an Appendix, for the use of Mathematical Readers, illustrative of Principles by which to form a correct judgment of Relative Values, without the trouble of laboured calculation, or the uncertainty of hazardous opinion.

By HENRY R. BROWNING, M.E.I.A., Stamford

Illustrated by numerous Diagrams, and applied to some of the most difficult cases of daily practice

Published by JOHN WEALE, Architectural Library, 59, High-holborn.

Printed by SAMUEL SHARP, Stamford.

LONDON and PROVINCIAL JOINT STOCK LIFE INSURANCE COMPANY.

[illegible] BUILDING Sites, Leasehold Villas, Freehold Villas, or from other parts [illegible] the peculiar system and striking advantages [illegible] by this office.

EVERY DESCRIPTION of LIFE ASSURANCE, INVESTMENT, and LOAN BUSINESS transacted.

LOW RATES of premium, and three-fourths of profits divided. For prospectuses, &c., apply to

JOHN MASSON, Secretary.

Offices, No. 39, Nicholas-lane, Lombard-street.

SCOTTISH PROVIDENT INSTITUTION, Edinburgh, Glasgow, Manchester, London.—For Mutual Life Assurance, with these peculiar advantages:—

1.—Mutual Assurance by the most moderate rates of premium.
2.—Whole Profits, divided amongst the Assured exclusively.

ANNUAL PREMIUMS PER £100, WITH WHOLE PROFITS.

Age 20.	Age 25	Age 30	Age 35	Age 40.	Age 45	Age 50	Age 5
£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d
1 15 8	1 18 0	2 1 5	2 6 3	2 14 9	3 5 6	3 19 1	7 5 11

Reports, Tables, and every information may be had of the Secretaries

Edinburgh Office—14, St Andrew's-square; London Office—2, Moorgate-street.

THE GROVE, HAMMERSMITH, and SHEPHERD'S BUSH ASSOCIATION FOR THE ERECTION OF VILLA RESIDENCES, in connection with LIFE ASSURANCE Shares, 15l M (fully) Payments, 1l Entrance, 10s. No Redemption Fees nor Extras.

The principle of this Society may briefly be stated as possessing the joint advantages of a Building Societies and Life Assurance. Thus, a member subscribing for five shares will, at the expiration of two years, be put in possession of an elegant Villa Residence, containing twelve rooms, completely finished in every respect fit for occupation. A separate Lease will be granted for each house direct from the freeholder for a term of ninety-nine years, at a ground-rent of only 15l. The lowest possible estimate of rental will be 35l. per annum; the period fixed for the Society's termination will be twelve years. The whole cost of building, management, and expenses, leases, mortgages, &c., have been included in the calculations and tables.

The most important feature remains to be stated, that each member, in selecting for an allotment, shall have any selection to his family, in the event of his decease, the immediate possession of his house, exempt from any future payments or liabilities.

The first Subscription Meeting will be held at the British Hotel, Trafalgar square, on Monday, the 10th of April instant, at Seven o'clock.—By order,

W. C. ROUSE, Secretary,
3, Stanley terrace, Camden-town.

N B See the *Times* of Tuesday, March 28th.

IRON WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices. CAST-IRON UPSETS

TO BUILDERS AND CARPENTERS.

BURT and POTTS, York-street, Westminster, Wholesale and Retail Ironmongers, Smiths, and Stove Grate Manufacturers. Delivered free within five miles. Cast Iron Rain-water Pipe:—

2 in	2½ in	3 in	3½ in	4 in.
1s 1d.	1s 3d.	1s 6d.	1s. 9d.	2s. 2d. per yard.

Sheet Floor Brads, 1½. per cwt. All other Nails in proportion Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards

A variety of Best Black Ground and Bright Register Stoves

Elliptic Stoves, with inside back, 9½ per in

Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£3	£3. 8s.	£3 15.

Iron and Steel of every description.

IRONMONGERY WAREHOUSE, 18, Blandford street, Manchester-square, leading from Baker-street, Portman square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

Best Patent Cut Clasp.

4d	6d	10d	20d per 1,000.
6d.	8d	1s 4d.	1s 10d "

Cast Butts

2 in	2½ in	3 in	3½ in
11d.	1s 2d.	1s 4d.	2s. per doz

Also Best Patent Sash Line

3	4	5	6 per doz. knots.
6s 6d	7s 6d	10s.	12s.

Tatal gues of Prices can be had on pre-paid application, inclosing [illegible]-lage stamps.—Country orders will meet with immediate attention, and will be executed at once on the receipt of a remittance for the same, or of a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHENRANGES, STOVES, &c. 186, Blackfriars-road, and 17, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 6s.	£3 13s.	£3. 16s.	£4.	£4 13s

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5 15s.	£6 5s.	£6 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do Elliptic Do., at 8d., and 9d. per inch.

Manufacturer of WOLFESTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention

TO BUILDERS and CARPENTERS.—Elliptic Stoves, Double Backs, 3l per inch. Registers, 6d., 7d., 8d. per inch

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 42s.; 3 ft. 4 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,

3 ft., £3. 3s.	3 ft. 6, £3. 12s. 6d.	4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	10d.	1s.	1s. 1d. per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 14s. per cwt.

Best Town Glue 48s. Do Scotch, 92s per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.
1	2	3	4	5	6

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 36, Church street, Finsbury-square.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove grate Manufactory, 18, Crescent Wisbeach

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Iron and Brass Stoves, Kitchen Ranges, &c., &c.

Bar Grates, from 1l per set

Register Stoves, from 1l per set

Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright, &c.

3 ft.	3ft. 6 in.	4 ft.
3l 3s.	3l 14s.	4l 7s.

All articles made on the premises and warranted, and delivered free of expense within the limits of London. Bell hanging in superior style, hung in accordance per Post.

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THE NUMBER of STAMPS issued by the Authorities of the Stamp-office, during 1847, to the

DAILY NEWS, was..... 3,447,009.

This, we believe, is within eight per cent of the number issued to the *Morning Herald*, *Morning Chronicle*, and *Morning Post*, all put together. In addition to the above, issued to the DAILY NEWS, Morning Paper, there were issued for the Evening Edition,

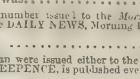
THE EXPRESS ..... 778,714.

Which was more, we believe, than were issued either to the *Globe* or *Standard*, Evening Papers.

THE DAILY NEWS, price THREEPENCE, is published every Morning in time for the early mails.

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SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyriment Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.
Kitchen Floors (particularly where it is essential to keep damp from rising).
Garden Walks and Terraces.
Carriage Drives.
Coach-houses and Stabling.
Hop-kerbs.
Barn Floors.
Granaries.
Tan-room Floors.
Malt-house Floors.
Piggeries, &c. &c.
Covering of Railroad and other Arches. The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

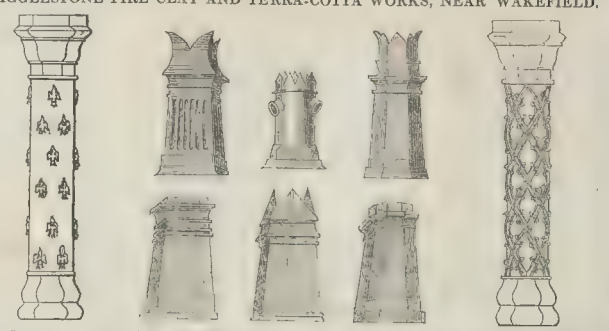
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one

T. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.

CRIGGLESTONE FIRE CLAY AND TERRA-COTTA WORKS, NEAR WAKEFIELD.



THE Owners of these Works having now got them into full operation, are prepared to execute orders for FIRE-BRICKS, QUARRIES, CHIMNEY TOPS, FIRE CLAY, &c., to any extent, and at low prices. They also beg to call the attention of Architects and Builders to their TERRA-COTTA WORKS, particularly for trusses, brackets, bed mouldings, and all external decorations, at about one-half the cost of good stone. Sanitary Drain Pipes of the egg-shape, inside of the following sizes:—

Inches.	Inches.
4 by 6 and 04 thick	12 by 18 and 1 3-8ths thick
6 by 8 and 04 thick	15 by 20 and 1 3-8ths thick
9 by 12 and 1 thick	18 by 25 and 2 thick

The Egg-shape Pipes for Sewerage have for years proved, in the Drains of Manchester, to be most effective and cheapest.

The Works are close to the Calder and Hebble Canal, and freights either to Manchester or Hull, about 8s. per ton; or by rail to any part of the country

N B Agents required for all important Towns.

SMITH and ENGLISH, ENGINEERS, BUILDERS' MACHINISTS, IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS.

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BAKERS' OVEN Work, Frame Backs and Troughs, Ram Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock

IRON FOUNDRY,

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JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Plates and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Plain Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c

A very superior description of Soil Pipe, particularly suitable for internal work, being perfectly sound, and not unsightly.

ESTIMATES given for IRON ROOFING and every description of framework, complete for superstruction, and the work executed with every attention to quality and despatch.

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FLEXIBLE PIPES AND TUBING, FOR PUMPS, ENGINES, GAS, &c.

PATENT VULCANIZED INDIA-RUBBER HOSE-PIPE and TUBING, for every description. These Pipes are made to stand cold pressure, as well as heat; and as they do not become stiff in the coldest temperatures, or require any application when out of use, are particularly well adapted for Fire-Engines. Vulcanized India-rubber Washers for steam and hot water joints, &c., of all sizes.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING. For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE PIPES are made to stand hot liquor, and adds without injury—do not become hard or stiff in any temperature but are always perfectly flexible and useful—require no preparation for cleaning, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, copper branch, and screw complete, ready for attaching to pumps, water butts, &c. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N B Vulcanized India rubber washers of all sizes for joints of hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

CAST-IRON PIPES, for Gas, Water, or Drainage, 1½ to 12 inches diameter, with every requisite connection. Lamp Columns and Sewer Grates of various patterns. Wrought iron Tubing of an approved manufacture. In stock at KELLY and WHITE'S, Iron Wharf, 66, Bankside, London Garden, Columns, and Castings of any description to pattern or drawing

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Rebate Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns. No Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark

STOVES, FENDERS, AND FIRE-IRONS, SELLING OFF. F. EDWARDS, 20, Poland-street, Oxford-street, respectfully informs his numerous and genteel patrons, and the public, that he has taken the new and extensive premises, No. 42, Poland-street, which will be ready for him, by the month of June, when he intends opening with an entirely new and extensive assortment of stoves, fenders, and fire irons, kitchen ranges, &c. The present stock is now selling off at a great reduction, every article is marked in plain figures, from which no abatement can be made, a fine opportunity now offers to gentlemen, architects, and builders

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on a scientific principle, which ensure greater economy and efficiency than hitherto attained. The HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'S PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parts connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch-street, W. F. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William street, and E. PARKS, 140, Fleet-street; also of all respectable Ironmongers.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. on the original tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

VENTILATION. — FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Patentees to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater advantages than its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough internal and external Ventilation of Asylums, Offices, &c., this invention is applied, and is in general adoption, in the Royal Palaces, the Public Offices, Banking-houses, Insurance-offices, and in Churches and other apartments in the houses of the nobility and gentry, as a further evidence of its efficacy.

Orders received by FAIRS and Co., No. 135, New Bond-street; CORNETT and COOPER, No. 26, Bond-street, and at the manufactory, 20, Gallowhaugh-street, Paisley.

N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

GRANT'S PATENT ROTARY WIND-GUARD, for the prevention of Downward Drafts and cure of Smoky Chimneys, by discharging a Strong Current of Air at the Mouth of Chimney-Pot. The attention of the Public and the Trade is respectfully solicited to this simple Apparatus. The Patentees guarantee its effecting the purposes named. Let the wind blow from what quarter it may, it is not liable to derangement; can be easily and cheaply applied, and does not in any way interfere with the Sweeping the Chimney.

This apparatus is also applied to work an archimedian screw or fanner, for exhausting the vitiated air from public or crowded rooms. In no instance has it failed to accomplish the above-named objects.—Manufactured by the Patentees, LAMBERT and GRANT, 21, Elizabeth-street, Eaton-square.

DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 57, Pall-mall, next Marlborough-house, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a fire manufacturing business, will insure the smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the Palace of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the country to be addressed to Messrs Wilson and Co. at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

WILKINSON'S Improved SEWERS are guaranteed to be more durable than the hardest Burnt Bricks, quite smooth inside; can be supplied in lengths of 9 or 18 feet, either complete or the bottoms only. House Drains are made with loose cover, to any shape or size. Further particulars may be had on application to W. B. WILKINSON, Prudhoe-street, Newcastle on Tyne

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES or TAPS. A certain preventative of leakage, superseding the use of the metal plug tap which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and to give the greatest satisfaction. Manufactured only by the Patentees, THOMAS LAMBERT and SON, Brass and Cock Founders, 30, New Cut, Blackfriars-road.

SANITARY IMPROVEMENTS.

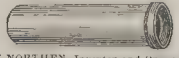
BUNNETT'S PATENT SELF-ACTING EFFLUVIA TRAP

For Sewers and Drains of all kinds.
Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, must get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs BUNNETT and COOPER, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, also by the Right Honourable and Honourable Commissioners of Sewers for Westminster.



WILLIAM NORTHEN, Inventor and Original Maker of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape and size to suit the situation of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2 ft Lengths.			
4-inch bore	6-inch	9-inch	12-inch bore
6d.	8d.	1s. 3d.	1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars, Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

TO RAILWAY CONTRACTORS, BUILDERS OF CHURCHES AND PUBLIC WORKS, GLASS FACTORS, SHIPPERS, LOOKING-GLASS MAKERS, NURSERYMEN, AND CONSUMERS OF GLASS GENERALLY.

THE LONDON and MANCHESTER GLASS COMPANY have "Resolved to sell, by PRIVATE CONTRACT, their entire Stock of SMALL SIZES of POLISHED PLATE GLASS, in Parcels to suit Purchasers at the undermentioned VERY LOW PRICES for CASH."

Parcel 1.	1,945 Plates,	4 inches wide, from 8 to 70 inches long, about	350 feet superficial, at	8d. per foot.
Parcel 2.	1945	.. 4 .. 6 .. 70	660	8d. ..
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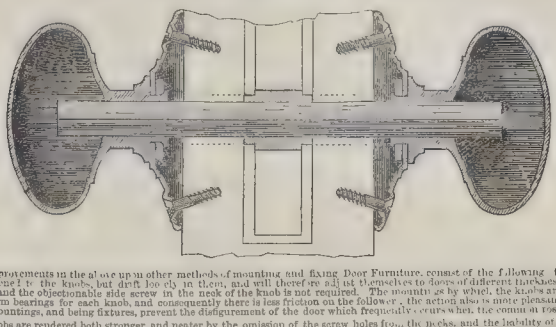
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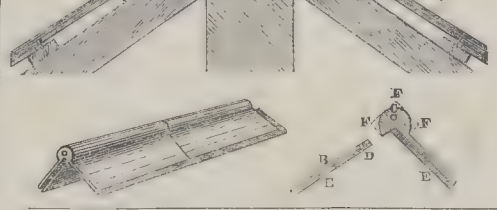
The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drop loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the follower, the action also is more pleasant than with ordinary mountings, and being fixtures, prevent the disfigurement of the door which frequently occurs when the common fittings are used.

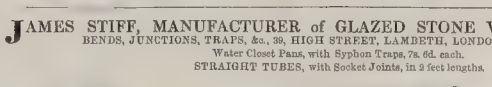
The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.

They are made (to suit every style of decoration), in Plain and Ornamental China, Crystal, Amber and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger-plates, Bell-pulls, and Levers, and may be obtained of all Ironmongers or of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Ironmongers, 39, 54, 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent

WILLIAMS'S PATENT SLATE RIDGES AND HIPS.





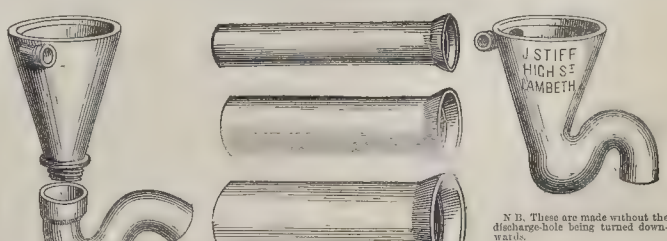
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Also, TWO FAMILY RESIDENCES TO LET, in the same Neighbourhood, one of large dimensions, containing upwards of twenty rooms.

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TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of SIXTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Sidling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-grown timber, is of singular beauty. Private rides, walks, and drives are intended to be made within the Park. Facing-bricks, both White and Red, Stocks and others of an excellent quality, and in any quantities, may be had on the Estate, and allowance will be made in the price where used on the Estate. Gravel of a superior description is found in abundance on the ground, and water is laid on. Advances will be made, and other accommodation afforded to respectable builders taking an adequate interest in the property, which is likely to be immediately remunerative to them, from a great increasing demand for houses existing in this neighbourhood.—For Lithographed Plans and Particulars apply to Messrs. NICHOLSON, Public Accountants, and VICKERMAN, No. 4, South-square, Gray's-inn; Messrs GOUGH and ROUMIEU, Architects, No. 10, Lancaster-place, Strand; or Mr. WILKINS, at the Manor-park Office, Streatham.

TO BUILDERS AND CAPITALISTS.—TO BE LET, at improved Ground Rents, or SOLD at low Ground Rents, LEASES for 99 years, of THREE MANSIONS, unfinished, with a Plot of Land for a fourth, and a quantity of materials. This valuable Property is situated in Warrior-square, forming the centre of improvements in the borough of Hastings, one of the most fashionable and healthy towns in Europe, and therefore holds out much for permanent residence, consequently presenting one of the safest building investments ever offered to the public, and estimated to pay the builder from 12 to 15 per cent. on the outlay required. Plans of the Estate may be seen at the offices of LEWIS VULLIAMY, Esq., Architect, Seville Row.

A MANUFACTURING BUSINESS to be DISPOSED OF.—An old-established Manufactory of Foreign and Fancy Tools, Scotch Brakes, Comb Backings, &c., and Smiths' Work generally, will be transferred to a purchaser of the Machinery, Stock, &c. The premises belong to the advertiser, and were built for the business. There is a small Steam-engine. Valuation, about 400l.—Apply to Mr. R. DRURY, East View, Sheffield.

SALES BY AUCTION.

FREEHOLD BUILDING GROUND, near the far-famed Epsom Race-course, the Surrey Hills, and the Railway Station at Ewell, by

MR. JAMES WHITE, at the Spring Hotel, at Ewell, on MONDAY, April 3rd, 1848, at Two o'clock, in six lots, SIX PLOTS of FREEHOLD BUILDING GROUND, commanding extensive frontages, on the capital turnpike road leading direct through Ewell from and to Reigate and Epsom, and also on the high road from Epsom to Croydon, presenting attractive sites for the erection of cottage villas, or houses of a less pretending character, which are much sought after in this locality. The air is exceedingly pure, and an abundance of fine spring water. Mr. HYNES, Builder, Ewell, will shew the premises, and a plan of the lots. Full descriptive particulars may now be had of Messrs. POTTER and COLLINGRIDGE, Solicitors, No. 3, Bucchall-street, and of the Auctioneer, Dorking.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS, AND OTHERS

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL by AUCTION, on the Premises, Belvidere-road, Lambeth, on MONDAY, April 17th, and following Days, the ENTIRE and VALUABLE STOCK of Mr. GRISSELL (who has relinquished the general Building Business), which comprises about 10,000 dry, well-seasoned yellow and white deals, planks and battens, Hexham flooring, sawn boards, Memel oak, framing, joists and rafts, scaffold boards and putlogs, wheeling planks, mortar-boards, sandscreens, brick waggons, useful traveller gear; 30 tons of permanent railway metals, patent weighing machines, scale beams and weights, slings, chains, and useful ironwork; a nearly new skiff, oars, sculls, and rowlocks; also all the loose materials and fixtures.

May be viewed two days prior to the Sale, and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange, 1, Little South-street, Westminster.

TO IRONFOUNDERS, RAILWAY CONTRACTORS, AND MACHINISTS.—New Cross Station, on the London and Brighton Line of Railway

MESSRS. BLAKE are directed to SELL BY AUCTION, at Cold Blow Wharf, New Cross, by order of the Directors of the London, Brighton, and South Coast Railway Company, on FRIDAY, the 14th of April, 1848, at Twelve o'Clock precisely, the surplus STORES and MATERIALS, lying principally at the New Cross Station, and comprising a large steam crane for 10 tons, 2 ditto for 5 cwt., 2 overhauling and 2 stary engines, 24 large iron columns and girders, nearly 1 set feet of 14-inch main water-pipe, 36 feet iron cog wheels, with racks, girders, &c., large fly engine-wheels, two cylinder boilers with ends, 450 check rails, several hundred tons of atmospheric pipe, rail ends, spikes, screws, a cap iron a large quantity of leather atmosphere valve, water cranes and tipping cocks, grindstones, sojourners' benches, a 15 feet swing bridge, five tons of old rope yarn, various machinery, building materials, and useful effects.

N.B Cold Blow Wharf is on the Junction of the Surrey Canal, which communicates with the Thames. Bring to purchasers the advantage of water conveyance for the removal of the lots.

May be viewed four days before the sale, and Catalogues had at the principal stations on the line; of Mr. HAWKINS, at Cold Blow Wharf; at the Inns at Deptford, Greenwich, and Woolwich; at Garraway's Coffee-house, Change-alley; at the Artichoke Inn, Newington-causeway, and of Messrs. BLAKE, Croydon, Surrey.

SALES BY AUCTION.

BUILDER'S STOCK.—Malden-road and Durnsford Place, Hampstead-road.

MR. H. BIERS has been directed by the Assignees of Josh. Robinson, builder, a bankrupt, to SELL by AUCTION, on the Premises, Malden-road and Durnsford Place, near Kentish-town, on MONDAY, April 3, at 12, the remainder of the BUILDING STOCK, comprising bricks, timber in stack and scantling, prepared deals and battens, ladders, new bricks, pug mill, barrows, &c., and a capital spring cart.—May be viewed on Saturday and morning of Sale, when catalogues may be had on the premises, or at 13, Broad-street, Golden-square.

Superior Chimney-pieces, Monuments, Tablets, useful Gig Horse, capital Spring Cart, &c. —Quicksett-row, New-road.

MR. H. BIERS will SELL BY AUCTION, on the Premises, 5, Quicksett-row, New-road, near Pitt's-square, on TUESDAY, April 4, at 12, 70 very superior CHIMNEY-PIECES, quite new in design, of first quality and workmanship, suitable either for drawing-rooms, dining-rooms, bed-rooms, or libraries, made in statuary, Sienna, vein, Bardilla, black and gold, &c.; also some very elegantly designed monuments and tablets in statuary and vein marbles and Portland stone. Mr. H. Biers wishes particularly to call the attention of the trade to this sale, the marbles being of great beauty, the designs and execution good, and altogether of a very superior character.—May be viewed on Monday, and on Tuesday morning, and Catalogues to be had on the premises, or at 13, Broad-street, Golden-square.

RESIDENCE, WORKSHOPS, &c.—To Builders, Cabinet-makers, Coach-painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, at the Auction Mart, on TUESDAY, April 18, at Twelve, (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 15, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Rammell, together with the well arranged and roomy workshops at the rear, and having entrance in Newcastle-mews, with four-stall stable, coach house, sheds, saw pit, with the advantage of an abundant supply of spring water; held for upwards of 70 years, at a ground rent. May be viewed and particulars had on the premises, and of Mr. H. BIERS, 13, Broad-street, Golden-square.

IN BANKRUPTCY.—Nine finished Houses and Houses in Carcase, situate Malden-road and Durnsford-place, Hampstead-road.

MR. H. BIERS has received directions from the Assignees of Joseph Robinson, builder, a bankrupt, to SELL by AUCTION, at the Mart, on TUESDAY, April 18, at Twelve, NINE well built HOUSES and CARCASE HOUSES, situate in Malden-road and Dunsford-place, near Kentish-town and Hampstead-roads; also a Plot of Ground for one house. They are held for upwards of 70 years, at very low ground rents. May be viewed, and particulars had of Messrs. ABBOTT and WHEATLEY, Solicitors, 3, Roll's-yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove-place, Assensgrove; of WILLIAM TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

IN BANKRUPTCY.—The Newberry Arms intended Public-house, situate at the corner of Malden-road and Durnford-place, Hampstead-road.

MR. H. BIERS has been directed by the Assignees to SELL BY AUCTION, at the Mart, on TUESDAY, April 18, at Twelve, that commanding PREMISES, desirably situate at the corner of Malden-road and Durnford-place, near Ferdinand street, and between the Hampstead and Kentish town roads. They are well built and finished, and commodiously arranged, and from the situation, and the unusual privilege of being the only public-house allowed on nearly three acres of land, must command a very first-rate trade of the most profitable character. The house has not yet a spirit licence, but it has been opened under a beer licence, under which the returns were perfectly satisfactory. It is held for upwards of 60 years, at a very low ground rent.—May be viewed, and particulars may be had of Messrs. ABBOTT and WHEATLEY, 3, Roll's-yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove-place, Assengrove; of WM. TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

WHITTON, NEAR TWICKENHAM, MIDDLESEX

MR. BREWER will SELL BY AUCTION, in the field opposite Kneller Hall, on FRIDAY, April 7, at One o'Clock, a quantity of SCOTCH and SPRUCE FIRS, of fine growth and excellent quality, several thousand feet of inch board, railway sleepers, posts and rails, slabs, &c. The timber is lying by the side of excellent roads, and about a mile from the Thames.—May be viewed and catalogues had at the White Hart, Whitton, and of Mr BREWER, Land and Timber Surveyor, Hill street, Richmond.

IMPORTANT WATERSIDE PREMISES and BASIN, eligible for Wharfingers, Dock, Water, and Boat Companies.—By

MESSRS. CRAWTER, at Garraway's Coffee-house, 'Change Alley, Cornhill, London, on TUESDAY, April 11, at Twelve, in lots, by direction of the proprietors, valuable and important PREMISES, comprising the Surrey Iron Railway Company's spacious and convenient docks, wharfs, canals, basins, and land, warehouses and cranes, counting-house and 3 capital dwelling-houses with gardens, and two dwelling-houses with offices and gardens, eligibly situate, adjoining and communicating with the river Thames, and immediately contiguous to the Ship and Woodpeckers Yard, Deptford. The area of the whole of the valuable property is about ten acres, and offers an unusual and favourable opportunity to any capitalist, wharfinger, dock, water, canal boat, or other Mercantile Company, to purchase these eligible premises, affording room for the conversion of timber and materials as well as ample blowage for depositing pursuits of coals, timber, bricks, stone, lime, and other articles, and an opportunity of realising a considerable income by sub-letting parts of the premises, close to rapidly-improving neighbourhood, brings as it were this property within the metropolis itself.—May be viewed by applying to the Superintendent on the premises, and particulars obtained at the Spread Eagle, Wandsworth; Greyhound, Croydon; Griffin, Kingston; Castle, Brentford; Northumberland Arms, Isleworth; and of Messrs. Luttly and Batt, solicitors, Wandsworth, and Dyer's Hall, College-street, Lloyd's-hill; at Garraway's; and of Messrs. Crawter, Cobham, Surrey, and 7, Southampton-buildings, Chancery-lane.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and Others.—By

MESSRS. CRAWTER, at the White Hart Inn, Buckingham, on WEDNESDAY, April 26, at Ten precisely, a quantity of SUPERIOR TIMBER; comprising upwards of ELEVEN THOUSAND OAK TREES, of prime quality, now standing on the estates and in the woods at Wotton and Athendon.—To be viewed by application to Mr. GRIFFIN, at Wotton, who will appoint persons to shew the lots, and of whom catalogues may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge, Berkhamsted, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and others.—By

MESSRS. CRAWTER, at the George Inn, Aylesbury, on FRIDAY, April 28, at Eleven precisely, a QUANTITY of SUPERIOR TIMBER; comprising upwards of THREE THOUSAND OAK TREES, of prime quality, now standing on the estates and in the woods at Wotton and Athendon.—To be viewed by application to Mr. GRIFFIN, at Wotton, who will appoint persons to shew the lots, and of whom catalogues may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, OXFORD, High Wycombe, Maidenhead, Uxbridge, Berkhamsted, and Aylesbury; and of Messrs CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

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LONDON: Printed by CHARLES WYMAN, of 16, Castelnau Villas in the Parish of Barnes, in the County of Surrey, Printer, at the Printing-office of J. & H. COX, Brothers, 74 & 75, Great Queen-street, Lincoln's Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, April 1, 1848.

The Builder.

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Architect, Engineer, Operative & Artist.

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ADVERTISEMENTS.

TO ARCHITECTS.

WANTED, by a Young Man (a pupil of the late Mr. PUGIN), a SITUATION in an Architect's Office as DRAUGHTSMAN.—Apply, by letter, post-paid, to X. Y. Z., Mr. Robert Addison and Co.'s, 210, Regent-street.

WANTED, by a Person of several years' experience in conducting works, an ENGAGEMENT as SHOP FOREMAN to a BUILDER, or to superintend the erection of new works in town or country. Satisfactory reference as to ability and character.—Address, A. Z., 89, Chiswell-street.

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COMPETITIONS.

SAINT MARYLEBONE PUBLIC BATHS AND WASHHOUSES.—The Commissioners will meet at the Court-house, Marylebone-lane, on TUESDAY, the 2nd day of May next, at Eleven o'Clock in the Forenoon, to receive Plans, Elevations and Sections for the BATHS and WASHHOUSES proposed to be erected on the ground in the New Road, adjoining the Yorkshire Stingo Tavern. A plan of the ground, with descriptive particulars, may be obtained at the Office of the Clerk to the Commissioners, 31, Edward's-street, Portman-square. The Commissioners do not bind themselves to the acceptance of any plans that may be delivered pursuant to this advertisement. All plans not adopted will be returned to the owners.

CONTRACTS.

TO BUILDERS.

TENDERS will be received by the Honourable Board of Ordnance, at their Office, Pall Mall, London, on FRIDAY, the 14th day of APRIL, 1848, from such persons as may be willing to undertake the ERECTION of a new MILITARY PRISON, at Forton Gosport.

Plans, specifications, and conditions of the contract may be seen, and every information obtained, after the 10th instant, on application at the Royal Engineers' Office, Mill Dam, Portsea, between the hours of ten and four each day, Sundays excepted.

Tenders to be sealed up and indorsed on the outside, "Tender for the erection of a new Military Prison, Forton."

Royal Engineers' Office, Portsmouth,
11th March, 1848.

TO IRONFOUNDERS, COPPERSMITHS, BUILDERS, AND OTHERS.

NOTICE IS HEREBY GIVEN, that TENDERS for a specific sum, for REFORMING THE STEAM-PIPES in No. 4 Storing-house, St. Bodeaux Powder Works, near Devonport, will be received at the Ordnance Office, Pall Mall, London, on or before the 18th day of April, 1848, at noon

Specifications and detailed plans of the particulars, with forms of tender, and every information, may be obtained at the Royal Engineer's Office, Devonport between the hours of Nine and Four o'clock daily, until the 16th instant.

Commanding Royal Engineer's Office, Devonport.
3rd April, 1848.

BUILDERS desirous of Contracting for the ERECTION of the CHURCH and PARSONAGE HOUSE at Prestwood, Bucks, may see the Drawings, Specifications, and Conditions at Mr. COUGHTREY'S, Great Missenden, from the 5th April to the 1st of May next, and also at the Office of Mr. E. B. LAMB, Architect, 26, Charlotte-street, Portland-place, London, from Ten till Five o'Clock. Sealed Tenders, addressed to the Committee of the Erection of the Church, &c. Prestwood," to be delivered at Mr. COUGHTREY'S, by Eleven o'Clock in the Forenoon of the 1st of May next. The Committee do not pledge themselves to accept the lowest tender. The party whose tender shall be accepted will be required to enter into the usual bond, with sureties for the due performance of the work.
March 30, 1848.

WEST HAM UNION.—To BUILDERS.
The BOARD of GUARDIANS of this Union will, at their meeting, on FRIDAY, the 14th day of April inst., at this place, at Ten o'clock in the forenoon precisely, receive TENDERS for BUILDING a WARD for Epileptic Patients; also a Sleeping and a Day-room for Infants, subject to the approval of the Poor-law Board.—Plans and specification of the Work may be seen on application at the office of Mr. A. R. MASON, Architect, 34, Jamestreet, City.

S. RICHARDSON, Clerk to the Guardians.
Board-room, Leytonstone, Essex, April 3, 1848.

TO BUILDERS.

UNION HOUSE for 600 INMATES.—Persons desirous of CONTRACTING with the Guardians of the Aylsham Union for building an Aylsham UNION HOUSE for 600 inmates, may inspect the Working Plans and Specifications at the Office of the Clerk of the Union at Marsham, near Aylsham; and at the Office of the Architect, Mr. DONTHORN, No. 18, Hanover street, Hanover's quare, London.

All Tenders for the performance of the work to be sent, free, to the Clerk, before Tuesday, the 25th day of April next, under cover, addressed to the Building Committee, Aylsham Union, marked "Tender for building." The Guardians do not pledge themselves to accept the lowest tender. Security will be required for the performance of the work.—By order of the Committee,

Marsham, 29th March, 1848. WM. HILL, Union Clerk.

TO BUILDERS

BEDFORD COUNTY PRISONS.—The TENDERS delivered for the execution of the intended works, comprising the erection of a Governor's and Officers' Houses, 150 Cells, and various other additions, and alterations of, the County Prison at Bedford, not having been made in conformity with the specification nor approved by the Court, it is hereby that other Tenders, marked "Tender for Bedford County Prison Works" be received at the Office of the Clerk of the Peace, St. Paul's-square, Bedford, up to Ten in the morning of Monday, the 1st of May next, and in the meantime the Plans and Specification may be seen at his Office from Half-past Nine, A.M. to 8 P.M. daily. The Contractor will be required to give unexceptionable Security for the due performance of his Contract. The Justices do not undertake to accept the lowest tender.—For further information apply to Mr. THOMAS SMITH, Architect, Hereford.—By order,

THEED PEARSE, Clerk of the Peace.

Bedford, 4th April, 1848.

MR. GRAYSON'S ARCHITECTURAL, Mechanical, and Perspective Drawing ACADEMY (established above 50 years), Bonner-street, Bethnal-green-square—Engineers and Millwrights TAUGHT the PRINCIPLES of MACHINERY. The selection of models arranging the diagrams which are introduced at this Academy will be found of great utility to the student in elucidating the several mechanical and practical sciences. School of Design, comprising the Gothic, Grecian, and Roman classes of Ornamental Composition. Morning class from Nine till Two. Evening class from Six to Nine. Personal application, or by letter, post-paid.

METROPOLITAN BUILDINGS ACT.—NOTICE TO CANDIDATES FOR DISTRICT SURVEYORSHIPS.

Office of Metropolitan Buildings, 6 Adelphi-terrace,
16, Grosvenor-street, Grosvenor-square, London.

NOTICE IS HEREBY GIVEN, that the Examiners appointed by and in pursuance of the Metropolitan Buildings Act, will hold their next Examination of Persons desirous to obtain a certificate of qualification for the office of District Surveyor on THURSDAY, the 27th day of April instant, at One o'clock P.M.

Persons desirous to be examined must apply on or before the 20th instant, and their application must be accompanied by a preliminary statement, according to the course of examination prescribed in the rules for that purpose, copies of which, and any other information on the subject, may be had at the Office, or at Mr. WEALES, Architectural Bookseller, 24, High Holborn.

Subsequent Examinations will be held in the months of July, October, and January, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

16, Grosvenor-street, Grosvenor-square, London.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—At the Ordinary Meeting, held on Monday, 20th March, 1848, the following resolutions were passed with reference to the Medals for the year 1848:

ROYAL MEDAL.

Her Majesty having been pleased to grant her gracious permisson for the Royal Medal to be conferred on such distinguished architect or man of science, of any country, as may have designed or executed any building of high merit, or produced a work tending to promote or facilitate the knowledge of architecture, or the various branches of science connected therewith,

Resolved,—That the Royal Gold Medal be awarded this year to the author of some literary publication connected with architecture.

N.B. The Council will in January, 1849, proceed to take into consideration the appropriation of the Royal Medal accordingly.

INSTITUTE MEDAL.

Resolved,—That the Silver Medals of the Institute be awarded to the authors of the best essays on the following subjects:—

1. On the peculiar characteristics of the Palladian School of Architecture, and a comparison and contrast of its elementary principles and details with those of ancient Roman art.

2. On the best manner of covering the roofs, and forming the flats and gutters of buildings,—the nature of the several materials used in various parts of the country for these purposes,—their most effectual and economical application,—the precaution to be given to the different parts, and the other practical precautions to be adopted, to prevent snow and rain penetrating into the building.

N.B. Each essay to be written in a clear and distinct hand, on alternate pages, and to be distinguished by a mark, or motto, without any name attached thereto.

SOANE MEDALLION.

Resolved. That the Soane Medallion be awarded to the best design for a building to serve as a national repository and museum for the illustration and exhibition of the productions of the industrial arts, with all suitable accessories, and accommodation for the delivery of lectures, and for the purposes of chemical and other experiments.

The successful competitor, if he go abroad, will be entitled to the sum of 50*l.* at the end of one year's absence, on sending a satisfactory evidence of his progress and his studies.

N.B. The competition for the Soane Medallion is open to all members of the profession under the age of twenty-five years.

Each essay and set of drawings to be delivered at the rooms of the Institute on or before the 31st of December, 1848, by 12 o'clock at noon.

Directions for candidates, and any further information, may be had on application to the Secretaries, by letter, pre-paid.

GEORGE BAILEY, } Honorary Secretaries.
J. J. SCOLES, }

NEW ZEALAND COMPANY'S SHIP for OTAGO, WELLINGTON, NELSON, and NEW PLYMOUTH, in NEW ZEALAND. The First-Class Passenger Ship BLENHEIM, 570 Tons, now lying at the London Docks, will be despatched by the NEW ZEALAND COMPANY for the above Settlements, from the Port of London, on MONDAY, the 1st of May next.

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By order of the Court of Directors,
THOMAS CUDBERT HARINGTON.
New Zealand House, 9, Broad-street Buildings.
London, 16th March, 1848.

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Cases for binding may be had of the publisher, price 1s. 6d.; or copies will be bound, [illegible] 3s.
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NOVELLO'S MONTHLY MUSICAL PUBLICATIONS.—On the 1st of April was published,

ST. PAUL, by MENDELSSOHN, No. 3,—sixteen pages for [illegible]

JUDAS MACCABÆUS, by HANDEL, No. 10,—same price.

CATHEDRAL CHOIR BOOK, No. 8,—contains [illegible] Organ Score, 1s. 6d. — 8vo. Vocal [illegible] 4d. each.

The MUSICAL TIMES, No. 47, price three-halfpence, contains [illegible] Knight, [illegible] Callcott.
London: Sacred Music Warehouse, 69, Dean-street, Soho, and 24, Poultry.

BUILDERS and Others desirous of embarking in a BUILDING SPECULATION, are invited to inspect a plot of Freehold Land, containing about five acres, situate at EAST BOURNE, in SUSSEX. The land will be let on building lease, with powers of [illegible]. It is most desirably situated [illegible] and [illegible] to the sea houses; the soil is [illegible] and the supply of water ample, brick-earth and stone are on the spot. The Railway is fast approaching completion, and the Station will be within a quarter of a mile of the Land now offered.—Plans may be seen, and all particulars known by applying either to Messrs. SIMPSON, 23, [illegible], London, or to Mr. JAMES BERRY, Architect, [illegible]

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TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of SIXTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-[illegible] singular beauty. Private roads, walks, and drainage [illegible] to be made within the Park. Facing bricks, both White and Red, Stocks and others of an excellent quality, and in any quantities, may be had on the Estate, and an allowance [illegible] where used on the Estate. Gravel of a superior [illegible] abundance on the ground and water [illegible] and the [illegible] to [illegible] builders taking an adequate interest in the property, which is likely to be immediately remunerative to them from a great and increasing demand for houses existing in this neighbourhood.—For Lithographed Plans and Particulars apply to Messrs. RANKEN, FORD, LONGBOURNE, and VICKERMAN, No. 1, South-square, Gray's-Inn; Messrs. GOUGH and ROUMIEU, Architects, No. 16, Lancaster-place, Strand; or Mr. WILKINS, at the Manor-park Office, Streatham.

NOTICE TO ADVERTISERS.

THE NUMBER of STAMPS issued by the Authorities of the Stamp-office, during 1847, to the

DAILY NEWS, was.................... **3,447,009.**

This we believe, is within eight per cent of the number issued to the *Morning Herald*, *Morning Chronicle*, and *Morning Post*, all put together. In addition to the above, issued to the DAILY NEWS, Morning Paper, there were issued for the Evening Edition,

THE EXPRESS .... **778,714.**

Which was more, we believe, than were issued either to the *Globe* or *Standard*, Evening Papers.
THE DAILY NEWS, price THREEPENCE, is published every Morning in time for the early mails.
Daily News Office, Whitefriars, Fleet-street.

SALES BY AUCTION.

RESIDENCE, WORKSHOPS, &c.—To Builders, Cabinet-makers, Coach-painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, at the Auction Mart, on TUESDAY, April 18, at Twelve, (unless an acceptable offer is previously made), that excellent RESIDENCE, situate No. 13, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Ramsell, together with the well-arranged and roomy workshops at the rear, and having entrances in New-street mews, with four-stall stable, coach house, sheds, saw-pit, with the advantage of an abundant supply of spring water; held for upwards of 70 years, at a ground rent.—May be viewed and particulars had on the premises, and of Mr. H. BIERS, 13, Broad-street, Golden square.

IN BANKRUPTCY.—Nine finished Houses and Houses in Carcase, situate Malden-road and Dunsford-place, Hampstead-road.

MR. H. BIERS has received directions from the Assignees of Joseph Robinson, builder, a bankrupt, to SELL by AUCTION, at the Mart, on TUESDAY, April 18, at Twelve, NINE well-built HOUSES and CARCASE HOUSES, situate in Malden-road and Dunsford-place, near Kentish-town and Hampstead-roads; also a Plot of Ground for one house. They are held for upwards of 90 years, at very low ground rents. May be viewed, and particulars had of Messrs. ABBOTT and WHEATLEY, Solicitors, 3, Roll's-yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove-place, Lisson-grove; of WILLIAM TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

IN BANKRUPTCY.—The Newberry Arms intended Public-house, situate at the corner of Malden road and Durnford-place, Hampstead-road.

MR. H. BIERS has been directed by the Assignees to SELL BY AUCTION, at the Mart, on TUESDAY, April 18, these valuable and commodious PREMISES, desirably situate at the corner of Malden road and Durnford-place, near Ferdinand-street, and between the Hampstead and Kentish-town roads. They are well-built and finished, and commodiously arranged, and from the situation, and the unusual privilege of being the only public-house allowed on nearly three acres of land, must command a very first-rate trade of a most profitable character. The house has not yet a spirit licence, but it has been opened under a beer licence, under which the returns were perfectly satisfactory. It is held for upwards of 90 years, at a very low ground rent.—May be viewed, and particulars may be had of Messrs. ABBOTT and WHEATLEY, 3, Roll's yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove place, Lisson-grove; of WM. TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

BUILDING MATERIALS of a modern and superior description, London-wall, to clear the site for the new Greek Church.

PULLEN and SON respectfully announce that they are directed to SELL BY AUCTION, on the Premises, on THURSDAY, April 13, at Twelve, in Lots, all the excellent BUILDING MATERIALS and FIXTURES of a newly erected range of WAREHOUSES, Counting houses, Coach-houses, Stabling, &c., No. 82, London-wall, City; comprising about 150,000 nearly new stock bricks, excellent slates, oak and fir timber, glazed sashes, doors, partitions, flooring boards, iron columns, capital entrance and coach house gates with Collinge's hinges, iron racks and mangers, all the pebble paving of yard, large slate and other cisterns, stone coping and sills, lead gutters and pipes, stoves, gas fittings, and various useful fittings-up of a superior description.—May be viewed the day previous, and catalogues had of PULLEN and SON, 80, Fore-street, Cripplegate.

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PULLEN and SON will SELL BY AUCTION, on the Premises, on SATURDAY, April 15, at Twelve, by order of the Worshipful Company of Mercers, all the useful BUILDING MATERIALS of a large coach factory, in Charles street, Long-acre.—May be viewed, and catalogues had of GEO. SMITH, Esq., Mercers' Hall; and of PULLEN and SON, 80, Fore-street, Cripplegate.

BUILDING MATERIALS, HIGH-STREET, WAPPING.

PULLEN and SON are favoured with Instructions from the Governors of Bridewell Hospital to SELL BY AUCTION, on the Premises, on MONDAY, April 17, at Twelve, in lots, all the valuable BUILDING MATERIALS of a large house and premises, 188, High-street, Wapping, to be taken down for the improvement of the street; comprising sound brick work, tiles, timber, glazed sashes, doors, partitions, shop fronts, stoves, and the usual fixtures and fittings-up.—May be viewed, and catalogues had of SYDNEY SMIRKE, Esq., 24, Berkeley-square; and of PULLEN and SON, 80, Fore-street, Cripplegate.

KENTISH TOWN. TO MEMBERS OF BUILDING SOCIETIES AND OTHERS.

MR. R. MAY will SELL BY AUCTION, at the Mart, on TUESDAY, April 11, 1848, at One o'clock precisely, a valuable long LEASEHOLD ESTATE, consisting of Four Dwelling Houses, situate and being Nos. 1, 2, 3, and 4, Clarence Grove, Clarence Road, Kentish Town, and valuable Ground Rents of Nos. 5, 6, 7, and 8, adjoining; together with a piece of Garden Ground in rear of the above—all occupied by respectable tenants; the whole producing a rental of 124l. per annum. Held for a term of 81 years, at a ground rent of 37l. per annum. May be viewed by permission of the tenants. Particulars and conditions of sale may be had at the Auction Mart; of W. H. Warton, Esq., solicitor, 25, Bucklersbury; on the premises of Mr. Piper, at No. 5, Clarence Grove; and of Mr. Richard May, auctioneer and estate agent, 90, Leadenhall-street.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL by AUCTION, on the Premises, Belvidere-road, Lambeth, on MONDAY, April 17th, and following Days, the THIRD PORTION of the VALUABLE STOCK of Mr. GRISSELL (who has relinquished the general Building Business), which comprises above 10,000 dry, well-seasoned yellow and white deals, planks and battens, prepared flooring, sawn boards, Memel and fir timber, posts and rails, scaffold-boards and putlogs, wheeling planks, mortar-boards, sand-screens, brick waggons, useful traveller gear; 20 tons of permanent railway metals, patent weighing machines, scale-beams and weights, slings, chains, and useful ironwork, &c. Approved bills at four months will be taken.—May be viewed two days prior to the sale, and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

IMPORTANT WATERSIDE PREMISES and BASIN, eligible for Wharfingers, Dock Water and Boat Companies.—By

MESSRS. CRAWTER, at Garraway's Coffee-house, 'Change Alley, Cornhill, London, on TUESDAY, April 11, at Twelve, in lots, by direction of the proprietors, valuable and important PREMISES, comprising the Surrey Iron Railway Company's spacious and convenient docks, wharfs and basins, and land warehouses and cranes, counting-house and appendages, lock-keepers's house and garden, and two dwelling-houses with offices and gardens, eligibly situate, adjoining and communicating with the river Thames, and immediately contiguous to the town of Wandsworth, Surrey. The area of the whole of this valuable property is about ten acres and offers an unusual and favourable opportunity to any capitalist, wharfinger, dock, water, steam-boat, or other Mercantile Company, to purchase these eligible premises, affording room for the conversion of timber and materials as well as ample stowage for depositary purposes in coals, corn, timber, bricks, lime, and other articles, and an opportunity of realising a considerable income by sub letting portions of the premises, close to rapidly-improving roads, with a populous and increasing neighbourhood, and adjoining to several important trade concerns, where at all times any vacant space is readily taken for building purposes, with the near vicinity of the Wandsworth Station on the South Western Branch Railway to Richmond, and the access about to be immediately given in connection with this railway to Waterloo and London bridges, brings as it were this property within the metropolis itself.—May be viewed by applying to the Superintendent on the premises, and particulars obtained at the Spread Eagle, Wandsworth; Greyhound, Croydon; Griffin, Kingston; Castle, Brentford; Northumberland Arms, Isleworth; and of Messrs. Luttly and Batt, solicitors, Wandsworth, and Dyer's Hall, College-street, Dowgate-hill; at Garraway's; and of Messrs. Crawter, Cobham, Surrey, and 7, Southampton-buildings, Chancery-lane.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and Others. By

MESSRS. CRAWTER, at the White Hart Inn, Buckingham, on WEDNESDAY, April 26, at Ten precisely, a quantity of SUPERIOR TIMBER; comprising upwards of ELEVEN THOUSAND OAK TREES, of prime quality, now standing on the Estates at Stowe, Foscott, Thornborough, Finmere, Hillesden, Astwell, and Falcutt, in the county of Buckingham.—To be viewed by application to Mr. BEARDS, the Steward, at Stowe, who will appoint persons to shew the Lots, and of whom Catalogues may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge, Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

OAK TIMBER SALE. To Timber Merchants, Railway Contractors, and others. By

MESSRS. CRAWTER, at the George Inn, Aylesbury, on FRIDAY, April 28, at Eleven precisely, a QUANTITY of SUPERIOR TIMBER; comprising upwards of THREE THOUSAND OAK TREES, of prime quality, now standing on the estates and in the woods at Wotton and Ashendon.—To be viewed by application to Mr. GRIFFIN, at Wotton, who will appoint persons to shew the lots, and of whom catalogues may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge, Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

ANNUAL SALE OF TIMBER, SHORTGROVE PARK, NEWPORT, ESSEX. 230 TIMBER TREES, consisting of Ash, Elm, Beech, Lime, Chesnut, and Sycamore; also 150 FINE LARGE FIRS, 190 good Oak Saplings, 4,500 Fagots, and a large quantity of Firewood, to be SOLD BY AUCTION, by

MARTIN NOCKOLDS, upon the Pre- mises, on MONDAY, the 17th of April, 1848. Many of the Trees are of good dimensions and excellent quality.—May be viewed by applying to the Bailiff, upon the Premises, of whom Catalogues may be had, also at the Coach and Horses Inn, Newport; and at the Office of the Auctioneer, Saffron Walden, Essex.—Credit will be given until Christmas next on all Purchases above 5l.

*** Sale to commence at Ten o'clock, in Engine Field, near the Barn, a short distance from the Keeper's Lodge, on the Gallow-hill-road.

OAK TIMBER, HOWE WOOD, LITTLEBURY, ESSEX.—TO BE SOLD BY AUCTION, BY

MARTIN NOCKOLDS, upon the Pre- mises, on WEDNESDAY, April 19th, 1848, 160 GOOD OAK TREES, many of which are of good dimensions, long lengths, well adapted for the use of Coopers and others; also about 50 ASH and ELM TREES, the whole of which have been felled during the last winter, and are now lying in lots as under, close to a good Road. May be viewed and Catalogues had by applying to BENJAMIN SMITH, the Woodward, at Catmere End, Littlebury; and of the Auctioneer, S. WALDEN.—Six months' credit will be given upon approved security.—Immediately after the above will be sold a quantity of WILLOW TREE TOPS and FAGOTS in Lots, as are now lying in Bordeaux Meadows, near the Farm House, and close to the Turnpike-road.

*** Sale to commence at the Howe Wood, at Eleven o'Clock.

TO BUILDERS, PAINTERS, AND OTHERS

MESSRS. WOOD and Co., GRAINERS and WRITERS to the Trade only.
70, York Road, Lambeth; and at 38, Cross Street, Blackfriars Road.
*** An Apprentice wanted.

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTREY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the facility afforded by their Machinery for carrying out with dispatch and accuracy, and at a great saving in expense, the most elaborate designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above price, and the work guaranteed. Apply to JOHN PILLINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 1, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE, IMPORTED EARLY IN 1847. An impression having obtained currency that there is no supply of "well seasoned Blocks" of this Stone available in the market, Messrs. FREEMAN beg to state that they still have a considerable Stock of prime quality, from the best Allemagne quarries.
67, Millbank-street, March, 1848.

CAEN SUFFERANCE LANDING WHARF, ROTHERHITHE-STREET, five wharfs west of the Lavender Dock Pier, opposite the Regent's Canal.
G. GATES and Co. beg to inform Merchants, Builders, Engineers, and others, that the above Wharf has three powerful Cranes and Traveller, for the purpose of landing, stacking, and transhipping stone, iron, machinery, and every description of heavy goods; trusting, by strict attention and despatch, to merit a share of their patronage.—For further particulars and terms, apply at the office, 18, Southwark-square, Southwark, or at the Wharf.
N.B. The Old Woolwich Company's Steam Boats call at Lavender Pier, near Caen Wharf. The above Wharf is the depôt for Messrs. BUARD, BEEDHAM, and Co.'s Caen and other Stone.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his patrons.
GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the required accuracy and truthfulness.
FONTS from 5l. upwards.
MONUMENTS and TOMBS in great variety of design.
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES, in Town, on view.
Stone-top Chimney-pieces, from ..... 12s.
Vein-Marble ..... 40s.
RESTORATIONS Estimated for (in which Branch S. C. has had considerable practice). Dairies fitted up, &c. &c.

ITALIAN AND GALWAY MARBLE QUARRIES, DEPOT, BRIDGE WHARF, PIMLICO, LONDON.—Mr. FRANKLIN, the Proprietor of the Quarries, informs the Sculptors, Marble-masons, and Builders, that he is constantly receiving shipments from Ireland and Italy of all descriptions of Marble, in blocks and slabs
Just landed, ex Victoria, Galway, several fine Blocks of Black, about 10 feet long, by 4 to 5 feet wide. Also 12 Blocks Statuary, from Leghorn, of large dimensions, &c. &c.

SLATE SLABS.—The Finest Slabs produced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS, Upper Belgrave-place, planed both faces at the price that inferior Slabs in the rough self faced are generally sold at. These reduced prices are also subject to a very large trade discount. These Slabs have been extensively used at Buckingham Palace, Travellers' Club House, the Royal Naval and Military Schools, Deptford, the Model Prison, Pentonville, the Goulstone Square Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, planed both faces, at very low rates. Slate Tanks, Fittings for Dairies, Larders and Wine Cellars, Landings, Cauttleyers, Chimney Pieces, &c. &c.

MESSRS. HOPKINS and Co. solicit the attention of Architects, Builders, Upholsterers, and the public generally to their REGISTERED SELF-REGULATING BLINDS, which, dispensing entirely with the centre line, is peculiarly suited to French casements and high windows. OUTSIDE BLINDS ON IMPROVED BALANCE ACTION.
H. and Co. are the sole manufacturers of BARRON'S PATENT SPIRAL GROOVE ACTION, constructed for the easy and noiseless carriage of curtains on Brass or Wood Poles. This action has been much used, and with unparalleled success for octagon, bow, and other closed windows. Models constantly on show.
HOPKINS and Co., late James Barron, Window Blind Manufacturers, Cabinet and General Brass Founders, 30, Castle-street, East, Oxford-street, London; and at Birmingham.

SNAZELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed the 8th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee over any that may be devised as superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
Sole Lincensees for the manufacture of MARVIN'S PATENT DIAGONAL GRATINGS, for Areas, Balcony Floors, &c.
The superiority of Bunnett and Corpe's Patent Revolving Iron Shutters is sufficiently established by their most extensive use, and the fact of their having superseded all others; every improvement suggested by practical skill and experience have been adopted, and the prices greatly reduced, to render them the CHEAPEST, as well as BEST IRON SHUTTERS.
B. and C. have also made great registered improvements in Revolving Wood Shutters, which are fitted up with proper metallic hinges that cannot rust without which no shutter can be safe or durable, and are worked by the patent raising gear as Iron Shutters, or counterbalanced in a new or peculiar way, and are found up or down with the greatest ease, without the use of objectionable loose lines. A comparison with any others, as to quality and price, is respectfully solicited.
A modification of the above, working vertically, is especially adapted for Bay and Oriel Windows.
The prices of the Patent Metallic Sash Bars, &c. have been revised, and where practical, reduced; Shop Fronts, &c. are completely fitted and hung in a superior style, either plain or ornamental, and with strong drawn moulded plated bars handsomely engraved, so completely glazed with best plate glass
The Patent Diagonal Wrought Iron Grating will be found a great consideration for areas at shop fronts, in shop and warehouse floors, and for balcony floors, as it does not obstruct the light, yet admits ladies walking over or standing on the same.
IMPROVED BENCH AND FLOURING CRAMPS FOR BUILDERS,
which are greatly superior to anything hitherto introduced
Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.
Estimates given, and Contracts taken, in town or country.
Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP. and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PLATE GLASS.
THE LONDON and MANCHESTER GLASS COMPANY have opened their London Warehouse, 13, RATHBONE-PLACE, with an extensive Stock of Plate Glass of pure colour, strong substance, and most brilliant polish, which will be supplied to the Trade at VERY CONSIDERABLE DISCOUNTS from the tariff prices
ROUGH PLATE GLASS, of every thickness, at very low rates.
J. L. GRUNDY, Company's Agent.
13, RATHBONE-PLACE.

SOHO PLATE GLASS COMPANY, 26, Soho-square. Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Cirey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three-quarters inch thick.
ALFRED GOSLETT, Agent.

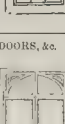
SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE. ALFRED GOSLETT (Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass) begs to inform the Trade generally that he has added to his present Establishment an extensive WHOLESALE Warehouse and Selling-room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.
ROUGH PLATE GLASS supplied ⅛, 3-8, ¼, and ½ inch thick. Particular attention is requested to the superior colour and evenness of this article.
LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

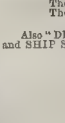
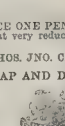
WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS. MILLINGTON, 37, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s. and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

STAINED GLASS.—To the Clergy and Architects.—Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Church decoration, viz., subjects, single figures of the Evangelists, and other Saints some having canopies and pedestals, with numerous emblems; and examples of Windows, available for Churches of various periods of architecture; also, specimens of Illuminated Tablets.
Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 14, Foley-place, Langham-place.

CHAS. WM. WATERLOW,
MANUFACTURER
of Sashes and Frames, by Appointment to the Trade, 191, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

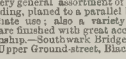
SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.
JOHNSON and PASK,
1, Anwell-street, Clerkenwell, near the New River Head,
Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country. A full list of prices forwarded by return of post, to any part of the country.

PREPARED FLOORING BOARDS.
AT REDUCED PRICES.
ALWAYS ON SALE, a Large Assortment of DRY PREPARED FLOORING BOARDS and MATCHED BOARDING of all sorts, planed to a parallel width and thickness, from ¼ inch to 1¼ inch thick.
TIMBER, DEALS, OAK PLANKS, SCANTLINGS, SASH BILLS, &c.
Apply at W. CLEAVE'S Timber Yard, Wilton-road, Pimlico (late G. Moore and Son), and Great Smith-street, Westminster.—Mouldings prepared by machinery.

ALFRED ROSLING begs to inform the Trade and Consumers generally, that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

T. ADAMS (from Byron and Co.), late S. Dare, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brecknock's Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension. Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense to any part of London. Sawing charged at mill prices. Very extensive Drying Sheds.


MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.
TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.
Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment, for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary at the temporary offices of the Company, 28, New Broad-street, City.

THE FRENCH REVOLUTION and FRENCH PAPER-HANGINGS.
Messrs. MARKS and Co. beg to inform the Trade that the greatest tranquility exists at present in all the Paper hanging Fabriques; that their new Spring Stock, embracing every novelty, is at the lowest, at the lowest Paris prices with the duty. Also a large number of expressly-made original designs, printed here, free of duty, at prices varying from 8d. to 3s. per piece of twelve yards long.
59, Princes-street, Leicester-square.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Halls, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably clean. Ferns, each sort, twenty yards for 2s.
W. CROSBY and Co., Lowther Arcade, Charing Cross.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.
E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price 2l.—Works, 15, Wellington Street North, Strand.

By Her Majesty's Royal Letters Patent.

PATENT ASPHALTE ROOFING FELT, as used by
Her Majesty's Woods and Forests,
The Royal Agricultural Society of England,
The Leeds and Manchester,
The London and North Western,
The Liverpool and Manchester,
The Chester and Holyhead,
The Norfolk and other Railways,
And the Corporation of the City of Edinburgh.
PRICE ONE PENNY PER SQUARE FOOT
Also "DRY HAIR FELT" of superior make, at very reduced prices, for preventing the Radiation of Heat, and deadening sound, and SHIP SHEATHING FELT.
GRUEBER and Co., Belfast; THOS. JNO. CROGGON, 2, Ingram-court, Fenchurch-street, London.

CHEAP AND DURABLE ROOFING.
By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
Patronized by
HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
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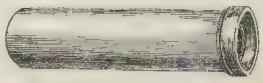
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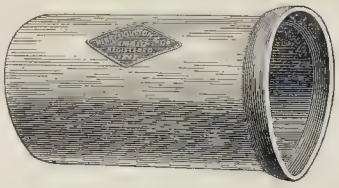
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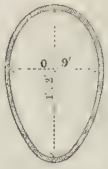


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Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

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The Builder

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

CROWN 8vo.

Vol. VI.—No. 271. **APRIL 15, 1848.** Price Fourpence. Stamped 5d.

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NOTICE IS HEREBY GIVEN, that a GENERAL HALF-YEARLY MEETING of Members of the INSTITUTION OF BUILDERS' FOREMEN will take place on WEDNESDAY evening next, April 19, at the Bay Tree Tavern, St. Swithin's-lane, for the purpose of erecting offices for the ensuing six months, and other general business.

W. ALLARD, Secretary.

UNDER THE PATRONAGE OF HER MOST GRACIOUS MAJESTY THE QUEEN AND HIS ROYAL HIGHNESS PRINCE ALBERT.

THE SECOND ARTISTS' AMATEUR PERFORMANCE, in aid of the Artists' General Benevolent Institution, will take place at the St James's Theatre, on THURSDAY evening, the 27th inst. Tickets may be obtained on and after the 17th inst. of the following Gentlemen who have consented to act as Stewards on the occasion.

C. R. Cockerell, Esq., R.A., Hampstead heath; G. C. Hall, Esq., F.S.A., The Rosery, Brompton, and 183, Strand; Messrs. Colnaghi, Pall-mall East; A. D. Fripp, Esq., 17, Golden-square; J. H. Mann, Esq., 57, Great Queen-street, Lincoln's-inn-fields; J. Mitchell, Esq., 33, Old Bond-street; Henry Moseley, Esq., 53, Upper Charlotte-street, Fitzroy-square; Mathew Wood, Esq., 53, Berners-street; and the Treasurer, G. R. Ward, Esq., 31, Fitzroy square.

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TO THE

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Wm. Mackeray, Esq., 54, Bread street, Cheapside.

SECRETARY.—Mr Robert Kenyon, 18, Blackfriars-road.

The FIRST SUBSCRIPTION Meeting of the "IMPROVED BUILDING and INVESTMENT SOCIETY" will take place at EXETER HALL on TUESDAY EVENING next, at half-past Seven o'clock precisely. This Society is established on Mr. Robert Kenyon's very successful system, and is fixed to close in ten years. Shares limited to 1,000.
Application for shares must be made immediately to the Secretary. Prospectuses forwarded on receiving one postage stamp
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CONTRACTS.

TO IRONFOUNDERS, COPPERSMITHS, BUILDERS, AND OTHERS.

NOTICE IS HEREBY GIVEN, that TENDERS for a specific sum, for REFORMING THE STEAM-PIPES in No. 3 Storing house, St. Budeaux Powder Works, near Devonport, will be received at the Ordnance Office, Pall Mall, London, on or before the 18th day of April, 1848, at noon
Specifications and detailed plans of the particulars, with forms of tender, and every information, may be obtained at the Royal Engineer's Office, Devonport, between the hours of Nine and Four o'clock daily, until the 10th instant.
Commanding Royal Engineer's Office, Devonport.
3rd April, 1848.

BUILDERS desirous of Contracting for the ERECTION of the CHURCH and PARSONAGE HOUSE at Prestwood, Bucks, may see the Drawings, Specifications, and Conditions at Mr. COUGHTREY'S, Great Missenden, from the 5th of April to the 1st of May next; and also at the Office of Mr. E. B. LAMB, Architect, 28, Charlotte-street, Portland-place, London, from Ten till Five o'Clock. Sealed Tenders, addressed "To the Committee for the Erection of the Church, &c., Prestwood," to be delivered at Mr. COUGHTREY'S, by Eleven o'Clock in the Forenoon of the 1st of May next. The Committee do not pledge themselves to accept the lowest tender. The party whose tender shall be accepted will be required to enter into the usual bond, with sureties for the due performance of the work.
March 28, 1848.

TO BUILDERS.

THE Building Committee in connection with the Church of St. John, Hoxton, are ready to receive TENDERS for the ERECTION OF INFANT SCHOOLS on the west side of the present school-house. The plans and specifications may be seen, and the quantities obtained at the office of Mr. Wilson-street, Finsbury-square, on and after Friday, the 21st instant, between the hours of Ten and Four. Tenders to be delivered at the Rev. A. F. Kelly's, the Parsonage-house, Murray-street, Hoxton, before Six o'clock on Monday, the 24th of April. The Committee do not pledge themselves to accept the lowest or any one of the Tenders.
WM. TRESS, Surveyor.
Wilson street, Finsbury-square.
12th April, 1848

TO BUILDERS AND CONTRACTORS

NEW CONGREGATIONAL CHAPEL, SOUTHAMPTON. Builders desirous of contracting for taking down the present chapel, vestry, &c., and building the proposed new Chapel, Vestry, Caretaker's residence, and Offices, in St. Mary's-street, are informed that the drawings, specifications, and particulars, with the bills of quantities, are ready for inspection at the offices of Messrs. HINVEST and WEST, Architects and surveyors, 63, Portland place, Southampton. Sealed tenders (properly endorsed) are to be delivered at the Architects' office, on or before Tuesday, the 25th instant. The Committee do not profess themselves to accept the lowest estimate, and the party whose tender shall be accepted will be required to enter into the usual bond, with sureties, for the due performance of the works.
April 7, 1848.

TO BUILDERS

BEDFORD COUNTY PRISONS.—The TENDERS of persons desirous of undertaking the erection of a Governor's and Officers' Houses, 150 Cells, Chapel, Infirmary, and other buildings, for the County Prison at Bedford in Howard's new plan, are requested to deal with the specification now approved by the Court, it is ordered that other Tenders, marked "Tender for Bedford County Prison Works" be received at the Office of the Clerk of the Peace, St. Paul's-square, Bedford, up to Ten in the morning of Monday, the 1st of May next, and in the meantime the Plans and Specification may be seen at his Office from Half-past Nine a.m. to 6 p.m. daily. The Contractor will be required to give unexceptionable Security for the due performance of his contract. The Justices do not undertake to accept the lowest tender. Further information to be had, to Mr. THOMAS SMITH, Architect, Hereford; by order,
THELD PEARSE, Clerk of the Peace.
Bedford, 4th April, 1848.

TO ARCHITECTS, &c.

THE Sheffield Master Builders' Association are desirous of ENGAGING a person of Competent Architectural and Practical Building knowledge to take charge of the School now about to be established here, for the Instruction of Young Persons in the Principles and Constructive Elements of the building trade. A perfect knowledge of Geometry and Mathematics, with practical application, will be essential qualifications. The school hours are intended from seven to half past nine o'clock in the evening, and for the whole year. Applications, stating terms to be made to the Honorary Secretary on or before May 1st, 1848.
THOS. E. MYCOCK, Hon. Secretary.
106, Jargate, Sheffield, April 12, 1848.

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For Freight, Passage, or further information, apply at New Zealand House, or to Mr. JOSEPH STAYNER, Broker, No. 2, Penchurch-street, London.
By order of the Court of Directors,
THOMAS CUDBERT HARINGTON.
New Zealand House, 9, Lord-street Broad Buildings, London, 16th March, 1848.

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So great has been the confidence in the prospects of the Company, that without the aid of a single advertisement in the public papers, and that, too, at a period of unparalleled commercial difficulty, viz.—the close of the year 1847, 12,500 shares, representing £250,000, or one-fourth of the intended capital of one million, were subscribed and paid for.

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Reports, Tables, and every information may be had of the Secretaries.
Edinburgh Office—14, St. Andrew's-square; London Office—12, Moorgate-street.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY

REPORT OF THE DIRECTORS.

Presented at the Annual General Meeting, held at the Society's Office, on Thursday, March 2nd, 1848.

Having, at the meeting held in January, 1847, presented to the Proprietors and Assured a very full account of the Society's affairs, your Directors have but little to communicate on the present occasion.

It may, however, be satisfactory to those now assembled to learn that notwithstanding the increased and active competition arising from the yearly establishment of many new Life Assurance Offices, the business of this Society still continues to advance.

In proof of this, it will be sufficient to state the following facts:—

I. In the number of policies granted on the lives of clergymen, a class of persons generally distinguished for longevity, has been greater during the year ending June 30th last (the period comprehended in this report) than in any one year since the commencement of the Society.

II. The Society's income, which was 116,383*l.* in the year ending June 30th, 1846, amounted to 122,906*l.* in the year ending June 30th, 1847.

III. The number of NEW POLICIES issued within the year has been 513, and the amount assured thereby 387,679*l.* Being an increase, both in the number of Policies and in the sum assured, over those of any preceding year.

In conclusion, the Directors are happy to inform the Proprietors, that the Society has not in any degree suffered from the great monetary which has prevailed of late throughout the kingdom, the claims, both in the course of the year ending June 30, 1847, and also within the six months ending with December last, not having equalled either in number or amount those of preceding years.

Tables of Rates and Forms of Proposal can be obtained of any of the Society's Agents, or by addressing a letter to

GEO. R. PINCKARD, Resident Secretary,

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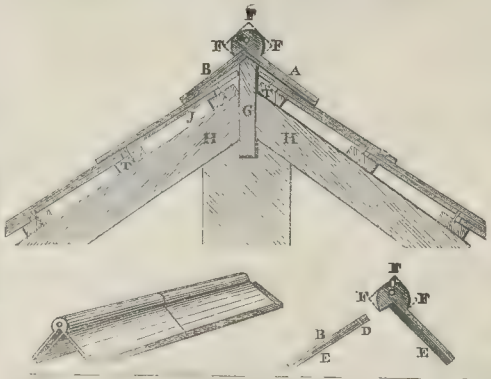
E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price, and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Dye-houses, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE PIPES are made to stand hot liquor, at a temperature [illegible] perfectly flexible and as they require no application of oil or dressing, are particularly well adapted for steam fire engines, other engines, fire engines, pumps, &c., beer casks, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from 1 inch bore upwards, and of any length to order. Vulcanized India rubber sheeting, which [illegible] JAMES LAMB HANCOCK, [illegible]

N.B. Vulcanized [illegible] of vulcanized sheet rubber any thickness, and [illegible] Hose Pipe purposes.

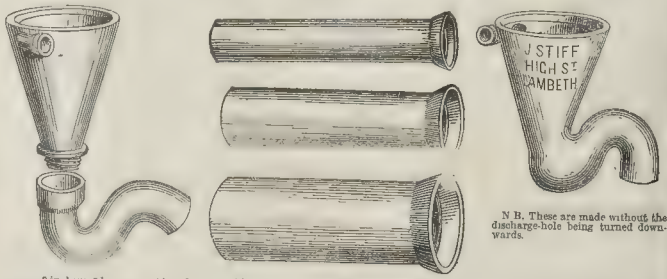
WILLIAMS'S PATENT SLATE RIDGES AND HIPS.



THE above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.

Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere-road, Lambeth, London.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 38, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

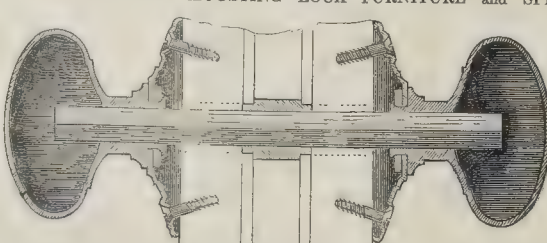
3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufacture of Brown Stone Ware.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction, on the follower, the action also is more pleasant than with ordinary mountings, as I being fixtures, prevent the Badgerment of the door which frequently occurs when the common rosette is used.

The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided, they are likewise more easily fixed, and are suitable for every description of Door Lock Furniture.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., all suitable with Plate escutcheons, Bell pulls, and Levers, and may be obtained of all Ironmongers or of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

SMITH and ENGLISH,
ENGINEERS, BUILDERS' MACHINISTS,
IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,
PRINCES-STREET, LEICESTER-SQUARE, LONDON.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply Verandahs, Plain and Ornamented Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Inclosures, Trellis Panelling, Lamp and other Brackets, Cauldrons, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
DRURY LANE, and CHARLES-STREET, DRURY-LANE.
JOSEPH GLOVER,

solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental, as Wheel Pinion and Steam Engine Patterns; Range Stove and Pot Plate Metal

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or Mouthpieces; Plates, Furnace-bars, Cheeks and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit; Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 3 ft., 38s.; 3 ft. 2 in., 3 ft. 4, 44s.; 3 ft. 6, 46s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £3 3s. 3 ft. 6, £3 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp.

5d.	6d.	8d.	1id.	1s. 4d. per 1,000.
3d.	4d.	6d.	8d.	10d. 20d.

Best Sheet Floor Brads 14s. per cwt.
Best Town Glue 38s. Do Scotch, 52s. per cwt.

Best Patent Sash Line.

4s 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.	per gross.
1	2	3	4	5	6	

At F. R WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Wrought Iron Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3 6s.	£3 13s.	£4 16s.	£4.	£4 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do Elliptic do., at 6½d., and 4d. do.

Manufacturer of WOLFANSTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in. and upwards.

Bright ditto with Black and Bright Bars, 7½d. and upwards

Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:

3 ft.	3ft. 6 in.	4 ft.
2l. 2s.	2l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 9s. per pull.

IRONMONGERY WAREHOUSE, 18, Blan Ford-street, Manchester square, leading from Baker-street, Portman square.

TO BUILDERS and CARPENTERS.—In consequence of the recent reduction in the Price of Iron, the following are the present Prices of Nails, &c., at the above Warehouse:—

Best Patent Cut Clasp

4d.	6d.	10d.	20d.	per 1,000.
6d.	8d.	1s 4d	1s 10d	"

Cast Butts.

2 in.	2½ in.	2½ in.	3 in.	
11d.	1s 2d.	1s 4d.	2s	per doz

Also Best Patent Sash Line.

3	4	5	6	per doz. knots.
6s. 6d.	7s. 6d.	10s.	12s.	

Every other article equally reasonable.

Catalogues of Prices can be had on pre-paid application, inclosing postage stamps. County orders will meet with immediate attention, and will be executed either upon the receipt of a remittance or the same, or of a satisfactory reference in London.

JOHN and EDWIN YOUNG, Proprietors.

R. FULKES, Wholesale Ironmonger, Stove and Range Manufacturer, 91, Park-street, Camden Town, and at

Best Cut Clasp Nails, 10s. per cwt.
Best Cut Lath Nails, 11s. 6d. per cwt.
Improved 6-inch Mortice Locks, with large Brass Furniture, fitted with Duces' Patent Spindles, 9s. per dozen.
6-inch Rim Locks, with large brass furniture, and brass striker-staples, 16s. per doz.
Elliptic Stoves, 3d. per inch.
Register Stoves, 6½d. per inch.
Best self-acting Ranges, fitted complete, with Oven and Boiler.

Revolving Shelves

3 ft.	3 ft. 6 in.	4 ft.
2l. 17s. 6d.	2l. 8s. 6d	3l. 15s. 6d each.

Orders from the country, containing a remittance or Post office order made payable at the Camden Town Post-office), forwarded same day.

TO BUILDERS AND CARPENTERS

BURT and POTTS, York-street, Westminster, Wholesale and Retail Ironmongers, Smiths, and Stove Grate Manufacturers. Delivered free within five miles.

Cast Iron Rain-water Pipe:—

2 in.	2½ in.	3 in.	3½ in.	4 in.
1s 1d.	1s 3d.	1s 5d.	1s 9d.	2s 2d. per yard.

Sheet Floor Brads, 14s. per cwt. All other Nails in proportion.
Register Stoves with inside backs, 6½d. and 7d. per inch, and upwards.
A variety of Best Black Ground and Bright Register Stoves.
Elliptic Stoves, with inside back, 3½d. per in.
Self-acting Ranges with Circular Ovens, Back Boilers, and Wrought Bars:—

3 ft.	3 ft. 6 in.	4 ft.
£3.	£3. 8s.	£3 15.

Iron and Steel of every description.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions, with patent appliances on scientific principles, which insure greater economy and efficiency than hitherto attained. Also HOT WATER APPARATUS, upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Laundries with Hot Water Apparatus for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

STOVES, FENDERS, AND FIRE-IRONS, SELLING OFF. F. EDWARDS, 20, Poland-street, Oxford-street, respectfully informs his numerous scientific patrons, and the public, that he has taken the new and extensive premises, No. 42, Poland-street, which will be ready for him, by the month of June, when he intends opening with an entire new and extensive assortment of stoves, fenders, and fire irons, kitchen ranges, &c. The present stock is now selling at a great reduction, every article is marked in plain figures, from which no abatement can be made; a fine opportunity now offers to gentlemen, architects, and builders.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; the said Water Pipes from 1½ inch, to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Barksides, Southwark.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS

PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron. HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 63, Dorset-street, Fleet-street.

TEN TON LANDING CRANE, for IRON-CASTINGS, BOILERS, TIMBER, and STONE. Also, Warehousing on the London Vulcan Iron Company's Wharf 14, Earl-street, Blackfriars. Also, COAL LANDING on same Wharf.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale, and specimens seen at the office of the Patentees, No. 163, Fenchurch-street. W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William-street, and E. PARKS, 140, Fleet-street; also of all respectable Ironmongers.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas, and are not affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers. Testimonials of great value may be obtained at either Factory.

DOMESTIC GAS FITTINGS. — The cleanliness, cheapness, brilliancy, and safety of this mode of lighting private residences are including to its general adoption. GEORGE and JOHN DEANE'S stock of LAMPS, Chandeliers, Brackets, &c., is very large, and exhibits the most elegant and modern designs. G. and J. DEANE fit up single apartments or houses on the scientific principles and in the most artistic style, and as every thing is got up in their own workshops, G. and J. DEANE can engage for the strictest punctuality and the lowest possible prices. N.B. Plans and estimates prepared. GEORGE and JOHN DEANE, Gas-fitters, opening to the Monument, 46, King William-street, London-bridge.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH STREET FANCY DOOR FURNITURE.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

REDUCED PLATE GLASS TARIFF.
LONDON AND MANCHESTER GLASS COMPANY,
12, RATHBONE-PLACE, OXFORD-STREET, LONDON
MANUFACTORY—SUTTON, NEAR ST. HELEN'S.

PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup	£ s. d.	Feet Sup	£ s. d.	Feet Sup	£ s. d.	Feet Sup.	£ s. d
1	0 3 4	10	2 16 1	19	6 19 8	28	12 12 5
2	0 6 8	11	3 3 3	20	7 11 4	29	13 7 7
4	0 12 6	12	3 8 5	21	8 4 5	30	14 2 6
4	0 17 6	13	4 17 1	22	8 11 5	31	14 17 8
5	1 2 8	14	4 6 11	23	9 4 6	32	15 12 10
6	1 7 8	15	4 17 8	24	9 16 10	33	16 6 10
7	1 14 1	16	5 8 5	25	10 10 8	34	17 2 6
8	2 0 0	17	5 19 10	26	11 4 5	35	18 0 0
9	2 5 0	18	6 7 7	27	11 12 4	36	18 16 2

Intermediate and other Sizes in the same ratio. No extra charge for Stout Plates. Ground or Frosted Plates, of various thicknesses, supplied to order.

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors, and other Building purposes, of every thickness, at very moderate prices.

Blind Frames complete, 1s. per foot, and all extra charges to be defrayed by purchasers.

Packing Cases charged, but full price allowed if returned free of expense and in good condition, within one month.

Plates silvered, Re-bushed, and Bent.

The Company are not accountable for breakage after delivery from their Warehouse.

J. L. GRUNDY, Company's Agent.
12, Rathbone place, London, 14th April, 1848.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements	Dog Kennels.	Covering of Railroad and other Arches.
Kitchen Floors (particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tan room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Piggeries, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

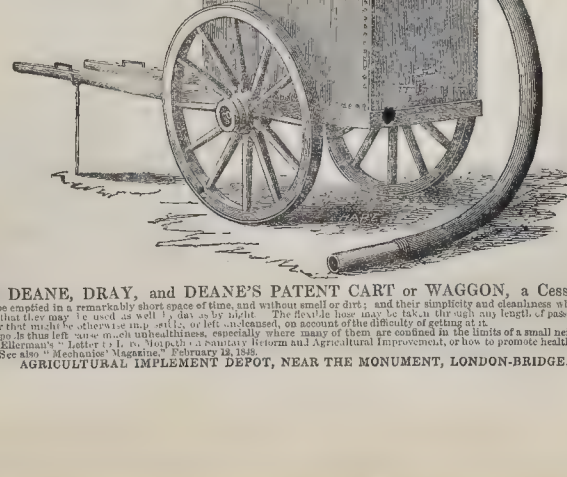
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

J. PARRILL, Secretary.
Seyssel Asphalte Company, Stangate, London.

DEANE, DRAY, AND DEANE'S PATENT CESSPOOL AND TANK CLEANSER.



BY DEANE, DRAY, and DEANE'S PATENT CART or WAGGON, a Cesspool can be emptied in a remarkably short space of time, and without smell or dirt; and their simplicity and cleanliness while in action is such, that they may be used as well by day as by night. The flexible hose may be taken through any length of passage, &c., to a receiver that might be otherwise inaccessible, or left undisturbed, on account of the difficulty of getting at it.

Cesspools thus left cause much unhealthiness, especially where many of them are confined in the limits of a small neighbourhood. See Mr. Ellerman's "Letter to L. to Morpeth on Sanitary Reform and Agricultural Improvement, or how to promote health and abundance."—See also "Mechanics' Magazine," February 12, 1848.

AGRICULTURAL IMPLEMENT DEPOT, NEAR THE MONUMENT, LONDON-BRIDGE.

TO BUILDERS, ENGINEERS, FOUNDERS, &c.

WARD and HART, Honduras Wharf, Bankside, London, MANUFACTURERS and EXPORTERS of all kinds of Fire-Bricks, Lumps, Tiles, Clays, &c. &c., have got an extensive and superior stock, and invite Builders, Gas Companies, Engineers, Shippers, &c., to inspect it and purchase. Goods may be had from Ships in the River, in large quantities at a great saving. A very large arrival of bi-rate Scarbridge, Welsh, and Newcastle Bricks, and Patent Kneading Kiln Tiles, so admirably adapted for Malting, &c. &c. Stock Bricks; Dutch Clinkers, Windsor and other Oven Tiles and Bricks; FOUNDERS' LOAM and MOULDING SAND, HOUSE SAND, RED AND WHITE, Lime River Sand, Ballast, Cement Country Pan, Plain, Ridge, and Paving Tiles; Chimney-pots, Drain Tiles, Pipes, &c. Goods made to patterns.

*** A quantity of Welsh Bricks now in the River

BUILDERS and Others desirous of embarking in a BUILDING SPECULATION, are invited to inspect a plot of Freehold Land, containing about five acres, situate at EAST BOURNE, in SUSSEX. The land will be let on Building lease, with power of redemption in Plots. It is most desirably situated on the Cliff, and adjoining to the Sea-houses; the soil is dry, and the supply of water as pure as any in the kingdom, stone are on the spot. The Railway is fast approaching, canal near, and the Station will be within a quarter of a mile of the Land now offered.—Plans may be seen, and all particulars known, by applying either to Messrs. SIMPSON, 29, Saville-row, London, or to Mr. JAMES BERRY, Architect, Lewes.

TO BUILDERS

ELIGIBLE Plots of Ground to LET, in the New North-road, Islington, at Vauxhall, and Peckham Rye.—Apply at No. 10, Berge-yard Chambers, Bucklersbury; or No 11, Wilton Terrace, New North-road

TO BUILDERS AND OTHERS

THE remaining portion of very desirable BUILDING GROUND to LET, on moderate terms, for Ninety Odd Years, on the Eagle-hall Estate, Camden-town, on the south side of Camden Villas, for the erection of Eight roomed Houses, the Sewer in, and ground partly covered.—For further particulars, apply on the Ground, or at 37, George-street, Foley-place

BUILDING GROUND FOR SMALL THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required. For Terms and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, Edgeware-road.

TO BUILDERS, SPECULATORS, AND BUILDING SOCIETIES AND OTHERS

TO LET, FREEHOLD BUILDING GROUND, on reasonable terms, with roads and sewers formed, situate between Clapham Park and Clapham Common. Advances made to parties able to give security.—Apply on the premises, Park-road, opposite the Plough, Clapham Common; and of Mr LLOYD, Surveyor, Warwick House, Gray's-Inn-square.

TO BRICKMAKERS, BUILDING SOCIETIES, SPECULATORS, AND OTHERS.

TO LET, in the Gold Hawk-road, Shep- herd's Bush, PRIME BRICK EARTH, at a Rent per Thousand. ALSO TO LET on Building Lease, the desirable FRONTAGE, next the main road, with Sewer formed direct from the freeholder).—A large quantity of good TURF TO BE SOLD reasonable.—Apply to Mr. LLOYD, 8, Warwick-court, Gray's-inn-square.

TO BUILDERS, CAPITALISTS, BUILDING SOCIETIES, AND OTHERS.

TO LET, LAND, for a Term of 800 Years, adjoining her Majesty's Marine Residence, at Osborne, East Cowes Park, Isle of Wight, embracing views of the interior of the Islands, Carisbrooke Castle, Spithead, the Solent, and Southampton Water, New Forest, with Cowes Road-stead, Royal Yacht Squadron, &c. The roads are all formed on the estate, of 140 acres, 80 feet wide; excellent drainage, with entrance from the year of the building Plots to the Botanical Gardens, of 22 acres, highly cultivated. Advances made to parties able to give security. —Apply to Mr. LLOYD, Architect, 8, Warwick-court, Gray's Inn-square

TO BRICKMAKERS, BUILDERS, SPECULATORS, BUILDING SOCIETIES, AND OTHERS.

TO BE SOLD, Ten or Twelve Acres of first-rate FREEHOLD PROPERTY, most desirably situated in the main road, in the two miles of west-end of town, and well located for building purposes. It contains about forty millions of prime brick earth. Two-thirds of the purchase-money may remain on mortgage, if wished. Apply to parties, for seven or ten years.—Apply to Mr. LLOYD, Architect, 8, Warwick-court, Gray's-inn-square.

WINDMILL.—TO BE SOLD, a HEAD of an excellent WINDMILL, consisting of a copper-covered top, fan and turning gear, with keb, 14 feet diameter, second frame-work complete, break wheel, 8 feet 10 inches diameter, windshaft adapted for patent adjusting sails, and waller 8 feet 3 inches diameter, and upright shafts (both iron), 10 inches diameter, and 56 feet in length; great brake and iron box, the wheels all of cast-iron, pitched, and trimmed with brasses and Dunmer bases, all in excellent order, for immediate use. The above was erected in 1828. Also ten SHUTTERS, with bracing rods and irons, also fitted new in 1845, 6 by 10 feet with 7 sails. For particulars apply to Mr. JOHN JEFFRIES, corner from Foundry, Southwark

SALES BY AUCTION.

TO BUILDERS.—Sixty Capital Chimney-pieces, suitable for Residences of a superior description.

MESSRS. ROBINS will SELL by AUCTION, at their Rooms in Covent Garden, on Tuesday next, at Twelve, SIXTY SUPERIOR MARBLE CHIMNEY-PIECES, of a modern and handsome description, finished in the best manner, some richly sculptured, presenting noble designs in statuary, black and gold, dove, Kilkenny, and vein marbles, calculated for drawing-rooms of the first class and every description of chamber, well worthy the attention of Builders. May be viewed three days prior at the Auction-rooms in Covent Garden.

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MESSRS. PRICKETT and SON will SELL by AUCTION, at the Mart, on WEDNESDAY, April 26, at Twelve, in Three Lots, the singularly eligible COPYHOLD ESTATE, comprising altogether 31 Acres, on which Bassein and Rossini Villas have been erected; the remainder is at present used as market-garden ground, with a comfortable house and out buildings, and in the occupation of Messrs Chapman. The whole offers attractive sites for building operations, or is calculated from the acreage, quantity, and position for a cemetery. Likewise the well-secured Ground Rents in the above-named villas. —Particulars, with plans, may be obtained at the Windsor Castle, Hammersmith; the Crown, Bayswater; at the Auction Mart; of H. Hallett, Esq., Poole-hall, Bowdon; and of Messrs. PRICKETT and SON, auctioneers and surveyors, 12, Southampton-buildings, Chancery-lane, and Highgate, Middlesex.

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Tuesday.—About 10,000 dry, well seasoned yellow and white deals, planks, and battens

Wednesday.—Twenty tons of prepared railway metals, traveller gear, patent dressing machines, scale beams and weights, railway four months to happy, &c. May be viewed two days previous, and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith street, Westminster.

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RESIDENCE, WORKSHOPS, &c.—To Builders, Cabinet-makers, Coach-painters, or any Persons in want of commodious Premises.

MR. H. BIERS will submit by AUCTION, at the Auction Mart, on TUESDAY, April 18, at Twelve, unless an acceptable offer is previously made, that excellent RESIDENCE, situate No. 12, Dorset-place, Dorset-square, late in the occupation of Messrs. Austin and Ranicli, together with the well arranged and roomy workshops at the rear, and having entrances in New-street mews, with four-stall stable, coach-house, sheds, &c. &c., with the advantage of an abundant supply of spring water; held for unwards of 77 years, at a ground rent.—May be viewed and particulars had on the premises, and of Mr. H. BIERS, 13, Broad-street, Golden-square.

IN BANKRUPTCY—Nine finished Houses and Houses in Course, situate Malden road and Dunsford place, Hampstead-road

MR. H. BIERS has received directions from the Assignees of Joseph Robinson, builder, a bankrupt, to SELL by AUCTION, at the Mart, on TUESDAY, April 18, at Twelve, NINE well-built HOUSES and CARCASE HOUSES, situate in Malden-road and Dunsford-place, near Kentish-town and Hampstead roads; also a Plot of Ground for one house. They are held for upwards of 99 years, at very low ground rents. May be viewed, and particulars had of Messrs ABBOTT and WHEATLEY, Solicitors, 3, Rolls-yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove-place, Lisson-grove; of WILLIAM TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

IN BANKRUPTCY.—The Newberry Arms intended Public-house, situate at the corner of Malden road and Durnford-place, Hampstead-road.

MR. H. BIERS has been directed by the Assignees to SELL, BY AUCTION, at the Mart, on TUESDAY, April 18, three valuable and commodious PREMISES, established at the corner of Malden-road and Durnford-place, near Fenhurst street, and between the Hampstead and Kentish-town Halls. They are well-built and finished, and commodiously situated, and from the situation, and the unusual privilege of being the only public house allowed on nearly three acres of land, must command a very first-rate trade of a most profitable character. The house has not yet a spirit licence, but it has been opened under a beer licence, under which the returns were perfectly satisfactory. It is held for upwards of 70 years, at a very low ground rent.—May be viewed, and particulars may be had of Messrs. ABBOTT and WHEATLEY, 3, Rolls yard, Chancery-lane; of Messrs. GRAY and BERRY, 12, Grove-place, Lisson-grove; of WM. TURQUAND, Esq., 3, Guildhall-chambers; and of Mr. H. BIERS, 13, Broad-street, Golden-square.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and others. By

MESSRS. CRAWTER, at the White Hart Inn, Buckingham, on WEDNESDAY, April 26, at Ten precisely, a quantity of SUPERIOR TIMBER; comprising upwards of ELEVEN THOUSAND OAK TREES, of prime quality, now standing on the Estates at Stowe, Foscott, Thornborough, Finmere, Hedsleon, Astwell, and Falcutt, in the county of Buckingham. To be viewed by application to Mr BEARDS, the Steward, at Stowe, who will appoint persons to shew the Lots, and of whom detailed particulars may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, Oxford, High Wycombe, and Aylesbury; of Messrs. Uxbridge, Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and others. By

MESSRS. CRAWTER, at the George Inn, Aylesbury, on FRIDAY, April 28, at Eleven precisely, a QUANTITY of SUPERIOR TIMBER; comprising upwards of THREE THOUSAND OAK TREES, of prime quality, now standing on the estates and in the woods at Weedon and Ashendon.—To be viewed by application to Mr. GRIFFIN, at Wotton, who will appoint persons to shew the lots, and of whom detailed particulars may be had. Catalogues may also be had at the principal Inns at Buckingham, Stoney Stratford, Northampton, Warwick, Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge, Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

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MARTIN NOCKOLDS, upon the Pre- mises, on MONDAY, the 17th of April, 1848. Many of the Trees are of good dimensions and excellent quality.—May be viewed by applying to the Bailiff, upon the Premises, of whom Catalogues may be had; also at the Green and Horse Inn, Newport; and at the Office of the Auctioneer, Saffron Walden, Essex.—Credit will be given until Christmas next on all Purchases above £5.

*** Sale to commence at Ten o'clock, in Enclose Field, near the Barn, a short distance from the Keeper's Lodge, on the Audley-End road.

OAK TIMBER, HOWE WOOD, LITTLEBURY, ESSEX. TO BE SOLD BY AUCTION, BY

MARTIN NOCKOLDS, upon the Pre- mises, on WEDNESDAY, April 19th, 1848, 160 GOOD OAK TREES, many of which are of good dimensions, long lengths, well adapted for the use of Coopers and others; also about 50 ASH and ELM TREES, the whole of which have been felled during the last winter, and are now lying in lots adjoining close to a good Road. May be viewed and Catalogues had by applying to BENJAMIN SMITH, the Woodman, at Catmere End, Littlebury; and of the Auctioneer, Saffron Walden, Essex. Credit will be given upon approved securities. Immediately after the above will be sold a quantity of WILLOW TREE TOPS and FAGOTS. In Lots, as they lie in a Meadow, near the Farm House, and close to the Turnpike road

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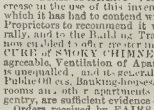
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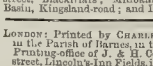
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Fig. 3.

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Fig. 4.

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Fig. 5.

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Fig. 6.

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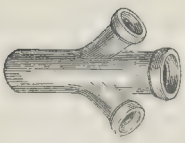


Fig. 7.

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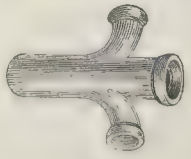


Fig. 8.

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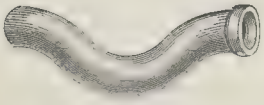


Fig. 10.

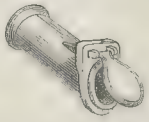


Fig. 11 (Registered 1379).

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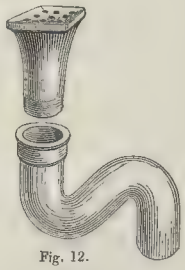


Fig. 12.

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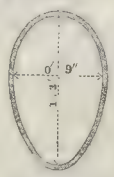
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7	1 14 1	16	5 8 6	25	10 16 8	34	17 2 6
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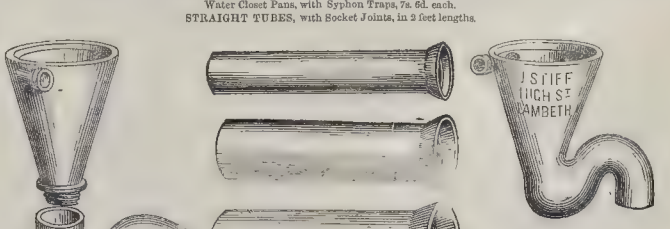
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OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and Others. By

MESSRS. CRAWTER, at the White Hart Inn, Buckingham, on WEDNESDAY, April 26, at Ten precisely, a quantity of SUPERIOR TIMBER; comprising upwards of ELEVEN HUNDRED OAK TREES, of prime quality, now standing on the Estates at Stowe, Pescott, Thornborough, Finmere, Hillesden, Astwell, and Falmutt, in the county of Buckingham.—To be viewed by application to Mr. BEARDS, the Steward, at Stowe, who will appoint persons to shew the Lots, and of whom Catalogues may be had. Catalogues may also be had at the following Inns at Buckingham, Stony Stratford, Towcester, Brackley, Northampton, Warwick, Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

OAK TIMBER SALE.—To Timber Merchants, Railway Contractors, and others. By

MESSRS. CRAWTER, at the George Inn, Aylesbury, on FRIDAY, April 28, at Eleven precisely, a QUANTITY of SUPERIOR TIMBER, consisting upwards of THREE THOUSAND OAK TREES, of prime quality, now standing on the estates and in the woods at Wotton and Ashendon.—To be viewed by application to Mr. GRIFFIN, at Wotton, who will appoint persons to shew the lots, and of whom catalogues may be had. Catalogues may also be had at the principal Inns at Buckingham, Stony Stratford, Newport, Warwick Banbury, Oxford, High Wycombe, Maidenhead, Uxbridge Berkhamstead, and Aylesbury; and of Messrs. CRAWTER, 7, Southampton-buildings, Chancery-lane, London, and Cobham, Surrey.

TO GLAZIERS, BUILDERS, AND OTHERS.

MR. OLIVER will SELL by AUCTION, at Mr. Wheeler's Rooms, Leadenhall-street, on Thursday, April 27, 1848, at Twelve o'clock, by direction of the Trustees of Messrs. Verneuil and Champion, Glass Merchants, late of Castle-street, Holborn, NINETY CASES OF FRENCH SHEET GLASS; also ten cases ditto of Coloured ditto, in various sizes.—May be viewed at the rooms, No. 28, Leadenhall street, on Wednesday preceding and morning of sale, catalogues then had, also at the Offices of Messrs. OLIVER and SON, 7, Lawrence-lane, Cheapside.

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CONTRACTS.

BUILDERS desirous of contracting for the ERECTION of a SEA WALL, 220 yards in length, at East Bourne in the County of Sussex, may see the Plans, Specifications, and Conditions, at Messrs. SIMPSONS, 28, Saville row, London, or at Mr. WEBSTER'S, Southstreet, East Bourne. All Tenders to be sent to Messrs. SIMPSON'S, as above, before Twelve o'clock on the 28th April.—The party who's Tender shall be accepted will be required to enter into the usual bond, with sureties, for the due performance of the Work.

TO BUILDERS.

BUILDERS desirous of Contracting for the ERECTION and FINISHING a THIRD-RATE HOUSE in Richmond road, Dalston may see the plans and specification on MONDAY NEXT, at the office of Mr. William Dobson, Surveyor, No. 10, Jubilee street, Mile End road, between the hours of 11 and 6. The gentleman for whom the house is for disposed to pledge himself to accept the lowest tender. The party whose tender shall be accepted will be required to enter into the usual bond, with sureties for the due performance of the works.
April 18th, 1848.

TO BUILDERS AND CONTRACTORS.

NEW CONGREGATIONAL CHAPEL, SOUTHAMPTON.—Builders desirous of contracting for taking down the present chapel, vestry, &c., and building the proposed New Chapel, 75 by 50, together with Schools and Vestries, in St. Mary's street, are informed that the drawings, specifications, and particulars, with the bills of quantities, are ready for inspection at the offices of Messrs. HUNT and WEST, Architects and Surveyors, 63, Moriand-place, Southampton. Sealed tenders (properly endorsed are to be delivered at the Architects' office, on or before Monday, the 1st May. The Committees do not pledge themselves to accept the lowest estimate, and the party whose tender shall be accepted will be required to enter into the usual bond, with sureties, for the due performance of the works.
April 7, 1848.

TO BUILDERS.

THE Guardians of the Bridgnorth Union are desirous to receive TENDERS for the erection of a New UNION WORKHOUSE at Bridgnorth for 300 inmates. The Plans and Specifications may be seen at my Office, in Bridgnorth, from the 1st to the 24th day of May next, on or before which latter day all Tenders must be delivered free of expense, under cover, to me, and marked "Tender for New Union Workhouse." The Guardians do not pledge themselves to accept the Lowest Tender. The party whose tender may be accepted will be required to enter into the usual bond, with sureties for the due performance of the works.
ARNDELL FRANCIS SPARKES, Clerk to the Guardians.
Bridgnorth, April 19, 1848

BOROUGH OF KINGSTON-UPON-HULL

BATHS and WASHHOUSES.—To BUILDERS. The Town Council of Hull intend entering into a Contract for the construction of Baths and Washhouses for that Borough. The Committee appointed by the Council HEREBY GIVE NOTICE, that they are ready to receive TENDERS for the Erection of a Building for BATHS and WASHHOUSES, in Trippett-street, Hull. Forms of Tender may be had, and the Plans and Specification may be seen, at the Corporation Surveyor's Office, in the Town Hall there; or in London, at the Offices of P. PRICHARD BALY, Esq., No. 14, Buckingham-street, Adelphi, between the hours of Ten and Four, on the 22nd day of April, until the 21st day of May, 1848, both days inclusive. The Tenderer must also deliver in with the Tender the detailed Estimate (in which the several items are to be specified as minutely as set forth) by which he arrived at the contract sum, separately sealed, marked "Detailed Estimate," and signed by him on the back, which will be opened only in the event of the Tender with which it accompanies being accepted, and will then be placed in the hands of the Engineer, and will be considered by him as a strictly private document.

The Tenderer must attach to, and deliver in with the Tender, a detailed schedule, signed by him, of the prices for the several kinds of materials and workmanship required; by reference to which, and to the detailed estimate, any additions to, or deductions from the contract sum, will be estimated, and printed forms, in blank, of the schedule may be had as above. The Tenderer must name in his Tender two good and substantial sureties, who are willing to make themselves equally responsible with himself, for the due and perfect performance of the work, subject to being approved of by the Committee; and the Contractor will be required to enter into a contract, to be prepared by the Solicitor to the Committee, at the expense of the Contractor, and to enter into bonds for the due fulfilment of the contract, with two sufficient sureties, to be approved of by the Committee. The Tenders to be sent in, under cover, addressed "To the Committee of Baths and Washhouses, Town Hall, Hull," by Twelve o'clock at noon, of FRIDAY, the 2nd day of June, 1848. The Committee do not bind themselves to accept the lowest Tender, nor will any Tender be noticed which is not in the prescribed form, &c. THOS. THOMPSON, Town Clerk, Hull.
Dated Town Hall, Hull, 19th April, 1848.

THE GOVERNORS OF CHRIST'S HOSPITAL, London, GIVE NOTICE, that a Committee will sit in the Counting-house of the said Hospital, on TUESDAY, the 2nd day of May, 1848, at eleven o'clock in the forenoon precisely, to receive PROPOSALS for taking on REPAIRING LEASES, for 21 years, from Midsummer-day next, the following Premises, viz.:—A House, and its appurtenances, Westminster, late in the occupation of John Frederick Archbold, Esq.; and a House, No. 59, St. Antholin's Church-yard, Watling-street, late in the occupation of Mr. John Finney, deceased. Particulars of the repairs that will be required to be done by the incoming tenants may be seen, and any further information obtained, at the Surveyor's Office, in Christ's Hospital. Proposals to be endorsed "Tender for Lease," must be left at the Counting-house aforesaid, on or before Monday, the 1st day of May next; and all persons desirous of treating for the said Premises are required to attend the meeting of the Committee on the following day to answer to their proposals.
Christ's Hospital, 9th April, 1848.
N.B. The Governors do not pledge themselves to take the highest tender.

STREET WATERING.—MANOR of SOUTHWORK, or CLINK LIBERTY. NOTICE IS HEREBY GIVEN, that the Commissioners of Pavements of the Manor of Southwark or Clink, or Bishop of Winchester's Liberty, in the parish of Saint Saviour, Southwark, will meet at their Committee-room, in Emerson-street, within the said Liberty, on WEDNESDAY, the 26th day of April instant, at six o'clock in the evening precisely, to receive TENDERS for WATERING the several roads, streets, lanes, public passages and places within the said Manor or Liberty twice in every day of the week, from the 1st day of May next to the 30th day of September next inclusive. There are considerable facilities for obtaining the necessary supply of water in convenient parts of the Liberty. The Contractor will be required to enter into a contract, and he and two sureties will have to execute a bond, in the penal sum of 100l., conditioned for the performance of such contract. Tenders, containing the names and addresses of the proposed sureties, sealed up, and addressed to the Commissioners, and endorsed "Tenders for Watering," must be delivered to the Commissioners, at their said meeting, before half-past six o'clock in the evening of that day, and the Commissioners do not pledge themselves to accept the lowest tender. The person whose tender shall be accepted will be required to sign an agreement (if deemed expedient), for the execution of the contract and bond by him and his sureties, and he will also have to pay for the stamps of the bond and contract.—The draft contract and bond can be inspected at the Clerk's Offices, and all necessary information obtained, by reference to Mr. EDMONDS, the Surveyor, No. 2, Bridge-street. Dated this 13th day of April, 1848.—By order of the Commissioners,

GEO. HOLMER, Clerk.

28, Bridge-street, Southwark.

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1 15 8	1 18 0	2 1 6	2 6 10	2 14 9	3 5 9	4 1 7	5 1 11

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The Builder.

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ADVERTISEMENTS.

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Holborn and Finsbury, 7, Hatton-garden.
Tower Hamlets and Poplar, 11, Great Alie-street, Whitechapel.
Surrey and Kent and Greenwich Literary Institution, Borough-road

And all persons are hereby cautioned against proceeding with any Drain or Sewer without the consent of the said Commissioners.

LEWIS C. HERTSLET, Order Clerk.

April 27th, 1848.

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THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or rotten by any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, steam engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-cups, copper bruizes and screw couplers, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints of hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

COMPETITIONS.

TO ARCHITECTS

THE Committee of the SMALL-POX and VACCINATION HOSPITAL are desirous of receiving PLANS and ESTIMATES for the ERECTION of a NEW HOSPITAL. A premium of 150*l.* will be awarded for the best design; 100*l.* for the second best, and 50*l.* for the third best—to be delivered to me on or before the 24th of June next. The whole of the Plans will be submitted to two independent Architects, to select from them five for the consideration of the Committee. A Plan of the Site, with particulars and conditions, may be inspected any morning at my office, between Nine and Eleven o'clock.

J. CLIFT, 30, Bloomsbury-square.

CONTRACTS.

BOROUGH OF KINGSTON-UPON-HULL

BATHS and WASHHOUSES.—To BUILDERS.—The Town Council of Hull intend entering into a Contract for the construction of Baths and Washhouses for that Borough. The Committee appointed by the Council HEREBY GIVE NOTICE, that they are ready to receive TENDERS for the Erection of a Building for BATHS and WASHHOUSES, in Trippett-street, Hull. Forms of Tender may be had, and the Plans and Specification may be seen, at the Corporation Surveyor's Office, in the Town Hall there; or in London, at the Offices of P. PRICHARD BALY, Esq., No. 14, Buckingham-street, Adelphi, between the hours of Ten and Four, from the 22nd day of April, until the 31st day of May, 1848, both days inclusive. The Tenderer must also deliver in with the Tender the detailed Estimate (in which the quantities and prices of the various works are minutely set forth by which he arrived at the contract sum, separately sealed, marked "Detailed Estimate," and signed by him on the back, which will be opened only in the event of the Tender which it accompanies being accepted, and will then be placed in the hands of the Engineer, and will be considered by him as a strictly private document.

The Tenderer must attach to, and deliver in with the Tender, a detailed schedule, signed by him, of the prices for the several kinds of materials and workmanship required; by reference to which, and to the detailed estimate, any additions to, or deductions from the contract sum, will be estimated, an i printed forms, in blank, of the schedule may be had as above. The Tenderer must name in his Tender two good and substantial sureties, who are willing to make themselves equally responsible with himself, for the due and perfect performance of the work, subject to being approved of by the Committee; and the Contractor will be required to enter into a contract, to be prepared by the Solicitor to the Committee, at the expense of the Contractor, and to enter into bonds for the due fulfilment of the contract, with two sufficient sureties, to be approved of by the Committee. The Tenders to be sent in, under cover, addressed "To the Committee of Baths and Washhouses, Town Hall, Hull," by Twelve o'clock at noon, of FRIDAY, the 2nd day of June, 1848. The Committee do not bind themselves to accept the lowest Tender, nor will any Tender be noticed which is not in the prescribed form, &c.

THOS THOMPSON, Town Clerk, Hull.

Dated Town Hall, Hull, 19th April, 1848.

CONTRACTS.

TO BUILDERS, EXCAVATORS, AND OTHERS.

TO BE DISPOSED OF, certain BLOCKS of ROCK, in the Ditch of the Right-Face of GRANBY BASTION, in the Lines of DEVONPORT, subject to certain conditions, the specifications of which may be seen at the Royal Engineers' Office, from Nine to Four o'Clock on Week days, until the 8th proximo.

Tenders to be addressed to the "Secretary to the Honourable Board of Ordnance," Pall Mall, London; and be sent in on or before Twelve o'Clock at Noon, on the 11th proximo.

Royal Engineers' Office, Devonport, April 19, 1848.

THE GOVERNORS OF CHRIST'S HOSPITAL, London, GIVE NOTICE, that a Committee will sit in the Counting-house of the said Hospital, on TUESDAY, the 2nd day of May, 1848 at eleven o'clock in the forenoon precisely, to receive PROPOSALS for taking on REPAIRING LEASES, for 21 years, from Midsummer-day next, the following Premises, viz.:—A House, No. 18, Park street, Westminster, late in the occupation of John Frederick Archbold, Esq.; and a House, No. 52, St Anthony's Church yard, Watling-street, late in the occupation of Mr. John Finney, deceased. Particulars of the repairs that will be required to be done in each of the premises may be seen, and any further information obtained at the Surveyor's Office, in Christ's Hospital. Tenders, to be endorsed "Tender for Lease," must be left at the Counting-house aforesaid, on or before Monday, the 1st day of May next; and all persons desirous of treating for the said Premises are requested to attend the meeting of the Committee on the following day to answer to their proposals.

GEORGE TROLLOPE, Clerk.

Christ's Hospital, 8th April, 1848.

N.B. The Governors do not pledge themselves to take the highest tender.

TO BUILDERS AND BRICKLAYERS.

NOTICE IS HEREBY GIVEN, that the Board of Guardians of the Parish of Kensington will meet on SATURDAY, the 13th day of May next at 11 o'clock in the forenoon, to receive TENDERS from persons who may be willing to contract with the said Parish for the BUILDING of a WALL for part of the new Workhouse Grounds on the north, south, and east sides thereof. Plans and specifications of the work required to be done may be seen on application at the Clerk's Office, 1, Cunningham-place, Kensington.

S. CORNELL,
Clerk to the said Board of Guardians.

TO BUILDERS.

THE Guardians of the Bridgnorth Union are desirous to receive TENDERS for the erection of a New UNION WORKHOUSE at Bridgnorth for 300 inmates. The Plans and specifications may be seen at any Office in Bridgnorth, from the 1st to the 25th day of May next, on or before which latter day all Tenders must be delivered free of expense, under cover, to me, and marked "Tender for the Union Workhouse." The Guardians do not pledge themselves to accept the lowest Tender. The party whose tender may be accepted will be required to enter into the usual bond, with sureties for the due performance of the works.

ARNDELL FRANCIS SPARKES, Clerk to the Guardians
Bridgnorth, April 19, 1848.

TO BUILDERS AND OTHERS

THE Guardians of the Watford Union are willing to receive TENDERS for the ERECTION of CLOSETS, WASH-ROOMS, &c. and for ALTERATIONS and ADDITIONS to the DRAINAGE at the WATFORD UNION WORKHOUSE, situate at Watford, Herts, according to the plans and specifications deposited with Mr. LAVENDER, surveyor, Watford, on application to whom the same may be seen. Tenders are to be sent to me, or before TUESDAY, the 9th of May next, and the same will be opened and determined on at the board to be held the next day. The Guardians do not bind themselves to accept the lowest or any other tender.—By order of the Board,

Watford, 19th April, 1848. RICHARD PUGH, Jun., Clerk.

TO ENGINEERS, MILLWRIGHTS, AND OTHERS.

THE Guardians of the Watford Union are desirous of receiving (free from charge or expense) PLANS and SPECIFICATIONS, with TENDERS, for the ERECTION of a MILL in the Union Workhouse, for grinding wheat and other corn, to be worked by not exceeding eight able-bodied male inmates. Sealed Tenders to be sent to me at my office at Watford, on or before Tuesday, the 1st day of May next. The Tenders to be opened and decided on at a Board Meeting to be held at the Union Workhouse, Watford, on Wednesday, the 10th of May next, at Twelve o'Clock precisely. The Guardians do not bind themselves to accept the lowest Tender or any Tender

Watford, 19th April, 1848. RICHARD PUGH, Jun., Clerk.

MR. GRAYSON'S ARCHITECTURAL, Mechanical, and Perspective Drawing ACADEMY (established above 50 years), Banner-street, Finsbury-square.—Engineers and Millwrights TAUGHT the PRINCIPLES of MACHINERY. The selection of models accompanying the diagrams which are introduced at this Academy will be found of great utility to the student in elucidating the several mechanical and practical sciences. School of Design, comprising the Gothic, Grecian, and Roman classes of Ornamental Composition. Morning class from Nine till Two. Evening class from Six to Nine. Personal application, or by letter, post-paid.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, &c. Buildings, Portraits, and Views of every description, Lithographed in a superior manner, by GEORGE CHILDS, 13, Amwell-street, Pentonville.

TO ARCHITECTS, COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the interest he has had in such subjects, he is fully aware of the peculiar essentially necessary to be attended to. Drawings and sketches lithographed in a superior manner.—Address, Mr. BOYS, 21, Great Titchfield-street, Oxford-street.

ROYAL ACADEMY of ARTS, TRAFALGAR-SQUARE. — NOTICE IS HEREBY GIVEN, that the EXHIBITION [illegible], the 1st of MAY, at TWELVE o'Clock. Admission, ONE SHILLING, Catalogue, One Shilling.
JOHN PRESCOTT KNIGHT, R.A., Sec.
Exhibitors and [illegible] may [illegible] their Tickets and Catalogues [illegible] at the [illegible] MONDAY [illegible].

THE New SOCIETY of PAINTERS in WATER COLOURS.—The Fourteenth Annual Exhibition is NOW OPEN, at their Gallery, 53, Pall Mall, near St. James's Palace, from Nine o'Clock till Dusk. Admission, 1s. Catalogue 6d.
JAMES FAHEY, Secretary.

INSTITUTION for the FREE EXHIBITION of MODERN ART, Hyde Park Corner (late Chinese Gallery). Open daily, from Nine to Six [illegible]; catalogue, 6d. Evenings, from Seven to Ten, 6d. each; gratis from the 26th June to the close of the Exhibition [illegible].

ARCHITECTS', ENGINEERS', and BUILDERS' INSURANCE COMPANY, 69, Lombard-street, London.
Chairman—SYDNEY SMIRKE, Esq., A.R.A.
Deputy-Chairman—ANTHONY SALVIN, Esq.
The object of this Company is to identify the extensive Building interests, and all the Professions and Trades connected with the Fine Arts, with Fire and Life Insurance. Some idea of their peculiar adaptation for that purpose [illegible] the following facts, viz.—That the number of houses annually erected in the kingdom is about fifty thousand, that the value of insurable property is upwards of two thousand millions. That the amount actually insured is only about one third.
That the number of persons directly and indirectly connected with the building trades, is upwards of eight hundred thousand, that the members of the Legal, Medical, and Clerical professions, united, do not exceed two hundred thousand, and yet they have established at least twelve Insurance Offices, all of which are in successful operation.
So great has been the confidence in the prospects of the Company, that without the aid of a single advertisement in the public papers, and that, too, at a period of unparalleled commercial difficulty, viz.—the close of the year 1847, [illegible] shares, representing 250,000*l.*, or one-fourth of the intended capital of one million, were subscribed and paid for.
A second series is now being issued, a considerable part of which have already been taken. In the allotment of the remainder, preference will be given to the building interests, and to other parties likely to benefit the institution.
Forms of application for shares, Prospectuses containing the rates for Fire and Life Insurance and every particular, may be had at the Offices, 69, Lombard-street, London. Agents wanted for most of the large towns in England.—Applications, with references, to be addressed to the Manager.
JOHN REDDISH, Manager.

SCOTTISH PROVIDENT INSTITUTION, Edinburgh, Glasgow, Manchester, London.—For Mutual Life Assurance, with these peculiar advantages:—
1.—Mutual Assurance by the most moderate rates of premium.
2.—Whole Profits, divided amongst the Assured exclusively.

ANNUAL PREMIUMS PER £100, WITH WHOLE PROFITS.

Age 20	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1 15 8	1 18 [illegible]	[illegible] 1 8	2 6 [illegible]	2 14 [illegible]	3 5 [illegible]	4 1 7	[illegible] 1 11

Reports, Tables, and every information may be had of the Secretaries.
Edinburgh Office—14, St. Andrew's-square; London Office—12, Moorgate-street.

FAMILY ENDOWMENT, LIFE ASSURANCE AND ANNUITY SOCIETY.
12, Chatham-place, Blackfriars, London.
CAPITAL [illegible].
DIRECTORS.
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BONUS.
Thirty per cent. Bonus was added to the Society's Policies on the profit scale in 1845. The next valuation will be in January, 18[illegible].

ANNUAL PREMIUMS WITH PROFITS.

Age 20.	Age 25.	Age 30.	Age 35.	Age 40.	Age 45.	Age 50.	Age 55.
£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.	£. s. d.
1 17 9	2 3 1	2 9 7	2 16 2	3 5 9	3 16 2	4 10 8	5 7 6

INDIA.
The Society also grants Policies to parties proceeding to or residing in India, at lower rates than any other office, the Premiums on which may be payable either in London or at the Society's Office in Calcutta.
Annuities of all kinds, as well as endowments for Children, are granted by the Society.
The usual commission allowed to Solicitors and Brokers.
JOHN CAZENOVE, Secretary.

THE CITY OF LONDON LIFE ASSURANCE SOCIETY, FOR ACCUMULATIVE AND GENERAL ASSURANCES, 2, Royal Exchange Buildings, London.
DIRECTORS.
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Robt. Owen Aland, Esq. [illegible] Terrace, Hyde Park.
William Betts, Esq., Smithfield Bars.
James Risdon Bennett, Esq., M.D., Finsbury-place.
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W. Simpson, Esq., Bradmore-house, Hammersmith.
William Thacker, Esq., Great St. Helen's, Bishopsgate.
William A. Thomas, Esq., Threadneedle-street.
George Watson Wood, Esq., Victoria-square, Pimlico.
ACTUARY. G. J. Farrance, Esq.
SOLICITORS. Messrs. Dean, Lecks, and Redpath, 13, Swithin's-lane.
This Society embraces every known [illegible] of convenience, offered by any existing Life office. It combines three distinct yet [illegible] systems.
The MUTUAL SYSTEM [illegible] its risks [illegible] important [illegible].
The PROPRIETARY SYSTEM [illegible] of its acknowledged security, simplicity, and economy; and
The ACCUMULATIVE DEPOSIT SYSTEM, [illegible] the full amount of the Premiums [illegible] to the Assured. Also, HALF-CREDIT PREMIUMS for stipulated periods, a peculiarly advantageous arrangement for Young Lives, and for all persons with Advancing Means or Incomes.
All further information may be obtained of
EDWARD FREDERICK LEEKS, Secretary,
2, Royal Exchange Buildings.

TO ENGINEERS, BRAZIERS, SMITHS, &c.
THE Trustees of Mrs. ANN NEWTON'S CHARITY for placing out, every year, ONE BOY belonging to the parish of St. James, Westminster, Apprentice to some respectable Trade, with a Premium of 33*l.* 7s. 4d., will meet at the Vestry-room, in the Church-yard, Piccadilly, on FRIDAY, the 5th day of May next, at Ten o'Clock in the Forenoon, to receive applications for such Apprentice [illegible] o'clock, at the Parochial Office, Poland street, Oxford-street. Every applicant for the apprenticeship [illegible] attend the meeting in Person, and bring a card containing his name, address, and business. None but Householders [illegible] Trustees.
GEORGE BUZZARD, Clerk.

NOTICE TO BUILDERS.
THE HOUSE of CALL of the ORIGINAL FRIENDLY SOCIETY of CARPENTERS and JOINERS is held at the GRANBY TAVERN, South Audley-street [illegible].

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT UP, and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms. CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 20 feet cases, delivered free in London [illegible], or cut to size, 3d. per foot.—Address, 87, Bishopsgate street-without.

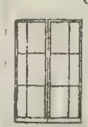
WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.
THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper-hangings from [illegible] upwards [illegible].

SOHO PLATE GLASS COMPANY, 26, Soho-square.—Established for the EXCLUSIVE SALE of the PLATE GLASS Manufactured by the St. Gobain, St. Quirin, and Cirey Companies, Paris. The Trade are informed that this Plate Glass, which is of the very best colour and quality in the market, can be supplied of any dimensions, and at very reduced prices. Rough Plate Glass for Skylights, quarter, three-eighths, half, and three-quarters inch thick.
ALFRED GOSLETT, Agent.

SOHO CROWN, SHEET, and PLATE-GLASS MANUFACTORY, 26, SOHO-SQUARE. ALFRED GOSLETT, Agent for the EXCLUSIVE Sale of the FRENCH Plate Glass, begs to inform the Trade generally that [illegible] to his present Establishment an extensive WHOLESALE Warehouse and Cutting-room for the Sale of Crown, Sheet, Patent Plate, Coloured and Ornamental Glass. The Stock and Patterns will be found of a very superior description, and the charges upon a very reduced scale. Tenders and Lists of Prices will be forwarded upon application.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance of the glass manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.
ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.
LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

CHAS. WM. WATERLOW,



MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, Lowest prices. Upwards of [illegible] DOORS, and a large variety of Sashes and Frames, always on sale. Glazed or [illegible] for the country. [illegible] Mouldings in any quantity.—N.B. This Establishment is [illegible] the notice of all engaged in building.



TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees of hardness and shades.

H H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery.

Poultry.......... 0s. 10d. per lb.	Best Grey Goose .. 2s. 0d. per lb.
Grey Goose...... 1s. 2d. „	White Goose .... 2s. 6d. „
Foreign Grey do. 1s. 6d. „	Best Dantzic do... 3s. 0d. „

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196 (opposite the Chapel), Tottenham-court-road.

REDUCED PLATE GLASS TARIFF.
LONDON AND MANCHESTER GLASS COMPANY,
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MANUFACTORY, SUTTON, NEAR ST. HELEN'S.

PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup.	£ s. d.	Feet Sup.	£ s. d.	Feet Sup.	£ s. d.	Feet Sup.	£ s. d.
1	0 4 4	10	2 10 0	19	6 [illegible] 8	28	12 12 5
2	0 8 2	11	2 18 5	20	7 11 4	29	13 7 7
3	0 12 6	12	3 [illegible]	21	8 3 5	30	14 2 0
4	0 17 6	13	3 17 1	22	8 1[illegible]	31	14 17 8
5	1 2 6	14	4 6 11	23	9 [illegible]	32	15 12 10
6	1 7 6	15	4 [illegible]7 8	24	[illegible] 16 10	33	16 6 10
7	1 1[illegible] 1	16	5 8 0	25	10 10 8	34	17 2 6
8	2 0 0	17	5 1[illegible] 1[illegible]	26	11 4 5	35	18 0 0
9	2 5 0	18	6 7 7	27	11 19 4	36	18 16 3

Intermediate and other Sizes in the same ratio. No extra charge for Stout Plates. Ground or Frosted Plates, of various thicknesses, supplied to order.
ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors and other Building purposes, of every thickness, at very moderate prices.
Blind Frames complete, 1s. per foot, and all extra charges to be defrayed by purchasers.

Packing Cases charged, but full price allowed if returned free of expense and in good condition, within one month.
Plates Silvered, Re-finished, and Bent.
** The Company are not accountable for breakage after delivery from their Warehouse.
Every further information may be obtained upon application to
J. L. GRUNDY, Company's Agent.
12, Rathbone-place, London, 13th April, 1848.

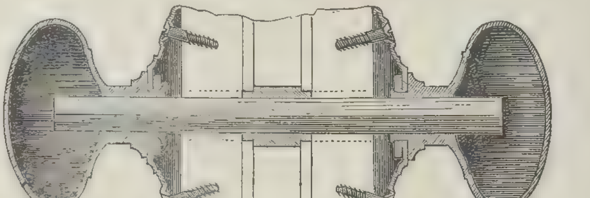
SEYSSEL ASPHALTE COMPANY.
CLARIDGE'S PATENT.
Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.
Principal Depots, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster Bridge, London.
THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.	Dog-kennels.	Covering of Railroad and other Arches.
Kitchen Floors (particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Linings of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tun-room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Piggeries, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.
Information [illegible] all Works [illegible] by the Company since its establishment in 1838, which will prove that the failure of any Work represented to have been done with the genuine material, has resulted from the substitution of a spurious one.
I. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knob, but draw loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to [illegible] are more pleasant than with [illegible] the rosette is used [illegible] the necks, and the liability of the knob [illegible] are more easily fixed, and are suitable for every description of Door Lock now in use.
[illegible] Plain and Ornamental China, Crystal, Amber, [illegible] Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger Plates, Bell pulls and Levers, and may be obtained [illegible] HART and SONS, Wholesale Ironmongers, 53, 54, 55, Wych-street, Strand, London.
N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture with such Side Screws would be an Infringement of the Patent.

TWO ORNAMENTAL TRUSSES, "THE TWINS," NOW READY,

DESIGNED BY JOHN BELL, SCULPTOR,

AND MADE IN TERRA-COTTA BY WILLOCK AND CO., LADYSHORE WORKS, MANCHESTER, FOR

SUMMERLY'S ART MANUFACTURES.

IESE TRUSSES, WHICH ARE THREE FEET HIGH, ARE SUITABLE FOR MOST STYLES OF ARCHITECTURE, AND ESPECIALLY FOR SHOP-FRONTS

PRICE £3. EACH, RETAIL.

ALSO, THE LEGEND BRACKET, 16s. EACH.

BOTH THE "TWINS" AND THE "LEGEND BRACKET" ARE CARVED IN WOOD BY JORDAN'S MACHINE.

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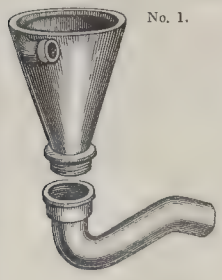
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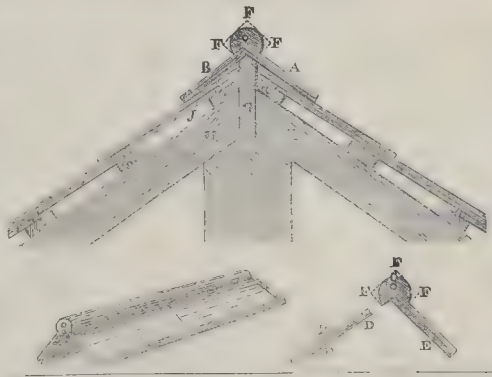
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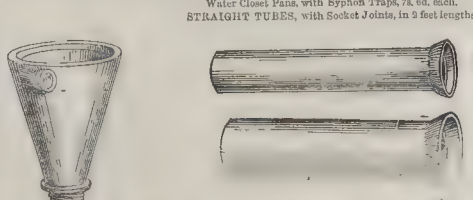
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STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.





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The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them unnecessary. Their superiority, cheapness, and durability are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

N.B. These are made without the discharge hole being turned down- wards.

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Excellent Oak, Elm, and Birch Timber, Southgate Park, by

MR. RICHARDS, on the premises, near the Cherry Tree Inn, Southgate, Middlesex, on WEDNESDAY, May 17, at Twelve o'clock, without reserve, EIGHTY SUPERIOR OAK TREES, of large meetings, ELM and BIRCH ditto, felled, and lotted, in the park; about 4,000 Oak Facots, and quantity of large Top Wood May be viewed; catalogues at the usual Inns; on the premises, and of the Auctioneer, Tottenham

BRIGHTON Freehold House of Ten Rooms.
HACKNEY Long Leasehold Property.

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TO SMITHS, BUILDERS, AND OTHERS.—Stock of an Iron Dealer and Coach Broker, Two Spring Carts, Chaise, Good Action Fast-trotting Cob, Under-duty Phaeton, Harness, &c.

MR. STUTT will SELL BY AUCTION, on TUESDAY next, May 2, at Eleven for Twelve precisely, on the Premises, Upper Carlisle-street, Portman Market, by direction of the Proprietor, entering into another line of business, about 13 cwt. of Iron, Blister and spring STEEL; 2 tons hoop tire, 1 ton iron chain, 1 ton old spring steel, 12 cwt. nails, 4 cwt. new sheet iron; 9 tons air bricks, gratings, and castings; 2 tons bar rods, forge bellows, anvils, bench vices, old stores, weights, and a variety of useful cast and wrought iron, and other effects.—May be viewed on Monday and morning of sale, when catalogues may be had on the premises, and of the Auctioneer, 38, New Church-street West, Edgeware road

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PULLEN and SON respectfully announce that they are favoured with instructions to SELL BY AUCTION, on the Premises, on TUESDAY, May 9, and following days, at Twelve, the whole of the excellent BUILDING MATERIALS, Fixtures, and Fittings, of nearly 20 houses, in front of Holborn-hill, extending from Victoria-street to Field-lane, and including the greater portion of the houses on the east side of Field-lane, comprising about 700,000 capital stock bricks, 15 tons of lead in gutters, cisterns, and pipes, 100,000 plain and pan tiles, oak and fir timber in roofs, floors, and quarterings, 500 pair of glazed sashes; an infinity of doors, partitions, chimney-pieces, and interior fittings; plate-glass and other shop fronts, iron columns, sound floor boards, York paving, coping and sills, erection of two ovens, stoves, and an immense quantity of useful fittings up.—May be viewed two days prior to the sale. Catalogues had at the Office of Works, Guildhall, and of PULLEN and SON, 90, Fore street, Cripplegate.

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SANITARY IMPROVEMENTS.

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PATENT SELF-ACTING EFFLUVIA TRAP

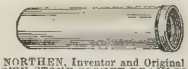
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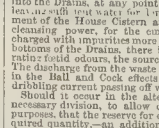
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A and B. Two separate divisions of the same cistern, A being for domestic purposes, B for cleansing the drains or sewers

C. A two way inlet cock, with ball and lever, one aperture opening into B, the other into A.

The water from the main being turned on, the division B of the cistern becoming first filled, flows over into A. The water rising in A lifts the ball and lever, until stopped by the pressure of the fluid column upon the valve at the bottom of the division B, with which it is connected by a rod and chain. The water continuing to rise, the ball becomes nearly immersed, when its superior buoyancy overcoming the pressure upon the valve, lifts the latter suddenly to such a height as to allow of a free flow through the large syphon-trapped pipe into the drain. The large division of the cistern A becoming filled, is retained, for domestic purposes.

House Cisterns constructed or altered agreeably with the above-described, will possess in themselves the means, without any personal attention whatever, of cleansing the House Drains properly, as often as the Water Companies allow for a supply by a sudden and forcible self discharge of the contents of the smaller division into the Drains, at any point most desirable to effect this object, leaving with sufficient water for domestic uses. In the ordinary management of the House Cistern and its appurtenances, there is very little cleansing power, for the emissions always in small quantities, charged with impurities more or less dense, become deposited at the bottoms of the Drains, there indurating in compact masses, generating fetid odours, the source of malaria and its attendant evils. The discharge from the waste pipe, in cases where there is a defect in the Ball and Cock effects but little good, as it is but a mere dribbling current passing off without force or power.

Should it occur in the above-named Cisterns, by its necessary division, to allow of sufficient discharge for cleansing purposes, that the reserve for domestic use be found below the required quantity,—an addition to its depth, and, or side, may be made, or attaching a small auxiliary Cistern; but this would seldom be required, as a portion of the contents of Cisterns is generally found remaining over from one water day to another

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FOR 1848.

KELLY'S PRACTICAL BUILDER'S PRICE BOOK; or, Safe Guide to the Valuation of all kinds of Building Work, [illegible] Practical Measurer, Valuer, Arbitrator, and Surveyor, in the Construction of Buildings. Revised and corrected by New Calculations and numerous Woodcuts. Royal 8vo., price 8s., neatly bound.

London: Published by T. KELLY, Paternoster-row; SIMPKIN [illegible]

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7. THE HOUSE PAINTER, or DECORATOR'S COMPANION; containing a complete Treatise on the Art of House Painting, Graining, and Marbling; including the origin [illegible] Ten Parts at 3s., or in boards, 35s.

CONTRACTS.

TO BUILDERS AND BRICKLAYERS.

NOTICE IS HEREBY GIVEN, that the Board of Guardians of the Parish of Kensington will meet on SATURDAY, the 13th day of May next, at 11 o'clock in the forenoon, to receive TENDERS from persons who may be willing to contract with the Guardians for the BUILDING of a WALL to inclose the New Workhouse Grounds in the north, south, and west sides thereof. Plans and Specification of the work required to be done may be seen on application at the Clerk's Office, 1, Canning-place, Kensington.

S. CORNELL,

Clerk to the said Board of Guardians.

TO BUILDERS.

THE Guardians of the Bridgnorth Union are desirous to receive TENDERS for the erection of a New UNION WORKHOUSE at Bridgnorth for 200 inmates. The Plans and specifications may be seen at my office, in Bridgnorth, from the 15th of October next, and [illegible] which latter day all Tenders must be delivered free of expense, under cover, to me, addressed to the Union Workhouse. The Guardians do not bind themselves to accept the lowest Tender. The party who undertakes to be [illegible] to enter into the [illegible] to the part finished of the works.

ARCHIBALD FRANCIS PARKES, Clerk to the Guardians.

Bridgnorth, April 13, 1848.

TO BUILDERS AND OTHERS.

SEALED TENDERS (post-paid) will be received by J. W. BECK, Secretary, 20, Church-street, Deptford, on May 10th, 1848, for building, by CONTRACT, a SHOP, DWELLING-HOUSE, BAKE-HOUSES, and OUT-OFFICES, in Prince-street, Deptford, for the Deptford Economical Bread and Flour Association, according to specifications which may be seen at the Society's Committee Room, 186, Evelyn-street, Deptford, every evening, during the ensuing week (except Saturday), from six to nine o'clock.

N.B. The Society will not bind themselves to accept the lowest tender; and no tender will be accepted after nine o'clock p.m. on the day above specified.

SOUTH STONEHAM UNION. — To BUILDERS. Persons, who may be willing to send in TENDERS for taking down the present Workhouse and erecting the proposed new one for this Union, may inspect the several drawings, plans, and particulars, and obtain all requisite information relative thereto, at the offices of Mr. W. HINXES, Architect, No. 9, Basinghall-street, between the hours of Ten and Five o'clock, and are requested to direct their [illegible] Board of Guardians, to be delivered at the Board Room of the said Union Workhouse, Test-road, in the Parish of WINDLESHAM, on or before the 8th day of May, 1848, on which day the same will be taken into consideration by the Guardians. The Guardians do not bind themselves to accept the lowest or any Tender, and the party whose Tender may be accepted, will be required to enter into a bond to the amount of Two Thousand Pounds, with three approved sureties, to the due performance of the Contract. Plans to each, conditioned for the due performance thereof.

BOROUGH OF KINGSTON UPON-HULL.

BATHS and WASHHOUSES.—To BUILDERS.—The Town Council of Hull intend entering into a Contract for the construction of Baths and Washhouses for their Borough. The Committee appointed by the Council HEREBY GIVE NOTICE, that they are ready to receive TENDERS for the Erection of a Building for BATHS and WASHHOUSES, to be [illegible] Plans [illegible] and the Conditions and Specification may be seen at the Corporation Surveyor's Office, in the Town Hall there; or in London, at the Offices of [illegible] Esq., 2, Buckingham-street, Adelphi, between the hours of Ten and Four, from the 22nd day of April, until the 8th day of May, 1848, both days inclusive. The Tenders must be delivered in with the Tender Plans detailed Estimate in which the several [illegible] are severally set forth) by which he arrived at the contract sum, separately sealed, marked "Detailed Estimate," and signed by him on the back, which Estimate, in the event of the Tender which it accompanies being [illegible] and will then be placed in the hands of the Engineer, and will be considered by him as a strictly private communication.

The Tenders must attend to, and deliver in with the Tender, a detailed Estimate, signed by him, of the prices for the several Works and Ironmongery required; by reference to which, and to the detailed estimate, any additions to, or deductions from the contract sum, will be estimated, and printed forms, in blank, of the said Tenders, may be had [illegible] at the Surveyor's Office, in the Town Hall, Kingston-upon-Hull, which blanks are to be filled up and signed by the Tenderer, and the Contractor who may be required to enter into a contract, to be prepared by the Solicitor to the Committee, at the expense of the Contractor, and to [illegible] two sufficient sureties, to be approved of by the Committee. The Tenders to be sent in, under cover, addressed "To the Committee for Baths and Washhouses, Town Hall, Hull," on or before twelve o'clock at noon, of FRIDAY, the 21st day of June next. The Committee do not bind themselves to accept the lowest or any Tender, but will [illegible] the same in the prescribed form, &c.

THOS. THOMPSON, Town Clerk, Hull.

Dated Town Hall, Hull, 19th April, 1848.

SMITH and ENGLISH, ENGINEERS, BUILDERS' MACHINISTS, IRON and BRASS FOUNDERS, and GENERAL MANUFACTURERS,

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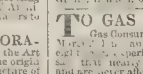
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A very superior description of Soil Door, particularly suitable for Public Buildings, being [illegible] and not likely

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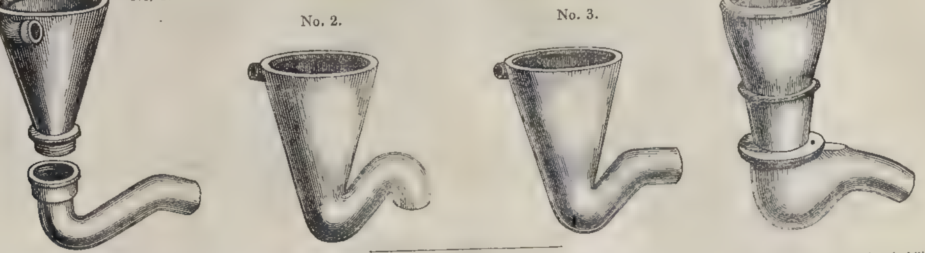
TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Mary's Place, and 13, Argyle-street, Glasgow, having proved by eight years experience his DRY METER to be unrivalled, begs to say that many [illegible] are now in use, defying injurious gases, and are never affected by Heat, Damp, or Frost. They may be obtained from Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

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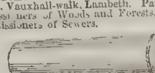
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4-inch.	6-inch.	9-inch.	12-inch bore
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Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars, Millbank-street, Westminster, Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

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* This pencil is particularly recommended for writing and counting house use.

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In 3 feet lengths. In 2 feet lengths.

2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore.
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DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully state that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

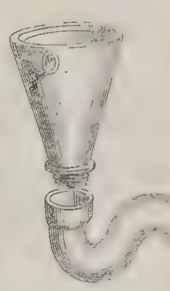
I am, Dear Sir, yours truly,

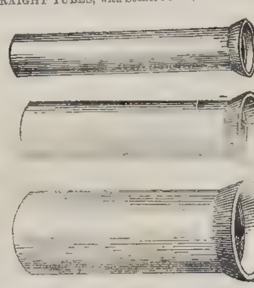
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LONDON: Printed by CHARLES WYMAN, of 16, Castelnau Villas, in the Parish of Barnes, in the County of Surrey, Printer, at the Printing-office of J. & H. Cox, Brothers, 74-5, Great Queen-street, Lincoln's Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent Garden, in the said County.—Saturday, May 6, 1848.

The Builder.

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Architect, Engineer, Operatives & Artist.

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ILLUSTRATIONS.

Open Timber Roofs at the Old Deanery, Worcester, and Wilshamstead Church, near Bedford 234

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ADVERTISEMENTS.

WANTED, to APPRENTICE a LAD to a CARPENTER and BUILDER for Three Years. A small premium will be required, but moderate.—Address, T. H., 3, Lupus-street, Belgrave-road, Pimlico.

WANTED, by a Young Man, aged 30, a SITUATION as CLERK of WORKS, or Clerk in a Builder's Office, having some knowledge of drawing out plans and specifications, and also working drawings. References will be given of the first respectability.—Address, post paid, E. C., Mr. Bangers, 6, Castle-street, Falcon-square, City.

TO ARCHITECTS AND BUILDERS.

WANTED, by a Young Man having some knowledge of Drawing, Measuring, &c., and who has worked as Carpenter and Joiner, a SITUATION in an Office as above—practice, and thereby improvement, being the principal object of the advertiser.—Address, A. B., No. 6, Charter-house-lane, City.

TO ARCHITECTS, &c.

WANTED a SITUATION, as CLERK of WORKS, by a Young Man of practical Experience. Has been accustomed to superintending extensive works both in Town and Country. Testimonials of character and ability given.—Address, R. S., Office of "The Builder," 2, York-street, Covent Garden.

TO BUILDERS AND OTHERS.

WANTED, by an Experienced Practical Person, of steady and active Habits, an ENGAGEMENT as CLERK OF WORKS, or FOREMAN on a Building, having been employed in that capacity many years, and can have Ten Years' Character from his Employer who he is about leaving.—Address, post-paid, F. H., 2, John-street, Edgeware-road.

TO COUNTRY BUILDERS, OR PARTIES ABOUT RETIRING.

WANTED to take a BUILDER'S BUSINESS, or to enter into PARTNERSHIP. A respectable Man, 40 years of age, used all his life to large buildings, can make drawings, &c. Full particulars must be stated, especially the amount required, the profits, &c.—Address, S. H., 39, Sidmouth-street, Gray's-inn-road.

TO ARCHITECTS AND SURVEYORS.

AN ARCHITECT and SURVEYOR'S ASSISTANT is desirous of a RE-ENGAGEMENT. Is a good draughtsman, understands perspective, and possesses practical knowledge. Unexceptionable reference can be given.—Address, A. D., office of "The Builder," 2, York street, Covent Garden.

TO SURVEYORS, BUILDERS, &c.

A PERSON versed in the duties of a Builder's Office, the preparing of Drawings, Specifications, Measuring and Estimating, &c., wishes to be ENGAGED.—Address, paid, T. S., Office of "The Builder," 2 York-street, Covent Garden.

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A GENTLEMAN in the Provinces is desirous of meeting with an ENGAGEMENT with an Architect, either as JUNIOR PARTNER or MANAGING CLERK. The Advertiser has had a professional education, and has been in the office of an extensive builder as draughtsman for a few years, since which time he has been in practice on his own account. References as to capability will be gladly given, and also, if wished for, to buildings designed and erected by the Advertiser in the course of his late practice.—For further particulars, apply to K. W., 18, Smith-street, Chelsea.

CAUTION TO COOKS.—J. L. BENHAM and SONS beg to remind all persons having boilers at the back of their kitchen fires, of the necessity of having them cleaned out at least once a year, either by a smith or any other competent person, as the calcareous crust, commonly called "Fur," which is deposited from the water becomes otherwise so thick, as to expose the oiler to very serious and often irremediable damage from the fire.—19, Wigmore-street, Cavendish-square.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

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Insurances against loss by fire on the usual moderate terms. Insurances on lives at the lowest rates consistent with due regard to security.

Prospectuses, forms of proposals, form of application for the unappropriated shares, and all particulars, may be had at the chief office, 69, Lombard-street, or of any of the agents.

Agents wanted for those towns in which none have yet been appointed. JOHN REDDISH, Manager.

TO BE SOLD, Seven Outside Florentine Blinds, Blue Stripe Cloth, fitted in cases complete, for 18s. each. Four of them 8 feet by 4 feet, and three of them 7 feet by 3 feet 10 inches. Likewise Ten Blinds on Spring Rollers, very convenient sizes, 8s. each.—27, Museum-street.

TO PLASTERERS.

WANTED, PLASTERERS' WORK against a CARCASE or FINISHED HOUSE.—Apply to Mr. KNAPP, 40, Cirencester-place, Marylebone.

TO CLERKS OF WORKS, FOREMEN, AND OTHERS

FIVE POUNDS WILL BE GIVEN to any Person who will procure the Advertiser Plasterer's Work, by the job or measured work, labour only. Can give good references as to ability and character.—Address to A. C., at No. 7, Francis street, Bedford-square.

TO BUILDERS, CAPITALISTS, AND OTHERS.

SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND to LET on LEASE for 80 years. Land tax redeemed, on the high road leading from New Cross to Lewisham, in the county of Kent, within a short distance of the Deptford Station, on the London and Greenwich Railway, for first, second, or third-rate attached or semi detached houses.—For plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High road, Deptford, Kent.

This day, the First Number, price One Penny (to be continued Weekly), and on the 1st of June, Part I., with a Supplement, price Sixpence, (to be continued Monthly), of

POLITICS for the PEOPLE. London: John W. PARKER, West Strand. Sold by all Booksellers and Newsmen in Town and Country, of whom Copies of the Prospectus may be obtained.

CONTRACTS.

COUNTY PRISON, OXFORD.—BUILDERS desirous of executing certain works in the Prison, consisting of the erection of a new Ward for female prisoners, a Laundry and Washhouse, and an Airing Court on the separate system, together with the enlargement of the present Chapel and the building a new Kitchen (according to the Plans of Mr. H. J. Underwood, Architect) are requested to inspect and take Copies of the Plans and Specification at the County Hall, Oxford, and to deliver to me, on or before the 9th of June next, Tenders of the sums at which they would contract to execute the work. Each Tender to be accompanied by the names of two Sureties.

By order, J. M. DAVENPORT, Clerk of the Peace.

Oxford, May 11, 1848.

TO BUILDERS.

PERSONS willing to CONTRACT to perform the REPAIRS and ALTERATIONS of the CHURCH of SAINT MARY-AT-HILL, BILLINGSGATE, may see the drawings and specifications of works, at the office of Mr. SAVAGE, the Architect, 31, Fleet-street, Strand, any day (except Sunday), between the hours of Ten and Five. Tenders addressed to the Churchwardens of the united parishes of Saint Mary-at-Hill, and Saint Andrew, Hubbard, are to be delivered at my office, No. 4, Monument-yard, before Twelve o'clock, on Thursday, the 25th May instant. The united parishes do not pledge themselves to accept the lowest tender or tenders.

H. D. FRANCIS, Vestry Clerk, 4, Monument-yard,

May 10, 1848.

TO BUILDERS AND OTHERS

PERSONS desirous of TENDERING for the Works required in Fitting up the LECTURE THEATRE, and Building WATER CLOSETS &c., for the BIRKBECK SCHOOL, at the London Mechanics' Institution, No. 55, Southampton-buildings, are hereby informed that the Drawings and Specifications can be seen on application to the Secretary in the Library as above. The Tenders must be sent to the Committee, addressed, "Tender for Works at the Birkbeck School," on or before Eight o'Clock P.M., on the 19th instant, after which time no Tender will be received.—The Committee do not pledge themselves to accept the lowest Tender.

May, 1848. W. MATHEW WILLIAMS, Hon. Sec.

CANTERBURY INCORPORATION.—NOTICE IS HEREBY GIVEN, that the Court of Guardians of the Canterbury Incorporation will receive TENDERS from Builders and others for the ERECTION of a NEW WORK-HOUSE, within the City, according to the Plans and Specifications which are now deposited for inspection at the Board room of the Workhouse, in Stour-street, Canterbury. Such tenders to be sealed and left at my Office, 34, Castle-street, Canterbury, on or before Twelve o'Clock on Monday, the 5th of June, after which hour none will be received. Parties who tender for the whole of the works, must also tender for every distinct portion of the whole assigned by the specifications to different Trades, and Tenders will be received for one or more of these parts of the whole work, according to the specifications, from any persons who may desire to enter into competition for such portions, without entering into a tender for the whole work, but in every case no two or more parts are to be tendered for, except in the manner aforementioned. The Guardians hold themselves free not to accept the lowest tender. The parties who so tenders may be accepted must be prepared to enter into a bond, at their own expense, with two sureties for the performance of their contracts within the time fixed by the specifications. The plans and specifications may be seen at the Court-room until the time for delivery of tenders; and further information if required may be obtained of Mr. Heezekiah Marshall, Architect, Canterbury.—By order of the Court,

Canterbury, 9th May, 1848. WILLIAM SLADDEN, Clerk

SOCIETY for the PROMOTION of the PUBLICATION of WORKS CONNECTED with ARCHITECTURE.

LIST OF PROMOTERS

George Bailey, Esq.
Charles Barry, Esq., R.A.
W. J. Booth, Esq.
C. R. Cockerell, Esq., R.A.
T. L. Donaldson, Esq., Treasurer.
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Sydney Smirke, Esq., A.R.A.
James Thompson, Esq.
W. Tite, Esq., F.R.S.
J. Whichcord, Jun., Esq.
T. H. Wyatt, Esq., &c.

At the first meeting of promoters of the Society, held here on Thursday, May 4, it was resolved,—That it is expedient to form a Society for the Promotion of the Publication of Works connected with Architecture, as the profession is sadly deficient in English works calculated to expand the mind and increase the stores of the memory of the student, and as in this respect this nation is not so much on an equality with the rest of Europe as it has been;—many, if not most of the works daily publishing in France, Germany, and Italy, deserving to be studied, and any comparison of catalogues shewing that our deficiences are very great.

It was also resolved,—That it is desirable to carry out the following objects simultaneously, or as the funds of the Society will allow:

1. Republications (after a careful collation of such MSS. as can be consulted, and the earlier editions), of the standard authors, with their commentators, enriched with Notes conveying a condensed view of the discoveries and theories of more recent authors.

2. Illustrations of executed works of authors of equivalent talent, who may not have left writings in MS. or Print.—or combinations of works in the same style.

3. Publications of works (either of text or plates) by modern authors, English or Foreign, which may be approved by the Society.

4. Publications of the many very valuable Essays and Hints which are scattered in various miscellanies.

5. A Digest of the Theoretical Books, arranging each division of an author's works under the appropriate article of the Dictionary.

6. A Polyglossary, or Table of Synonyms of Technical Words in the different Languages of Europe, and in the different counties of Great Britain.

7. A complete Dictionary of Architecture.

It was also resolved,—That the amount of subscription be One Guinea per annum, paid in advance, and due on the 1st of May in each year; such subscription to entitle the subscriber to one copy of each publication for that year. Estimating the number of subscribers for the first year at 500, there would be produced about 400 imperial 4to pages of text, or a proportionate quantity less, when requiring illustration.

That the promoters may make the necessary arrangements, it is requested that those gentlemen who desire to avail themselves of the advantages of the Society will make known their intention, as soon as possible, to Mr. Wyatt Papworth, Architect, Honorary Secretary,

10, Caroline street, Bedford-square.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission (from Eight o'clock till Seven), One Shilling; Catalogue, 1s.

JOHN PRESCOTT KNIGHT, R.A., Sec.

THE ROYAL POLYTECHNIC INSTITUTION, REGENT-STREET, is now RE-OPENED, with the addition of a SPACIOUS THEATRE, and GALLERIES. SPECIMENS of ART-MANUFACTURES are greatly increased. Yet many wants have been effected in the OPTICAL DEPARTMENT. POPULAR LECTURES by Dr. RYAN and Dr. ROYLE on CHEMISTRY and EXPERIMENTAL PHILOSOPHY. A Description of the DEPOSITED WORKS by Mr. CRISPE. EXPERIMENTS with the DIVER and DIVING-BELL. The MUSIC is conducted by Dr. Wallis.—Open daily from Eleven to Five; and in the Evenings, including Saturday, from Seven till Half-past Ten.—Admission, 1s.; Schools, Half-price.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Lands.ape, &c., Buildings, Portraits, and Views of every description. Lithographed in a superior manner, by GEORGE CHILDS, 19, Amwell-street, Pentonville.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "Lond n as it is," offers his services in Tinting Backgrounds, Landscape and Figures, Coloured Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS, ENGINEERS, AND SURVEYORS.

LITHOGRAPHY and ENGRAVING of every Description, in all their various Branches, DRAWN and PRINTED; as also every Description of Engineering, Architectural, and Mechanical Drawings, on Paper, Parchment, or Vellum, executed in a superior style, at moderate charges, by MACCABE, 33, Parliament-street, and 47, King-street, Westminster.

P.S. Engineers, Architects, and Surveyors, requiring assistance in making Drawings, Tracings, &c., either at their own Office or otherwise, can procure it by applying as above, at a moment's notice.—A large staff of Artists being retained in the Establishment.

CLARIDGE'S PATENT ASPHALTE of SEYSSEL COMPANY.—At the Annual Meeting of the Proprietors of this Company, held on the 4th instant, the Report, having been read, was adopted, by which a DIVIDEND of 7½ per cent was proposed, payable on and after Wednesday next, the 10th instant; and the thanks of the Meeting to the Directors and Secretary for their great exertions on behalf of the Company was unanimously voted.

The dividend will be payable at the offices of the Company, Stangate, near Westminster bridge, London.

It will be requisite that the shares be left at the office the previous day.

J. FARRELL, Secretary.

May 8, 1848.

TO MEMBERS OF BUILDING SOCIETIES.

TO BE DISPOSED OF, by TENDER, a LEASEHOLD PROPERTY, producing 134l. per annum, held for sixty-one years at a ground rent of 9l. mortgaged to a Building Society established in August, 1845. The monthly instalments to the Society amount to 16l. per annum. The Vendor has paid to the Society about 250l. Further particulars may be had on application to Mr. BILLON, House Agent, No. 17, St. Gard-n, to whom Tenders for the Vendor's interest are to be sent, on or before Friday, May 17, the highest or whole not being absolutely accepted.

TO CARPENTERS, BUILDERS, AND OTHERS.

TO BE DISPOSED OF, at a great sacrifice, owing to the death of the late proprietor, excellent BUILDING PREMISES, situate about a mile from Westminster-bridge, in the Brixton and Clapham high road; comprising, 6,000 feet in area, with two dwellings, stables, and workshops thereon, available either for two partners, or for a profitable building speculation, having two distinct frontages, one in the high road, and one in the Building-street. The business has been carried on upwards of 30 years, with a good connection. The unexpired term of lease is 80 years free of ground-rent. The whole will be let off, still reserving to the purchaser a workshop, yard, and wood-yard, if required. The present trade would not exceed 200l.—Apply to Mr. JOLLEY, Surveyor, 3, Lincoln's-inn-fields-chambers, where a plan of the premises may be seen.

SALES BY AUCTION.

IN BANKRUPTCY.—TO TIMBER MERCHANTS, BUILDERS, AND OTHERS.

MESSRS. DAVIS and VIGERS are instructed by the Assignees of Mr. B. Spikens, to SELL BY AUCTION, on the Premises, Lichfield-street, Soho, on WEDNESDAY, 17th May, at Twelve for One o'Clock, the STOCK in TRADE, comprising 6,500 feet of mahogany boards, 3,000 feet of mahogany and cedar plank, many thousand pair of dovetailed drawer-sides, 200 square of prepared flooring, 12 loads of sash, plank, 300 pine deal and plank, &c.; pony, light spring-cart, truck, harness, &c. Also, the Lease of the old-established premises and desirable residence.—To be viewed One Day prior and Morning of Sale, and Catalogues had of the Auctioneers, 3, Frederick's-place, Old Jewry.

TO IRONMONGERS, BUILDERS, CABINET-MAKERS, AND OTHERS.

MESSRS. FAREBROTHER, CLARK, and LYE, have received instructions from the Assignees of Messrs. Naish and Glennie, bankrupts, to SELL by AUCTION, on the premises, 44, Farringdon-street, city, on THURSDAY, May 18, at Eleven for Twelve o'clock, the very extensive and valuable STOCK of IRONMONGERY, consisting of cabinet makers' brass mouldings, hinges, and other screws; bath cocks, nuts and washers, nails, angles, brass screws, brackets, bars and rods, stoves, baths, fenders and furniture stands, shovels, pokers, and other tools; the furnishing portion of fenders, fire-irons, coppers, iron bedsteads, bedsteads and pans, frying pans, gridirons, slop-pails, brass candlesticks, japan tea-trays, &c. and the remaining Stock in May-next, in the morning and morning of sale. Catalogues had on the premises; of EDWARD EDWARDS, Esq., Accountant, No. 5, Frederick's-place, Old Jewry, of W. PAXON, Esq., solicitor, Lincoln's-inn-fields; Garraways; and at the offices of Messrs. FAREBROTHER, CLARK, and LYE, Lancaster place, Strand.

VALUABLE FREEHOLD BUILDING GROUND, at Surbiton-hill, adjoining to the Kingston and Hampton-court Station on the South-Western Railway.

MR. JOHN DAWSON will SELL by AUCTION, at the Mart, on FRIDAY, May 18, at Twelve in three lots, a most eligible PLOT OF FREEHOLD LAND, already planted and otherwise prepared as a site for a good building, fronting to the high road from Kingston to Epsom, also a COTTAGE RESIDENCE with large well-stocked garden and a small meadow, abutting on the road at the back of the first-named land, which will afford compensation for any loss of view that it may be feared the erection of the two last-named lots may occasion, and has recently been re-let at the Auction Mart, at the rate of 30l. per annum, to Mr. GOODE, Solicitor, Howland-street, Fitzroy-square; and at the Mart, of Mr. JOHN DAWSON'S Auction and Agency Offices, 31, Pall Mall, and Kingston-on-Thames.

VALUABLE FREEHOLD ESTATES, close to the town of Kingston-upon-Thames, Surrey.

MR. JOHN DAWSON, will SELL BY AUCTION, at the Mart, on FRIDAY, May 19, at Twelve, in several lots, that important and very eligible FREEHOLD HOUSE and LAND, known as Wick's Farm, Norbiton, situate at Norbiton, in the parish of Kingston, bounded by the London-road, the road to Maldon, the Fair field, &c., most advantageous for building or market gardening accommodation-lands, as will be set forth in the descriptive particulars and plans. Particulars, with plans and conditions of sale, will be ready ten days before the auction, and may be had on the premises; of T. M. VICKERY, Esq., Solicitor, 25, Lincoln's-inn Fields; at the Auction Mart, and at Mr. JOHN DAWSON'S Auction and Land Offices, 31, Pall Mall, and Kingston-on-Thames.

N.B. A man will be found on the premises expressly to point out the property, of which possession will be given without conveyance to their respective purchasers.

Extensive and unsullied Freehold Ground Rents and Gardens, planted and ornamented in a luxuriant and costly style, situate near Richmond-park, Copt-hall, the Queen's, and Harley-street, Cavendish-square, and not far from Hanover-square and Bond-street, St. James's or the City; presenting a singularly eligible site for the erection of a Mansion or several Villas, by

MR. JOHN DAWSON, at the Mart, on TUESDAY, May 30, at Twelve, in one or more lots, unless an acceptable offer should, in the meanwhile, be made for the whole, THIRTEEN ACRES of FREEHOLD GROUND, laid out thirty years ago, under the greatest taste and judgment, as pleasure-grounds and gardens for a first-class mansion, exhibiting some noble specimen trees of every class, beautifully diversified shrubberies, screened with a lake, in which is an elaborately constructed shell-grotto, connected by an elegant suspension bridge, a beautiful octangular dairy, with colonnade fitted up in a splendid and unique style, with a stable, coach-house, lodge, and lands. The capital gardens, with lofty walls, richly clothed and stocked with fruit-trees, contain grapery, green-houses, forcing-pits, and a newly-erected gothic conservatory, with hot-water apparatus, and all possible intrusion, being bounded on two sides by a gentleman's grounds and finely-timbered park, and on a third by lands belonging to H.R.H. the Duke of Cambridge, and on the other side by Crooked-lane. The situation is at the entrance of Kingston-on-Thames, contiguous to a church, and in command of every domestic convenience.—Descriptive particulars in due course of preparation, and may shortly be had of JOHN COOKE, Esq., the Chase, Ross, Herefordshire; Mr. HERITAGE, 11, Furnival's-inn; and of Mr. JOHN DAWSON, Surveyor and Land Agent, 31, Pall Mall, and Kingston-on-Thames.

WINDSOR, BERKS.—To Capitalists, Builders, and Others, offering a favourable opportunity to the Public for lucrative Investment, or desirable exceptions and communion Votes for the County and Borough.

MR. TEBBOTT most respectfully announces to the public that he has been favoured with instructions from the proprietor to submit for SALE BY AUCTION, at the Clarence Hotel, Clarence-crescent, Windsor, on MONDAY, May 21, at Two o'clock precisely, the INVALUABLE FREEHOLD PROPERTY, subdivided into about 14 superb building plots for first-class houses, or villa residences, with spacious frontages of 60 feet by a very considerable depth, plans of which will be ready with particulars three weeks previous to the sale, forming one of the most important features in the extensive and unique range of the Long Walk, and commanding the finest views of the Castle, Windsor Park, and the surrounding country. The property is also admirably adapted for the purpose of forming a capital for the purpose of a perfectly dry elevated spot of rich soil, pure air, and fine water; combining pleasing views of the neighbourhood. Particulars will be forwarded on application to Messrs. Wilson and Co., Solicitors, Windsor; or to the Auctioneer, Windsor. Plans may be had on the premises, and particulars will be forwarded by post, on application.

TO CARPENTERS, BUILDERS, AND UNDERTAKERS.

A BUSINESS TO BE DISPOSED OF, near the City road. Inquire of Mr. LININGDINE, Cabinet maker, Featherstone-street, from Ten to Four o'clock.

A BARGAIN.—To Builders and Others.—An UNFINISHED HOUSE, TO BE SOLD, or TO BE LET, in a most eligible situation, Camden Hill, Kensington. It is well built; contains 11 rooms, held on lease for 99 years, at a low ground rent and three parts finished. The adjoining property has all been let or sold as soon as ready for occupation. Apply to Messrs. JOHNSTONE and JEANES, 87, New Bond-street.

TO ARTISTS, OR GENTLEMEN CAPABLE OF TEACHING DRAWING.

AN eligible opportunity offers for the purchase of an established connexion as TEACHER OF DRAWING in SCHOOLS and FAMILIES, realising 270l. a-year, possession of a newly-furnished family residence, a room 50 feet by 20 feet, the whole in good repair, and rent free; a large Collection of Casts, &c. &c. of small amount required, to be paid by separation of furniture. Reasons disposed, and references will be given. Apply to W. L. Mr. Weatherby, Stationer, Peckham, Surrey.

NEW CROSS, SURREY.—ELIGIBLE BUILDING GROUND, fronting the high road from London to Greenwich. To BE LET on BUILDING LEASES. Apply to W. R. BEECHEY, Esq., Haberdashers' Hall, Gresham-street, or to Mr. SNOOKE, Surveyor, at the Company's Office, 89, Tooley-street, Southwark.

TO BUILDERS AND OTHERS.

SEVERAL very Valuable and highly desirable Lots of Freehold and Leasehold BUILDING GROUND TO BE SOLD or LET on leases, in some of the most improving parts of the suburbs of London.—For particulars apply to Mr. G. SMITH, surveyor and estate agent, auctioneer, &c., 1 Hanover-place, Park-road, Regent's Park.

TO BUILDERS.

TO BE LET, on Building Leases, a most desirable Plot of FREEHOLD LAND, situate at Upper Holloway, fronting the Great North of England Road.—For particulars, apply to F. J. HAND, Esq., solicitor, 89, Chancery-lane, where a plan may be seen.

BUILDING GROUND FOR SMALL THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required.—For Plans and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, Edgware-road.

PIMLICO. To Cabinet makers, Upholsterers, Furniture and Carpet Dealers, Builders, Carpenters, and Others.

TO BE LET, an old-established BUSINESS in the above Trades, with a capital DWELLING-HOUSE containing the usual premises, DOUBLE WORKSHOPS, and excellent GARDEN; offering an eligible opportunity for an industrious young man, with a small capital, to enter upon a business in the above line, and well calculated for a Builder, or Builder's Carpenter.—Apply, for particulars, to Mrs. KNAPP, 17, Ebury-street, Pimlico.

SURREY.

TO LET, on a Term of 14 or 21 Years, a COMPACT HOUSE, comprising dining, drawing, billiard, and six bed-rooms of ample dimensions, with usual and numerous apartments, coach houses, stabling, and a productive orchard, with or without meadow land. The premises being in a delightful state the rent will be nominal, but the parties hiring will be expected to do the repairs in a substantial manner. The house is delightfully situated on a spacious lawn, in one of the most picturesque and healthy parts of Surrey, and within the hunt of the Surrey hounds. The distance from London is about 25 miles, and 3 miles from the Godstone and Edenbridge station, on the South Eastern Railway.—Further particulars may be obtained of Mr. ALEX. CHEALE, Jun., Uckfield, Sussex.

TO BUILDERS.—TO BE LET, at improved ground rents, or SOLD at low ground rents, LEASES for 99 years, of THREE MANSIONS, UNFINISHED, with a Plot of Land for a fourth, and a quantity of Materials. This valuable property is situated in a most eligible locality, close to the improvements in Pimlico, and is one of the most healthy and healthy watering places in Europe, where first-class buildings are much in demand for permanent residence, consequently presenting one of the best investments ever offered, and enhancing to pay the builder to purchase at the offered rates. Plans and particulars may be seen at the office of LEWIS VULLIAMY, Esq., Saville-row, London.

TO BE SOLD, cheap, by Private Contract, a six-roomed HOUSE and PREMISES, No. 5, on the south side of Woodstock-road west, Harrow-road, near the Canal, Paddington, Middlesex, for the unexpired term of 97 years from the 29th of September, 1847, subject to a ground rent of 5l. per annum. The house and building are newly erected, and the house is painted and papered throughout.—Apply to Mr. PUGH, Solicitor, Watford, Herts; or to Messrs. SKILBECK, and HALL, 19, Southampton-buildings, Chancery-lane.

TO EXCAVATORS, CONTRACTORS, MINING AND WATER COMPANIES.

TO BE SOLD, a Two-Horse Condensing STEAM ENGINE and Boiler complete, with capital Force Pump and Fly-wheel, fitted, and constructed for temporary or permanent pumping work. This engine will be sold at such a low price as will induce purchase.—Apply to Mr. MANN, Phœnix Engine, Lambeth-street, side of the bridge at Vauxhall.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades.

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering,	B black for shading,
H for delicate lines,	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.
M medium.	

Sold by all the principal Stationers in town or country.

PURIFIED BLACK LEAD PENCILS, Perfectly Free from Grit, may be entirely Erased, and will not stain a Drawing. Manufactured by WOLFF and SON, 6, Church-row, Spitalfields, London, E. (Wolff and Son late of Moorfields). Architects, Engineers, and others, that they are now manufacturing a Pure Plumbago Black Lead Pencil, entirely free from grit, which will easily yield to india rubber, and ensure perfect erasure, it possessing great brilliancy and depth of colour, and will maintain a firm point. They have attained to so great a perfection in the manufacture of this delicate article, as will, in most instances, supersede the use of pen and ink. Our pencils are suitable for any particular purpose, and have produced a Pencil fully equal to those sold at a much higher price, and made of the finest Cumberland lead, which at the present time cannot be obtained sufficiently pure for the best Pencils. The following are the degrees.—H H. HHH. HHHH. F. FF. HB. ERB. B. BB. BBB BBBB W *

* This pencil is particularly recommended for writing and sporting Books, &c.

To be had of ACKERMANN, 101, Regent-street; HOUGHTON, 30, Poultry; and all respectable Stationers, &c.

NOTICE.—The Public are cautioned against an article which is advertised under the title of "Brockedon's Patent Pure Cumberland Lead." Its purity may be tested by the application of boiling water, upon the evaporation of the fluid the particles of dust will be separated, and it will be reduced to a pasteous pulp.—a result that cannot be obtained from the pure Cumberland lead. It is not true that Mr. Brockedon has bought all the Cumberland lead; the public sales take place the first Monday in every month as usual, and large quantities may still be had of better quality than that bought by Mr. Brockedon.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed my NEW PREMISES, owing to their delay, with which I can execute orders. I am enabled to reduce my former prices considerably. The prices are now 6 ONE SHILLING PER FOOT, SUPER, and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker street, Portman-square.—Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200 feet cases, delivered free in London for 12s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.—THOS. MILLINGTON, 87, Bishopsgate street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Old or Walnut, and Gig Carriage, 12s. per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 45s.; Lifting Pumps and Locks lower, &c.

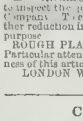
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality of Plate and Sheet Glass manufactured by the Company. From its use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.

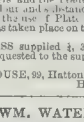
ROUGH PLATE GLASS supplied 1/8, 3-8, 1/4, and 1/2 inch thick. Particular attention is requested to the superior colour and evenness of this glass.

LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

CHAS. WM. WATERLOW,



MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings on any pattern. N.B. This Establishment is worth the notice of all engaged in building.



By Her Majesty's



Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent from the original Tariff. The extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Old sashes altered to the most economical and workmanlike principle.—EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has been combined with many materials, encourages the Patentee to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to furnish improvements of essential value. For the CURE of SMOKY CHIMNEYS and the thorough, instant and agreeable Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining-rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.

Orders received at 65, No. 130, New Bond-street; BUNNETT and CORPE, No. 26, Long-acre-street; and at the Manufactory, 15, Gillingham street, Pimlico.

N.B. Ornamental Zinc Bushes and Casements for Gothic Windows, Stained Glass, &c.

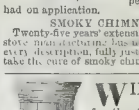


HAZARD'S PATENT.

THE BRITISH and FOREIGN HEATING and VENTILATING COMPANY beg to call the public attention to their HEATING APPARATUS, patented by Mr. ROBERT HAZARD, which can now be tested in public and private Buildings, Churches, Mansions, Conservatories, Forcing-houses, Offices, Factories, &c.; establishing a character for safety, economy, and cleanliness, possessed by no other invention of the kind.

A Pamphlet descriptive of the principle, with testimonials and list of buildings warmed, sent post-free on the receipt of four postage stamps at the Company's Works, Bristol; the London Office, 14, Lincoln's-inn-fields, Chancery-lane, Liverpool.

Application for the purchase of Licences under the Patent to be made to the Company's Solicitor, H. COWLARD, Esq., 14, Lincoln's-inn-fields, London.



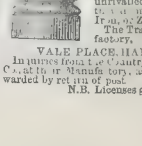
DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 37, Pall Mall, and 102, Old-street, begs to inform the Gentlemen of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the many fashionable chimneys of every description, fully justifies F. E. assuring that he can undertake the cure of smoky chimneys on the above equitable terms.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of the Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the ordinary means.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory.

VALE PLACE, HAMMERSMITH, MIDDLESEX.

In parties from the Country to be addressed to Messrs Wilson and Co., Engineers or Manufacturers, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH.

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



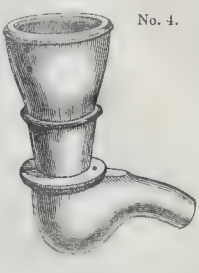
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleasing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery.

Poultry..... 0s. 10d. per lb.	Best Grey Goose .. 2s. 0d. per lb.
Grey Goose ..... 1s. 2d. "	White Goose .... 2s. 6d. "
Foreign Grey do. 1s. 6d. "	Best Dantzic do.. 3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196 (opposite the Chapel), Tottenham-court-road.

PAPER-HANGINGS, CHEAPEST IN LONDON. — Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Sating, 9d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 22, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so-licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—451, Oxford street.

SANITARY IMPROVEMENT.—CLARK'S REGISTERED FLOATING VALVE, for Prevention of Escape of Effluvia from Soils, Drains, &c.

Also, CLARK'S VALVE WATER CLOSET.

These inventions are cheap, durable, and effective. May be seen at Mr. Bessell's, No. 7, Furringdon-street; Mr. Wescomb's, Bridge-road, Hammersmith; and at the Inventor's, H. S. Clark's, Lead Works, Reading.

Price of Valves, 4s. each in Lead; 3s. do. in Earthenware.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELFACTING EFFLUVIA TRAP

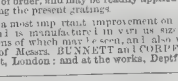
For Sewers and Drains of all kinds.

Registered Jan. 1847, No. 11,845.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORPE, Engineers, 28, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

2-in.	3-in.	4-in.	6-in.	9-in.	12-in bore
4d.	5d.	6d.	8d.	1s 1½d.	1s. 5d. per foot.

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford passage, Ray-street, Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common ones. The water-way, which in the latter averages one third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required for confined situations, the balls can be made smaller and the rods shorter than usual.

BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.

Underhay's Patent Silent Stool Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.

We beg to submit one of the many testimonials in our possession —

London Works, near Birmingham.

Dear Sir,—We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action. We are, dears sir, truly,

Mr. F. G. Underhay. FOX, HENDERSON, and Co.

Messrs. W. CUBITT and Co., of Gray's-inn-lane, and

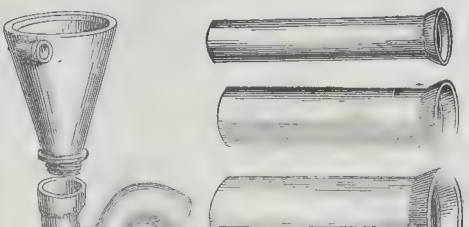
Messrs. T. CUBITT and Co., Thames-bank,

also many other eminent firms who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.





N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 2s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assortment of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

REDUCED PLATE GLASS TARIFF.

LONDON AND MANCHESTER GLASS COMPANY,

12, RATHBONE-PLACE, OXFORD-STREET, LONDON

MANUFACTORY—SUTTON, NEAR ST. HELEN'S.

PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup.	£ s. d.	Feet Sup.	£ s. d.	Feet Sup.	£ s. d.	Feet Sup.	£ s. d.
1	0 3 4	10	2 10 0	19	6 14 8	28	13 12 5
2	0 8 2	11	3 18 5	20	7 1 4	29	14 7 7
3	0 12 6	12	3 8 0	21	8 3 5	30	14 5 0
4	0 17 6	14	3 17 1	22	8 11 5	31	14 7 8
5	1 2 6	14	4 6 11	23	9 4 0	32	15 12 10
6	1 7 6	15	4 17 8	24	9 16 10	33	16 6 10
7	1 13 1	16	5 8 6	25	10 10 8	34	17 3 6
8	2 0 0	17	5 19 11	26	11 4 5	35	18 0 0
9	2 5 0	18	6 7 7	27	11 19 4	36	19 16 4

Intermediate and other Sizes in the same ratio. No extra charge for Stout Plates. Ground or Frosted Plates, of various thicknesses, supplied to order.

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors, and other Building purposes, of every thickness, at very moderate prices.

Blind Frames complete, 1s. per foot, and all extra charges to be defrayed by purchasers.

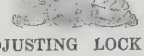
Packing Cases charged, but full price allowed if returned free of expense and in good condition, within one month.

Plates Silvered, Re-finished, and Bent.

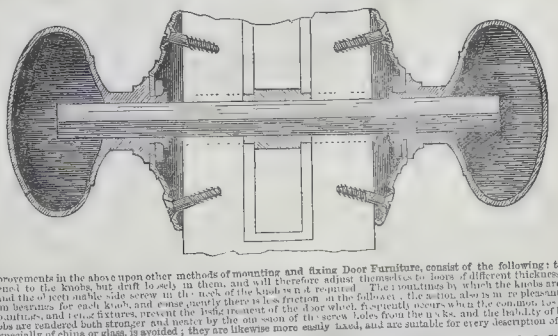
*** The Company are not accountable for breakage after delivery from their Warehouse.

Every further information may be obtained upon application to J. L. GRUNDY, Company's Agent.

12, Rathbone-place, London, 13th April, 1848.

By Her Majesty's  Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but draft loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the Teeth usually on the neck of the knob are not required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the fulcrum, the action, also is more pleasant than with ordinary mountings, and less fixtures, prevent the liability of breakage in the process of the screw holes from the necks, and the liability of breakage in the knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and are suitable for every description of Door Lock spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger plates, Bell-pulls, and Levers, and may be obtained of all Ironmongers and of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, 55, Wych street, Strand, London.

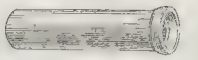
N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

HENRY DOULTON AND CO.,

MANUFACTURERS OF TUBULAR DRAINS IN GLAZED STONE WARE,

HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES WITH SOCKET JOINTS.



In 3 feet lengths.		In 2 feet lengths.					
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s. per foot.

BENDS.



Fig. 1.

2 in. 1s. — 3 in. 1s. 3d.

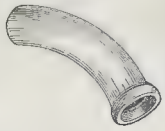


Fig. 2.

4 in. 1s. 9d. — 6 in. 2s. 3d.



Fig. 3.

9 in. 3s. 6d. — 12 in. bore. 5s. 6d. each.

JUNCTIONS.

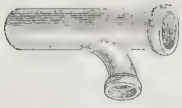


Fig. 4.

2 in. 1s. — 3 in. 1s 3d.



Fig. 5.

4 in. 1s. 6d. — 6 in. 2s. — 9 in. 3s. 6d.



Fig. 6.

12 in. bore of main tube. 5s. 6d. each.

DOUBLE JUNCTIONS AS FIGS. 7, 8, AND 9.

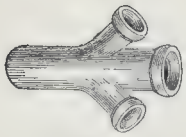


Fig. 7.

2 in. 1s. 4d. — 3 in. 1s. 8d.

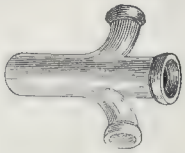


Fig. 8.

4 in. 2s. — 6 in. 2s. 8d. — 9 in. 4s. 6d.

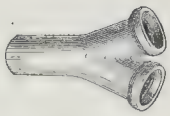


Fig. 9.

12 in. bore of main tube. 7s. each.

THE JUNCTIONS MAY BE OF ANY DIAMETER.

TRAPS.

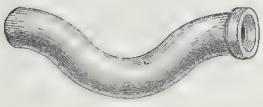


Fig. 10.

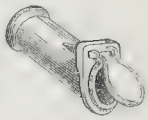


Fig. 11 (Registered 1379).

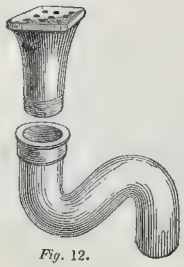


Fig. 12.

SYPHON TRAPS AS FIG. 10.

2 in. 2s. — 3 in. 2s. 6d. — 4 in. 3s. 6d. — 6 in. 5s. — 9 in. 7s. 6d. — 12 in. bore. 10s. each.

REGISTERED TRAPS AS FIG. 11,

With flat surfaces, ground perfectly air-tight, and composed entirely of glazed stone ware, thus effectually preventing all corrosion.

2 in. 4s. 6d. — 3 in. 5s. — 4 in. 5s. 6d. — 6 in. 6s. 6d. — 9 in. bore. 8s. each.

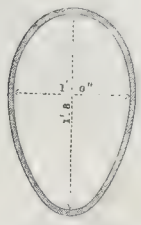
SYPHON TRAPS AS FIG. 12 FOR GULLY DRAINS AND SINKS.

2 in. 3s. 6d. — 3 in. 4s. 6d. — 4 in. 6s. — 6 in. 9s. — 9 in. bore. 14s. each.

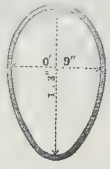
EGG-SHAPED TUBES FOR SEWERS AND DRAINS,

In 2 feet lengths with Socket Joints (Registered No. 1217).

SECTIONS.



3s. 6d. per Foot.



2s. 3d. per Foot.



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The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operatives & Artist.

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TO SURVEYORS.

PARISH of ST. MARY, NEWINGTON —Required by the Board of Highways of the said Parish, an ASSISTANT SURVEYOR. Salary at the rate of 130l. per annum, to be engaged for Three Months certain, and further, until Three Months' notice. Security will be required in the sum of 100l.

QUALIFICATIONS.—A general knowledge of accounts and capability of computing earth work, taking superficial and cube measurement of work and materials, and squaring and reducing the same into quantities. A practical knowledge of road-making including levelling, and of the nature, qualities, and fitness of all materials and workmanship used in the construction of roads and footpaths, including paving.

A CLERK is required by the aforesaid Board. Salary at the rate of 52l. 10s. per annum. He is to be employed upon the same conditions as the Surveyor, excepting that security will not be required.

Candidates for both offices to apply, on the 30th day of May inst., at the Vestry Room of the Parish Church of St. Mary, Newington, at Seven o'clock in the evening precisely. Testimonials will be required. Further particulars may be had at the Vestry Clerk's Office, 2, Keene's-row, Walworth.—By order.

March 17, 1848.

CONTRACTS.

HOUSES TO BE LET.—DYER'S BUILDINGS, HOLBORN.—The Committee of the Worshipful Company of Dyers HEREBY GIVE NOTICE that they are ready to receive TENDERS in writing for letting on lease, for twenty-one years from the eighth day of June next, the Houses Nos. 2, 3, and 8, in the above Buildings, either separately or together. The draft of the proposed lease, and other terms and conditions, may be known upon application at the Company's Hall daily Sundays excepted, between the hours of Ten and Four o'clock, where orders may be obtained for viewing the premises. Parties Tendering must be prepared with references as to their responsibility, and the Committee do not pledge themselves to accept any particular offer. The Tenders must be sent in by Eleven o'clock in the forenoon of Monday, the 29th day of May inst., addressed, "Tender for House No. , Dyer's Buildings, Holborn.

R. C. LUTTLY, Clerk to the Company.

Dyer's Hall, May 10, 1848.

CANTERBURY INCORPORATION.—NOTICE IS HEREBY GIVEN, that the Court of Guardians of the Canterbury Incorporation will receive TENDERS from Builders and others for the ERECTION of a NEW WORKHOUSE, within the City, according to Plans and Specifications which are now deposited for inspection at the Board-room of the Workhouse, in Stour-street, Canterbury. Such tenders to be sealed and left at my Office, 21, Castle-street, Canterbury, on or before Twelve o'Clock on Monday, the 5th of June, after which hour no one will be received. Parties who tender for the whole of the works, must also tender for every distinct portion of the whole assigned by the specifications to different Trades, and Tenders will be received if Four or more of these parts of the whole work, according to such additions, from any persons who may desire to enter into competition for such portions, without entering into a tender for the whole work, but in every case no two or more parts are to be tendered for, except in the manner above-mentioned. The Guardians hold themselves free not to accept the lowest tender. The parties whose tenders may be accepted must be prepared to enter into a bond, at their own expense, with two sureties for the performance of their contracts within the time fixed by the specifications. The plans and specifications may be seen at the Courtroom until the time for delivery of tenders; and further information (if required) may be obtained of Mr. Heckelall Marshall, Architect, Canterbury.—By order of the Court,

Canterbury, 9th May, 1848. WILLIAM SLADDEN, Clerk.

CARPENTERS' COMPANY.—TWICKENHAM ALMSHOUSES.—A VACANCY for a MAN has occurred in the above Almshouses. Applicants must be Liverymen or Freemen of the Company, of the age of 55 years or upwards. Applications are to be left at Carpenters' Hall, on or before the last day of May. Forms of application may be obtained at the Beadle's office, at the Hall.

CONTRACTS.

TO BUILDERS.

THOSE who are inclined to TENDER for the PARTIAL PULLING DOWN, REBUILDING, and ENLARGEMENT, of TWO HOUSES at the West End, may see the plans and specification at the office of *Herapath's Railway Journal*, 8, Red Lion-court, Fleet-street.—None need apply who cannot give unexceptionable security for the due performance of the contract.

HALSTED UNION.—To Builders, Bricklayers, and Carpenters.—Persons willing to CONTRACT for certain WORKS at the HALSTED UNION WORKHOUSE, according to the Plans and Specifications there deposited for inspection, are requested to send Sealed Tenders to the Union Workhouse, before Ten o'clock a.m. on Friday, the 2nd day of June next, and attend there in person at Twelve o'clock at noon on that day, when the Tenders will be opened. The Contractor will be required to enter into an agreement for the performance of his Contract, and to provide two sufficient sureties. The Guardians do not bind themselves to accept the lowest, or a single tender.

By order of the Board.

Halsted, 15th May, 1848. O. HUSTLER, Clerk.

COUNTY OF ANTRIM

NOTICE TO CONTRACTORS, BUILDERS, &c.—Persons desirous of contracting for the ERECTION of the proposed COUNTY COURT-HOUSE, at Belfast, may see the Plans and Specifications relating thereto at the office of CHARLES LANYON, Esq., 10, Wellington-place, Belfast, after Friday, the 26th inst. Sealed proposals to be forwarded, under cover, to JOHN CRAIG, Esq., Secretary of the Grand Jury, Carrickfergus, on or before Saturday, the 3rd of June inst., postage free. The proposals to be endorsed—"Tenders for Building the County Court-House at Belfast."

18th April, 1848.

SAINT FAITH'S UNION.—To Builders. Contractors desirous of TENDERING for the ADDITIONS and ALTERATIONS proposed to be performed at the WORKHOUSE situate at Saint Faith's, in the county of Norfolk, may inspect the plans and specifications at the office of Mr. John Bunn, Architect, Tombland, Norwich, on and after Monday, the 22nd inst. Tenders, sealed and addressed to the Board of Guardians, and endorsed "Tenders for Building," are to be delivered at the office of Mr. F. J. BLAKE, King-street, Norwich, on or before Tuesday, the 30th day of May inst. The Board do not pledge themselves to accept the lowest tender. The person whose tender is accepted, shall, if required, sign an agreement, with sureties for the due performance of the contract.

May 17th, 1848.

ST. PANCRAS, MIDDLESEX

ENLARGEMENT of INFIRMARY.—CONTRACT. The Vestrymen of the said Parish will meet at the Vestry Rooms, King's-scroft, Pancras-road, on WEDNESDAY, the 24th day of May, 1848, at Two o'clock in the afternoon, to receive TENDERS and to CONTRACT with some person or persons for Enlarging the Women's Infirmary at St. Pancras Workhouse, and executing the works shewn in the plans and specifications prepared for that purpose. The said plans and specification may be seen at the said Vestry Room from 9 a.m. to 4 p.m. The Vestrymen will not be bound to accept the lowest Tender, and security will be required.—By order of the Vestry,

JOHN MCGAHEY, Vestry Clerk.

Vestry Office, King's-road, Pancras-road, May 4, 1848.

LONDON, BRIGHTON, and SOUTH COAST RAILWAY.—The Directors of the LONDON, BRIGHTON, and SOUTH COAST RAILWAY COMPANY are prepared to receive TENDERS for 20,000 SLEEPERS, either of Larch, Quebec Yellow Pine, or Memel Timber. The Sleepers, if of Larch, must be not less than 10 inches broad at the smaller end under the bark, and 9 feet in length; if of Pine or Memel, they must be rectangular, 10 inches by 5 inches, and from 8 feet 6 inches to 9 feet in length. The Sleepers must be delivered free of expense to the Company, upon their wharf, either at New cross, Newhaven, or Shoreham; one half within six weeks of the receipt of the order, and the remaining half within two months afterwards. Payments one month after delivery, subject to a deduction of 14 per cent. discount.—For further particulars apply to Mr. R. J. HOOD, Engineer's office, Brighton.

Sealed Tenders, indorsed "Tender for Sleepers," to be delivered to the Secretary, London-bridge Station, on or before Ten o Clock, on Monday, the 29th instant.—By order,

Y. J. BUCKTON, Secretary.

London Terminus, Saturday, May 13, 1848.

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SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Bridge Wharf, Pimlico, begs to inform Architects and the Public that MASONS' WORK, in all its branches, is executed on the most reasonable terms, in such manner as must meet the views of his Patrons.

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Yard Marks [illegible]

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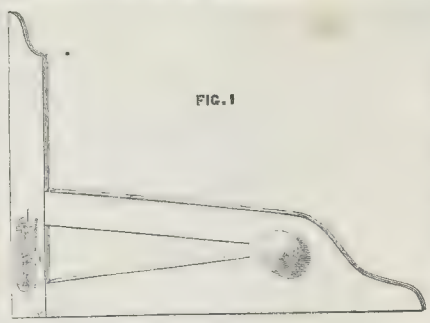


FIG. 1

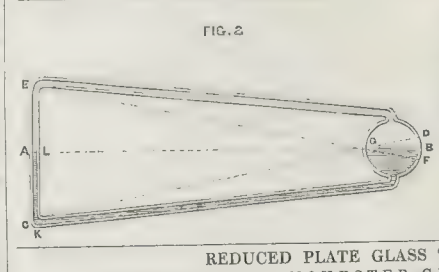


FIG. 2

THIS is an instrument of very simple construction, and intended to supersede the Square and Plumb-bob used by builders and others; and also for the architect and surveyor to ascertain readily and correctly the angles of sloping lines, such as roofs, columns, gutters, &c.

It consists of a spirit-tube of peculiar form set in a frame having two straight sides, the one at right angles to the other, and an index affixed, divided into degrees and half degrees.

Fig. 1 represents the square complete; it may be observed that the spirit-tube is imbedded, and no part left visible except a portion at the index.

Fig. 2 is a longitudinal section of the spirit-tube, the side EK is that against which the index is placed; the line AB is parallel to the bottom of the square, and intersects the index at the point marked "level." When this line is horizontal, the spirit in the tube remains at "level," but when it is at an angle with the horizontal line, equal to AGC, the spirit remains at C, indicating the angle of deviation, the line CD then representing the surface of the spirit.

Consequently, if the lower side of the square be placed on any given surface, if the spirit will show no deviation, and without any calculation, if it be truly level and if not, what the angle of slope is.

The chief advantages this instrument possesses over the Square and Plumb-bob are, that it is not required inasmuch as by wind, and can be used in the open air in any weather, or about the works of unfinished buildings, &c., and that it is more accurate and more portable.

The accuracy is not affected by changes of temperature, which can be very easily proved.

SOLD BY
WM. BISHOP and Co.,
66, CHEAPSIDE, LONDON.
SOLE AGENTS TO THE INVENTOR.

REDUCED PLATE GLASS TARIFF.

LONDON AND MANCHESTER GLASS COMPANY,

12, RATHBONE-PLACE, OXFORD-STREET, LONDON

MANUFACTORY—SUTTON, NEAR ST. HELEN'S.

PRICES OF SUPERIOR POLISHED GLAZING PLATES.

Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.	Feet Sup.	£	s.	d.
1	0	3	4	10	2	10	0	19	6	19	8	28	12	12	3
2	0	8	2	11	2	18	5	20	7	11	4	29	14	7	7
3	0	12	6	12	3	8	0	21	8	3	5	30	14	2	0
4	0	17	6	13	3	17	1	22	8	11	9	31	14	17	8
5	1	2	6	14	4	6	11	23	9	4	1	32	15	12	10
6	1	7	6	15	4	17	8	24	9	16	10	33	16	6	10
7	1	11	1	16	5	8	6	25	10	12	8	34	17	2	6
8	2	0	0	17	5	19	10	26	11	4	5	35	18	0	0
9	2	5	0	18	6	7	7	27	11	17	4	36	18	19	3

Intermediate and other Sizes in the same ratio. No extra charge for Stout Plates. Ground or Frosted Plates, of various thicknesses, supplied to order.

ROUGH PLATE, suitable for Railway Stations, Warehouses, Skylights, Floors, and other Building purposes, of every thickness, at very moderate prices.

Blind Frames complete, 1s. per foot, and all extra charges to be defrayed by purchasers.

Packing Cases charged, but full price allowed if returned free of expense, and in good condition, within one month.

Plates Silvered, Re-silvered, and Bent.

*** The Company are not accountable for breakage after delivery from their Warehouses.

Every further information may be obtained upon application to J. L. GRUNDY, Company's Agent.

12, Rathbone place, London, 15th April, 1848

CHEAP AND DURABLE ROOFING.

By Her Majesty's



Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HON. EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Italian and Spanish Opera, in Hanover-square.

It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut easily length, by all trades alike. The price is only ONE PENNY PER SQUARE FOOT, complete, with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Descriptive Pamphlet, containing every particular relative to the Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in the best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as this only warehouse in Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMBS-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone is now ready for the durable, good and texture, to which it has been selected, in preference to all others, by the Commissioners of Works and Public Buildings for the New Houses of Parliament. It is very superior for Monuments, Tombs, &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom. Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

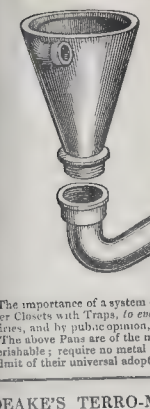
TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasons ble prices. Consisting of Vases, Balusters, Capitals, prefabricated Panels in Scagliola, Brackets, Trusses, Window Sills, Mantles, Heads, Trusses, Friezes, Gothic and Roman Chimney-Shafts, Soffits, Bed-mouldings, Paterae, &c. &c., 36-Inch Centre, Flowers, Leaf, Composite, &c. &c., suitable for prop ition. An assortment of Shop front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 49, Parker-street, Drury-lane.

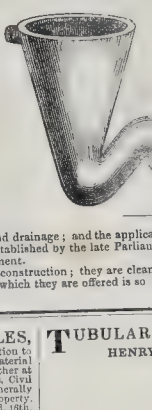
/HEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH.

MANUFACTURED BY

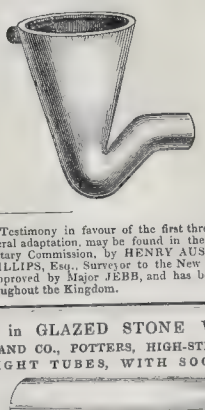
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



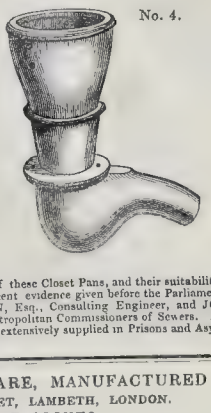
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleasing and drainage; and the application of ter Closets with Traps, *to every house*, is so fully established by the late Parliamentary dities, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and oerishable; require no metal fans; and the price at which they are offered is so low, as admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

DEAKE'S TERRO-METALLIC TILES,

PIPES, &c., of at least two sorts and sizes. In addition to numerous purposes to which it is applied already, this Material y be moulded into a great variety of articles required either at ne or about the Nobility, Clergy, Gentry, Architects, Civil ineers, Builders, also by Owners and Occupiers generally ard, Mines, Railways, Buildings, Gardens, and other property. s sect se sent, with names, in "The Builder" of the 3rd, 10th, 17th, 24th, 31st October, and 14th November, 1846, and 1st January, 1848. to the ready, containing prices, both per number and also per are, per yard, per foot, &c. Applicants would oblige by stating they want the pipes in Staffordshire or London. — Address Vyatt, Macclesfield street south, City-road Basin.

VORCESTER ENCAUSTIC TILE

WORKS — The Proprietors, who are retiring from siness, are enabled to offer their STOCK of TILES at a very duced Rate. Ornamental Pavements of the best description, at 6d per square Foot, "Seconds," at 3½d. N.B These Tiles being e of exact imitation of the best ancient specimens, are re-suitable for the restoration of ancient Churches and Build-s than on others of modern make: and the present opportunity ds with tiles and others the means of adopting a very beauti-l decoration at the ordinary cost of stone. Arrangements have en made for any future "matchings" that may be required — ecimens may be seen in London, at Messrs GRIEVE and KELLNER'S, Marble Wharf, Belvidere road, Waterloo-bridge; ld in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE

MACHINE COMPANY (James Smith, Esq., of Deanston, anager) invite attention to their improved Brick and Tile chines, which are to be seen at work at Alperton, and at the mpany's office 134a, Piccadilly, from Ten a.m. to Five p.m. Mr. Peirce Spence, who has been appointed manager in the room of r. John Ainslie, will show the machines at the works at Alper-n, which is within a mile of the Sudbury station of the London d North Western Railway, and two miles of the Ealing station the Great Western Railway, also at the Polytechnic Institution, ercent-street, London.—All communications to be addressed to r. WILLIAM GORDON, Secretary, at the office of the Company, ndon, 134a, Piccadilly. March 1, 1847. These machines may be seen at Mr. Shotts', Leith walk, Edinburgh; Mr. Robert odies, No. 1, Mr. Lawrence Hills, 135, Buchanan-street, Glasgow; r. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch's enbridge, Staffordshire; Messrs. Drummond and Son's, Dublin; d Mr. John Conn n, Newton, Limavady, County Derry.

MESSRS. HOPKINS and Co. solicit the

attention of Architects, Builders, Upholsterers, and the ublic generally to their REGISTERED SELF REGULATING BLINDS, which, dispensing entirely with the centre line, so ge ally objected to, are fitted with the OUTSIDE CORD, and so arranged as to work in high windows. Old Blinds altered to the NEW and IMPROVED BALANCE ACTION.

HOPKINS and Co are the sole manufacturers of BARRON'S PATENT METALLIC GROOVED ACTION, contrived for the easy and noiseless working of Sash Blinds in Bow or Wood Poles. This action has been much used, and with invariable success for season, bow, and other shaped windows. Models constantly on show.

HOPKINS and Co., late James Barron, Window Blind Manufacturers, Cabinet and General Brass Founders, 40, Castle-street, East, Oxford-street, London; and at Birmingham.

SNOXELL'S PATENT SAFETY

REVOLVING WOOD SHUTTERS, Manufactory, 26, REGENT-STREET and 21, CANCERY-LANE, London, sealed by Letters Patent, dated the 6th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Iron Mitchelled Bands and Sheathing the Edges of Wood Laths with an Iron or Ironing Bands and Sheathing the Edges of Wood Laths with an Iron or Tin Plate. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully substantiate the Patentee in stating they are beyond dispute the most simple, effective, and Reliable Revolving Shutters, without Machinery, and requiring no other Repairs than the occasional renewing of a Screw or Screw Nail, and the Patentee is aware that the use of Cog wheel work and Screw gear, and such other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS,

Patentees of

REVOLVING IRON AND WOOD SAFETY SHUTTERS,

and of

ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c.,

IN BRASS, COPPER, ZINC, &c.

Beg respectfully to call the attention of the Public to the Revolving Shutters, either Iron or Wood, (from any other Makers, whatever their pretensions may be), which have already obtained, arising from the unprecedented demand, arising from the universal satisfaction given by BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in Fronts of the Kingdom, having induced other parties to attempt the imitation, in the most absurd representations, of assembly old and discarded inventions as Improvements. B. and C. assure their Friends and the Public that, during their most extensive working, they have adopted every really practical improvement that has been introduced, A great reduction has also been made in the Prices, and they are now much CHEAPER, as well as BETTER, than any others.

The present Patent Metallic Sash Bars, &c have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded Sash Bars, at little more than usually charged. Shop Fronts, &c., complete, glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast Iron, Copper, or Zinc.

B. and C. are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop windows, and balcony floors, &c., which does not obstruct the light, nor admits of Loose Wadding over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

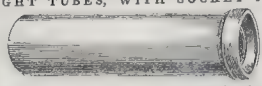
Manufacturers of Improved Steam Engines, Sawing and other machines, specially adapted for Builders purposes, which may be seen in operation daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY

HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.		In 2 feet lengths.					
2 in.	3 in.	4 in.	6 in.	9 in.	12 in	15 in.	18 in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d.	2s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR, I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR, In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

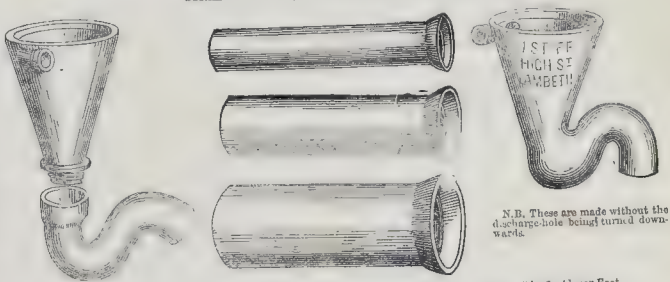
Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,

BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 2s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

ECONOMY!

STEPHENS'S PATENT STAINING

OF WOOD, AS A SUBSTITUTE FOR PAINT, for decorating Churches, large Public Rooms, and Theatres, as well as Private Dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The sizes of stains are prepared and sold by HENRY STEPHENS, 54, Stamford street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. They may also be obtained in powder at 8s. per pound, which dissolves in water to form the liquid, and 1 one pound will make one gallon of stain.

Sold also at the office of "The Builder," 2, York street, Covent Garden, London; and at HOPKINS and PURVIS, Colourmen, Greek-street, Soho, where specimens may be seen.

UNDERHAY'S PATENT BALL

VALVES, Manufactured by C. BOTTEN, Crawford-passage, Rag-street Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard as they keep open longer, and are cheaper that comm n cocks. The water way, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and when required for confined situations, the balls can be made smaller and the rods shorter than usual.

BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.

Underhay's Patent Silent Stool Valves are self acting, cannot leak, and, best its being cheaper than the comm n ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.

We beg to submit one of the many testimonials in our possession:—

London Works, near Birmingham.

Dear Sir,—We have used many of your patent ball valves, and in l that they answer their purpose exceedingly well, and are very certain in their action. We are, yours obediently,

FOX, HENDERSON, and Co

Mr. F. A. Underhay.

Messrs. W. CUBITT and Co., of Gray's inn lane, and

Messrs. T. CUBITT and Co., Thames bank,

(also many other eminent firms) who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAP

For Sewers and Drains of all kinds.

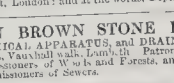
Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORPE, Engineers, 26, Lombard-street, London; and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY,

CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Lengths.

2-in.	3-in.	4-in.	6 in.	9-in	12-in. bore
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

THE BUILDER.

FROM £200 to £1,000 to be advanced by the SURREY MUTUAL BENEFIT BUILDING and INVESTMENT SOCIETY. Established January, 1847.

Sums of from 200l. to 1,000l. will be advanced at the next meeting of the Society at the "Swan Inn," Stockwell, on Tuesday evening, 30th May, at Eight o'clock precisely. Open to all joining on or before that evening.

Further particulars, books of the rules, &c., may be obtained of the Solicitor, S. S. DEBENHAM, Esq., 13, Birchin-lane, City, or of the Manager Mr G. F. KNOX, 79, Davies street, Berkeley-square

PATENT ARCHITECTURAL CARVING WORKS, Eccleston place, Pimlico

TO PLASTERERS and ARTIFICIAL STONE MANUFACTURERS. A large quantity of BATH and CAEN STONE DUST for SALE Apply at the above Works

ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders and others to the facility afforded by their Machinery for carving out with despatch and accuracy, and at a great saving in expense, the most elaborate Designs in Wood or Stone.—Specimens may be seen and Estimates obtained on application at the Premises

FLINTS for SALE.—1,000 yards of superior quality, at 3s. 6d. per yard, at the Waldrons, near the Church, Croydon Old Town, within one mile of the Croydon Station, on the Brighton and Epsom lines. Water carriage from the New Cross Station. Inquire at the Lodge for Mr GREGORY, who will furnish all particulars.

TO STONE MERCHANTS AND BUILDERS.

THE best place to purchase YORK FLAGS, LANDINGS, and BLOCK STONES, is the VICTORIA WHARF, Isle of Dogs, where a constant supply is kept up of Scaffold and Sawn Flags, Paving, and Block Stones. Bramley Fall kept on hand, and supplied to order. Constant arrivals from the Quarries said at river prices.
Address, S. PRICKETT, Victoria Stone Wharf, Isle of Dogs.

SALES BY AUCTION.

FREEHOLD BUILDING LAND, contiguous to the Manor House-road and Queen square, Holloway.

MESSRS. SHUTTLEWORTH and SONS have received instructions to SELL by AUCTION, at the Mart, on TUESDAY, May 30, at Twelve, by order of the Mortgagees and Executors, a FREEHOLD PROPERTY, exonerated from the land-tax, consisting of twelve plots of valuable building land, eligibly situate, fronting to the Manor House-road, at the extremity of the Queen's-road, and forming a continuation of Edencourt-road, Holloway; a short distance only from the high turnpike-road, a neighbourhood rapidly improving, and increasing in respectable population. May be viewed, and particulars had, ten days previous to the sale, of Messrs ABBOTT, JENKINS, and ABBOTT, Solicitors, 3, Basinghall-street; at the Mart; and of Messrs. SHUTTLEWORTH and SONS, 28, Poultry.

FREEHOLD BUILDING LAND, UPPER HOLLOWAY, adapted to Public Institutions, Detached Villas, and general purposes.

MESSRS. SHUTTLEWORTH and SONS are instructed to submit to PUBLIC AUCTION, at the Mart, on TUESDAY, May 30, at Twelve, in Forty-four Lots, a very valuable ESTATE, comprising fourteen acres, or thereabouts, of freehold pasture land, which has been arranged in lots varying in size and value, for the accommodation of large and small purchasers, commanding a beautiful situation, on the southern slope of Highgate hill, contiguous to the Mercers' Almshouses, with a good approach from St. John's road, and only about 4 miles from Moorgate, in the parish of St. Mary, Islington. The land abounds with good brick earth, and its localities for building are extremely advantageous; for a public hospital or college the site is peculiarly attractive; for almshouses and other benevolent institutions the aspect is conspicuous and the air salubrious; and for dwellings of a rural character the picturesque features of the vicinity strikingly recommend it. Access to the western district of the metropolis branch off from the main road in many directions, and the omnibus accommodations for travelling are constant through the day. May be viewed; Particulars, with plans annexed, had in due course on Mr. LAMBERT, Surveyor, 40, Coleman-street; of Mr. PEACHEY, Solicitor, Salisbury-square, Fleet-street; of Messrs. BEAUMONT and THOMPSON, Solicitors, 10, Lincoln's-inn fields, at the Mart; and of Messrs. SHUTTLEWORTH and SONS, 28, Poultry.

Valuable FREEHOLD BUILDING LAND, near the Dartmouth Arms station, on the Croydon Railway.

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At the first meeting of promoters of the Society, held here on Thursday, May 4, it was resolved, That it is expedient to form a Society for the Promotion of the Publication of Works connected with Architecture, the profession is sadly deficient in English works calculated for either the man of mind or the use of the memory of the student, and as in this respect this nation is not so much on an equality with the rest of Europe as it has been; many, if not most of the works daily publishing in France, Germany, and Italy, deserving to be studied, and any comparison of catalogues shewing that our deficiency is very great.

It was also resolved,—That it is desirable to carry out the following projects simultaneously, or as the funds of the Society will allow:

1. Republications (after a careful collation of such MSS. as can be consulted, and the earlier editions) of the standard authors, with their commentators, enriched with Notes conveying a condensed view of the discoveries and theories of more recent authors.

2. Illustrations of executed works of authors of equivalent talent, who may not have left writings in MS. or type,—or continuations of works in the same style.

3. Publications of works (either of text or plates) by modern authors, English or Foreign, which may be approved by the Society

4. Publications of the many very valuable Essays and Hints which are scattered in various miscellanea.

5. A Digest of the Theoretical Books, arranging each division of an author's works under the appropriate article of the Dictionary.

6. A Polyglossary, or Table of Synonyms of Technical Words in the different languages of Europe, and in the different counties of Great Britain.

7. A complete Dictionary of Architecture.

It was also resolved,—That the amount of subscription be One Guinea per annum, paid in advance, and due on the 1st of May in each year; such subscription to entitle the subscriber to one copy of each publication for that year. Estimating the number of subscribers for the first year at 250, there would be produced about 400 imperial 4to. pages of text, or a proportionate quantity less, when requiring illustration.

That the promoters may make the necessary arrangements, it is requested that those gentlemen who desire to avail themselves of the advantages of the Society will make known their intention, as soon as possible, to Mr. Wyatt Papworth, Architect, Honorary Secretary

10, Caroline-street, Bedford-square.

BREES' Glossary of Civil Engineering, comprising the Theory and Modern Practice. Plate, 8vo., cloth, (pub. 16s.) 9s. 1844.

NICHOLSON'S Principles of Architecture, viz., the Five Orders, Rules for Shadows, Geometry, Perspective, &c. 218 plates, 3 vols. 8vo., fifth edition, new in cloth, only 1l. 5s. (pub. at 3l. 3s.). 1841.

BRITTON'S Principles of Practical Perspective. 50 plates, 4to., cloth, 31s., scarce. 1833.

PERSPECTIVE (the Handbook of). 24 plates, 18mo., cloth, 1s. 6d. 1847.

KENDALL'S Gothic Architecture. 23 plates by Stover, (pub. 12s.), 8vo., cloth, 5s. 1843.

BRIDGES—HANS and HOSKINS' Theory, Practice, and Architecture of Bridges. 138 plates, 4 vols. in 3, royal 8vo., half morocco, 3l. 3s. 6d. (pub. 2l. 14s. 6d.). 1843.

The above on sale at B. and S. HOWARD'S, 114, Holborn-hill, where may be had a list published on application, or sent gratis and postage free, a Catalogue of Architectural and other Works relating to the Fine Arts.

CARPENTERS' COMPANY.—TWICKENHAM ALMSHOUSES. A VACANCY for a MAN has occurred in the above Almshouses. Applicants must be Liverymen or Freemen of the Company, of the age of 55 years or upwards.—Applications are to be left at Carpenters' Hall, on or before the 8th day of June next. Forms of application may be obtained at the Beadle's office, at the Hall.

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AN opportunity presents itself for the INVENTOR of a New Article in carrying out the manufacture of an article in repute. Sells for cash, is Patented, and for which orders are now waiting. A Professional Gentleman, of good address, would be preferred.—Real names to A. Y. Z., Mr. Bache, Engineer, 23, Parker's-row, Deckhead, London.

PATENT for FIRE-PROOF BUILDINGS.—The Patentee, in consequence of the limited size of his present Manufactory, has been prevented from executing the numerous orders he has received for works in various parts of the country, is willing to DISPOSE of his PATENT, reserving to himself the right of carrying on 20 miles of his own district.—For particulars and terms, apply to Messrs. PARKER, TAYLOR, and ROOKE, Raymond-buildings, Gray's-inn, where Models may be inspected and addresses to view specimens obtained.

FIRE BRICKS.—WARD and HART, Hondurus Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles. Lime, sand, gravel, bricks and tiles of every description; Dutch clinkers, house sand (red and white), moulding ditto, &c. &c. Fire Bricks continually unloading in the river, and a considerable saving to purchasers wanting large quantities taking them from the ships.

TO ARCHITECTS, &c.

THE Committee for Superintending the Erection of a new Church and Schools in the district of the Marsh, Stratford Essex, are desirous to receive Designs and Estimates for the same. Plans, &c., may be had on application to be made to Mr. JOHN HALL, Stratford.

TO ARCHITECTS AND CONTRACTORS.

WANTED, a PLAN and ESTIMATE for BUILDING THIRTY COTTAGES, consisting each of a frontage of 15 feet, the front room to be 19 feet square, with a small washhouse behind of 12 feet by 8 feet, and two bedrooms over of 12 feet by 8 feet each. The Advertiser is not desirous to accept the lowest contract.—Address to C. WELTON, West Surrey-bank, Chelsea.

CONTRACTS.

HALSTED UNION.—To Builders, Bricklayers, and Carpenters.—Persons willing to CONTRACT for certain WORKS at the HALSTED UNION WORKHOUSE, according to the Plans and Specifications there deposited for inspection, are requested to send Tenders to the Union Workhouse, before 10 o'clock a.m. on Friday the 2nd of June next and attend the committee at Twelve o'clock of noon on that day, when the Tenders will be opened. The contractor will be required to enter into sufficient security for the performance of his Contract; and to pay the Guardians' charges for the preparation thereof. The Guardians will not bind themselves to accept the lowest, or a single tender.

By order of the Board,

Halsted, 13th May, 1848. O. HUSTLER, Clerk.

COUNTY OF ANTRIM.

NOTICE TO CONTRACTORS,

BUILDERS, &c.—Persons desirous of contracting for the ERECTION of the proposed COUNTY COURT-HOUSE, at Belfast, may see the Plans and Specifications relating thereto at the office of CHARLES LANYON, Esq., Architect, Wellington place, Belfast, after Friday the 26th inst., and all proposals to be for work, under cover, to JOHN COATES, Esq., Secretary to the Grand Jury, Carrickfergus, on or before Saturday, the 3rd of June next, by which day the Contractors will be informed of the Tenders for building the County Court House, at Belfast.

18th April, 1848.

TO ARCHITECTS

THE GUARDIANS of the POOR of the ERPINGHAM UNION are desirous of receiving PLANS for the ERECTION of a NEW WORKHOUSE, sufficient to hold 400 persons—men, women, and children properly classified according to the regulations of the Poor Law Board, for a sum of £6 will be paid the person whose plan shall be approved by the Guardians and the Poor Law Board, who also the architect shall be hereafter employed, on the erection of said workhouse, in which case he shall be paid a commission for his services as the Guardians may then determine. Such plans (the property of the writer) to be sent on or before the 17th day of June next to the Board.

So thereby, 23rd May, 1848. JAMES Earl MILLAIS, Clerk.

TO BUILDERS

KENT COUNTY PRISONS, SAINT AUGUSTINE'S, CANTERBURY. Persons willing to contract for making various Alterations in and Additions to the Kent County Prisons, at St. Augustine's, Canterbury, may see Plans and Specifications thereof at the office of Mr. WHICHCORD, the County Surveyor, at Maidstone, or at Saint Augustine's Prisons; and they are requested to deliver Tenders for the said works to the County Surveyor, at Maidstone, sealed and marked "Tender for Saint Augustine's Prisons," before Ten o'clock in the forenoon of Thursday, the 22nd day of June next, and to attend personally at the annual general sessions, to be holden at the Court house, at Maidstone, at one o'clock in the afternoon on that day, if required, to accept the said proposed tenders, unless approved of in all respects. Security will be required for performance of the contract, and the sureties proposed must be named in the tenders.

H. A. WILDES, Deputy Clerk of the Peace.

Maidstone, May 23, 1848.

SAINT ANNE, WESTMINSTER.—To Paviors, Stone Merchants, Scavengers, and Others,—NOTICE IS HEREBY GIVEN, that the Commissioners for Paving and Cleansing this Parish will meet in the Vestry-room, Dean street, Soho-square, on FRIDAY, the 2nd of June next, at Eleven o'clock in the forenoon, to consider TENDERS from Persons willing to Contract for Cleansing the Streets of this Parish for carrying away the Dust and Soil, and for repairing the Carriage-way, and for supplying Stone for repairing the Foot-ways of this Parish for one year from Midsummer next. Tenders will not be received after Ten o'clock at the said Meeting, unless by special permission, and signed form, which may be had at my office, 17, Carlisle-street, Soho-square; and of Mr. EDMOND WARNE, 41, Lisle-street, Leicester-square, the Surveyor of Pavements; where also the form of Contract to be entered into may be seen, and any further information obtained. The Committee do not bind themselves to accept the lowest or any Tender.

May, 1848. J. W. ALLEN, Clerk to the Committee.

SAINT GILES-IN-THE-FIELDS and SAINT GEORGE, BLOOMSBURY.—To Stone Merchants, Gravel Diggers, Scavengers, Rakers, Engineers, and Gullie Fitters.—NOTICE IS HEREBY GIVEN, that the Committee for Paving, Cleansing, and Lighting the parishes aforesaid, meet in the Vestry-room of St. Giles's Workhouse, on Friday, the 26th day of June next, at Ten o'clock in the forenoon precisely, to receive proposals from such persons or persons as may be willing to CONTRACT for all or any of the following MATERIALS, or parts of orders to be given by the Committee—namely, for supplying the Committee with the best approved Aberdeen Moor Granite and other Granite, of certain widths and lengths at per ton for each sett; also Red Flint Kerbs, York Stone, all other foot pavings, at per yard superficial. A full particular of the several widths and depths, with the form of the granite setts, may be had on application at the Clerk's office, No. 21, Hart-street, Bloomsbury-square; or of Mr. Birch, Surveyor to the Committee, at his office, No. 29, Little Russell-street. The setts of the best Yellow stocked limeing gravel to be delivered in the said parishes, at such times, and in such proportions, and in such quantities, at one time, and in such places within the said parishes, or either of them, as the Committee may direct. Also to receive proposals as a contract for cleansing the streets of the said parishes, of Oat-street, Grave, Slops, at per week. The same is for this purpose not to measure less than at present. Proposals for the above to be at the hour of one year from Midsummer next. Also to receive proposals from such person or persons as may be willing to contract for one, two, or three years, from Midsummer next, for cleansing, light, and trace, or former if required, the Gullies, Sewers, and Drains in and in parts of the parishes of St. Giles-in-the-Fields and St. George, Bloomsbury as last were; they to be seen at the clerks' office; and also to receive proposals for the Foundling Hospital, if required, the remainder of the squares, streets, and other places within those parishes. Lamps, Lamp-posts and the streets and places built upon land belonging to the Foundling Hospital excepted; and for taking away the Dust and Ashes, &c., from the houses and buildings of the same respectively; and the proposals for the last-mentioned works are in addition to contain the separate and distinct tenders,—namely, one tender for cleansing the squares, streets, and other places alone, and another distinct tender for the privilege of taking away the dust and ashes alone. And also to receive proposals from such person or persons as may be willing to contract for one, two, or three years, from Midsummer next, for supplying the Committee with new Lamps and all fittings. Bracket Irons, Copper Lanterns, Service Pipes, Fittings, &c., and to paint the said Lamps, Lamp-posts and Columns &c., and for repairing the said Lamps, Lamp-posts and Columns &c., and for repairing the same complete in such situations as may be required by the committee; the tenders for the last-mentioned particulars to contain the annexed prices to be inserted for the several respective articles and works in the conditions with the specification to be seen at the clerk's office, and also at the surveyor's office. The secretaries of the companies and persons so sending in tenders are requested to attend the Vestry-room at the time of the meeting. The contractor or contractors for the said lots or other contracts to be taken, or any part or parts thereof respectively, without the special consent of the Committee in writing to the contrary to the satisfaction of the Committee, will be required for the performance of the several contracts, and the names, places of abode, and trades or callings of two sureties, who are to be approved of by the Committee, will be required to be inserted in the bonds to be entered into by the contractors, and the names, places of abode, and trades or callings of the sureties proposed must be inserted in the tenders. Forms of the said bonds and tenders may be had at the clerk's office, and not otherwise. The Committee will not be bound to accept the lowest or any tender.

By order of the Committee,

May 1, 1848. ROBERT LENNIS, Clerk to the Committee.

SUDBURY UNION WORKHOUSE.—TO BUILDERS.—Contractors desirous of TENDERING for the ADDITIONS and ALTERATIONS proposed to be executed at the Sudbury Union Workhouse, are requested to send in their Tenders, sealed up, addressed to the Board of Guardians, at the Workhouse, Sudbury, on or before Friday next, the 26th inst., at Ten o'clock in the forenoon, at which time the Tenders will be opened in the presence of such Contractors as may attend.

Plans, Specifications, and Conditions may be seen at the Workhouse, and Tenders must be made out on the printed forms to be had upon application at the Workhouse, and sealed up, addressed and marked, "Tender for Building."—Approved securities will be required for the due performance of the Contract.

JOHN BROWN and ROBERT KERR, Architects.

Sudbury, May 2, 1848.

TO BUILDERS

PERSONS desirous of CONTRACTING for the ERECTION of a SCHOOL-HOUSE and MASTER'S DWELLING at Irthlingborough, near Wellingborough in the County of Northampton, may see the Plans, Specifications, and Conditions, and obtain all necessary information, at the Office of the Architect, Mr. J. G. BLAND, of Market Harborough, from the 23rd to the 31st of this next month. Tenders to be sent in for Schools at Irthlingborough, to be sealed up and addressed to me, on or before the 10th day of June next. The lowest or any tender not necessarily accepted. Sealed Tenders for the due performance of the several works to be executed according to the Plans, Specifications, and Conditions, to be delivered at the Office of Mr. Wilmot's Railway Station, on the Northampton and Peterborough line on or before the 31st day of May next.

By Mr. Bland's order and Date this 24th day of May, 1848.

THOMAS WILMOT, Engineer.

TO BUILDERS

PERSONS desirous of TENDERING for the works required to be done in ERECTING CARCASS of JEWELLING-HOUSE, FINISHING and PAINTING WAREHOUSE, FACTORY, STABLING, CART SHEDS, and PREMISES, at Heath's Rag Manufactory, on the east side of Gosswell Road, Clerkenwell, for Mr. Thomas Bonfoy, are requested to call at the said premises, and inspect the plans and specifications, which may be seen, and Tenders received, at the Office of Mr. Moffat, Builder, Myddelton-square, Pentonville, on Monday next, the 29th inst., at Ten o'clock precisely, when the Tenders will be opened in the presence of such Builders as may attend.

Mr. Moffat does not pledge himself to accept the lowest or any other tender.

HOUSES TO BE LET.—DYER'S BUILDINGS, HOLBORN.—The Committee of the Worshipful Company of Dyers HEREBY GIVE NOTICE that they are ready to receive TENDERS, in writing, for letting on lease, for twenty-one years from the 24th day of June next, the Houses No. 2, 3, and 8, in the above Buildings, either separately or together. The draft of the proposed lease and other terms and conditions may be known upon application at the Company's Hall daily, Sundays excepted, between the hours of Ten and Four o'clock; and plans may be obtained for viewing the premises. Parties Tendering must be present with reference as to their respectability, &c., and the Committee do not pledge themselves to accept any Tender, either of the highest or lowest amount, or any other tender. The Tenders must be sent in to the Clerk at the Company's Hall, addressed to him, on or before Monday, the 29th day of May last, sealed "Tender for House No. , Dyers' Buildings, Holborn."

B. C. LUTTLY, Clerk to the Company.

Dyer's Hall, May 10, 1848.

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AGENTS WANTED for the few towns for which appointments have not been made. Terms and particulars may be known on application to the Manager. JOHN REDDISH, Manager.

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By order of the Board,

London. JOHN CHARLES DENHAM, Secretary.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English, Pedro, 3d per yard, Satins, 5½ per yard, Flocks, 8d per yard, Patterns for approval sent to town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oak-graining, by the best workmen. Established twenty years.

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The Committee for carrying into effect this laudable charity, earnestly solicit the aid of all the country and the trade to enable them to commence granting relief to the deserving and distressed Members of the Institution, although in its infancy, holds out the prospect of the most extensive benefits to the trade, and presents an extensive field for usefulness.

The Annual Meeting and Festival will take place on the 3rd of July next, when the Right Hon. the Lord Mayor has kindly consented to preside.

The first Anniversary Dinner in aid of the funds of the Institution will take place on July next, when the Right Hon. the Lord Mayor has kindly consented to preside.

The following gentlemen kindly accepting the office of Stewards will meet and make up the lists:—

Subscriptions and Donations will be thankfully received by the Bankers, the Treasurer, and the Secretary.

The Rules and Regulations of the Charity, and other information, may be had of the Secretary, at the Office, Poland House, Lincoln's-inn-fields, on Mondays and Thursdays, from Ten to Four.

PREPARED FLOORING BOARDS.

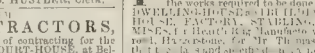
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ALFRED ROSLING begs to inform the Trade and Consumers generally that he keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to any required width and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great neatness and attention to quality of workmanship.—Chatham Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

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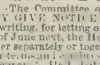


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ARCHITECTURAL CARVING COMPANY, Eccleston-place (late Sir F. CHANTRY'S Foundry), Pimlico, respectfully direct the attention of Architects, Builders, and others to the Carving by their Machinery for carrying out with dispatch and accuracy, and at a great saving in price, the most elaborate Designs in Wood or Stone—Specimens may be seen and Estimates obtained on application at the Premises.

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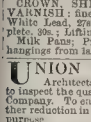
Goods Loaded, Housed, and Delivered.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and plated work on the most moderate terms.—CHARLES LONG, No 1, King-street, Baker-street, Portman-square.—Cash only

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200-feet cases, delivered free in London for 42s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.
THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 20s.; Lifting Pumps and Cocks of every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paperhangings from 1s. per piece upwards, of very superior description

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.
ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.
LONDON WAREHOUSE, 93, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

CHAS. WM. WATERLOW,
MANUFACTURER

of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Sheet Rack Moulding in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.


IMPORTANT TO THE BUILDING WORLD.—G. HILL, No. 8, Queen's-row, Pentonville-hill, MANUFACTURER of SASHES and FRAMES and DOORS for the TRADE; French Ovolo Sashes and Frames, at 4d. per foot; super 2-inch ditto, at 10d.; 1¼-inch 4-panel doors, at 6d.; 2-inch ditto, at 7½d. All other kinds of joiner's work done equal in proportion; the materials and workmanship warranted. Country orders punctually attended to.—A large Assortment of Sashes and Doors on hand


DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, Stove Maker to her Majesty, 20, Poland-street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.
SMOKY CHIMNEYS—NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

By Her Majesty's  Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.
BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 15a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS.—The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater inducement for its adoption. For the CURE of SMOKY CHIMNEYS, and the thorough, but safe and agreeable, Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the finest rooms and other apartments in the houses of the nobility and gentry, are sufficient evidence of its efficacy.
Orders received by FAIRS and Co., No. 130, New Bond street; BUNNETT and CORFE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham-street, Pimlico.
N.B. Ornamental Zinc Sashes and Casements for Gothic Windows, Stained Glass, &c.

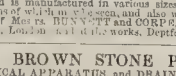
LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—This application of the Vulcanized Caoutchouc (prepared expressly for these valves, with layers of canvas amalgamated therein), having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First,—The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or set fast, for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves. In no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence.
THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Ray street Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common cocks. The waterway, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required free unbiassed action, the balls can be made smaller and the rods shorter than usual.
BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.
Underhay's Patent Silent Stool Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.
We beg to submit one of the many testimonials in our possession:—

London Works, near Birmingham.

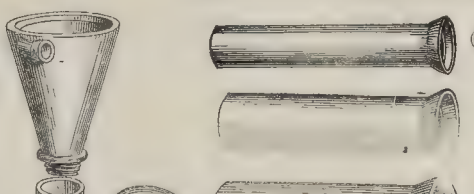
Dear Sir,—We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action.—We are, yours obediently,
Mr. P. G. Underhay. FOX, HENDERSON, and Co.
Messrs. W. CUBITT and Co., of Gray's-inn-lane, and
Messrs. T. CUBITT and Co., Thames-bank,
also many other eminent firms who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELFACTING EFFLUVIA TRAP
For Sewers and Drains of all kinds.
Registered January 5th, 1848.
A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.
The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 26, Lombard street, London; and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.

WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
2 in.	3 in.	4 in.	6 in	9 in.	12 in. bore
4d.	5d	6d.	8d.	1s 1½d.	1s. 10d. per foot

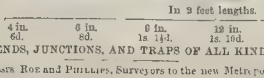
Bends and Junctions equally low.
N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1761.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.


N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 6d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,

In 3 feet lengths. In 2 feet lengths.

2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore
4d.	5d.	6d.	8d.	1s 1½d.	1s. 10d.	3s.	4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

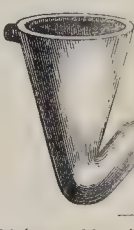
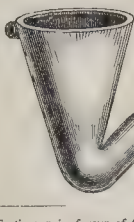
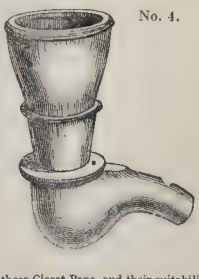
TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their doing, they will be conferring a great boon on public health, and that to the extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH.
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1.

No. 2.

No. 3.

No. 4.


The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.
The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

THE BUILDER.

TO BUILDERS AND SPECULATORS.

TO BE LET, at an improved Ground Rent, a CARCASE of a superior first-class House, in the neighbourhood of one of the Parks, with money advanced to finish. —Apply to Mr. WILLIAM WATSON, Surveyor, 7, Havel-street, Camberwell.

TO BUILDERS.—ELIGIBLE BUILDING LAND AT BRIXTON.

TO BE LET, in Plots, about Five Acres for third-rate Houses, and also a Site for a Public-house on very advantageous terms. Money will be advanced.—For particulars, and to see plan, apply to Messrs. BECKWITH and SALMON, Land Agents, 25, Bucklersbury.

BUILDING GROUND FOR SMALL THIRD RATES, NEAR KILBURN GATE.

TO BE LET, Two Plots of Land, for Twelve Houses each, most eligibly situate, where houses of the above class are much required. Bricks and Timber if required.—For Plans and Particulars, apply to Mr. H. BIERS, 13, Carlton Villas, Edgeware-road.

NEAR SOUTHGATE, MIDDLESEX, in the Parish of East Barnet.

TO BE LET, on Building Leases, excellent SITES for VILLA RESIDENCES, in a picturesque and healthy country, bordering on Enfield Chase, about ten miles from London, and near to a proposed station on the Great Northern Railway now in progress.—Apply to Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's Inn-fields.

TO BUILDERS AND HOUSE AGENTS.

TO LET, a well-established BUSINESS of upwards of twenty years, within 6 miles of town, in the above line. The owner is retiring, but will allow his name to remain till his successor is firmly established. To an active, talented young man the connection would be most desirable.—Letters (prepaid) addressed to A. G., the Office of "The Builder," will be attended to, and full particulars given

TO TIMBER MERCHANTS, BUILDERS, PUBLIC COMPANIES, and Others, requiring Extensive and Valuable Waterside Premises.

TO LET (in part or whole) near Westminster Bridge, being admirably adapted for a first-rate BUILDING BUSINESS, with large yard, wharf, extensive sheds, stables and a most eligible dwelling-house, suitable for a timber and deal yard, which trade is now carried on, and capable of great extension For further particulars, apply to W. HASLAM, Esq., Solicitor, Copthall-court, City.

LOWESTOFT, SUFFOLK.

TO BE LET, on Building Lease, in one or more Lots, a Piece of LAND, in Lowestoft, containing 3a. 3r. 30p., southward of the new harbour, and on the west side of the London turnpike-road, fronting to and within a short distance of the sea, having a depth of 200 feet, and a frontage of 740 feet, with the convenience of a road at the back, most desirably situated for the erection of villa residences.—Particulars will be furnished to principals on application to Mr. E. NORTON, Solicitor, Lowestoft.

VOTES FOR WEST KENT GRAVESEND AND MILTON—FREEHOLD ESTATES

TO BE SOLD by PRIVATE CONTRACT, consisting of TWO DESIRABLE RESIDENCES, with handsome elevations, being Nos. 3 and 4, Bront-villas, Windmill-hill, near Perrock-grove, delightfully situate on a terrace, commanding extensive views of the Thames, and surrounding country, and within 10 minutes' walk of the steamboat pier and the intended railway station Each villa contains handsome dining and drawing-room, good bed-chambers, and all requisite offices, with garden in front and rear. Let to respectable tenants at 40l. each. Also Seven Freehold Houses in Edgar-street, 8 in 50 in Shrubcastle, within five minutes walk of the piers and proposed railway station. Each containing six rooms, with forecourt and garden in the rear, let at the low rent of 22l. each.—Terms and further particulars may be known at the office of Mr Wm. TRESS, Surveyor, Wilson-street, Finsbury-square; or of Mr. Lee, 9, London-road, Rosherville, near Gravesend.

SALES BY AUCTION.

FIVE THOUSAND PIECES of PAPER-HANGINGS, Veined Marble Chimney Pieces, and Eleven Enamelled Slate ditto.

MR. BRAY, Jun., will SELL at his rooms, 259, High Holborn, on WEDNESDAY, May 31st, at Twelve, upwards of 5,000 PIECES of PAPER-HANGINGS, including Dining Room, Parlour and Bed Room, Hall and Staircase Papers, &c.—May be viewed, and catalogues had at the rooms as above.

UXBRIDGE ROAD. Freehold Land, with Brick earth, &c.

MR. COCKERELL will SELL BY AUCTION, at Garraway's, June 8, at Twelve, about 8 Acres valuable FREEHOLD LAND, in the occupation of Mr. Brickell, as a Gravel, of first quality, with two Tenements and a Shed upon it, desirably situate in the parish of Hayes, Middlesex, within a quarter mile of the Southall Station, on the Great Western Railway, and on a Dock on the Grand Junction Canal.—May be viewed, and particulars had of C. WELBORNE, Esq., 32, Tooley-street, and principal Inns, Uxbridge and Hounslow; and of the Auctioneer, 47, Blackmanstreet.

NORWOOD, SURREY, AND MAIDSTONE, KENT.

MR. COCKERELL is instructed to SELL, at Garraway's, June 8, at Twelve, a desirable PLOT of FREEHOLD BUILDING LAND, delightfully situate in the road leading from Sydenham to Norwood, called Central Hill, and near the Crystal Palace; also TWO DWELLING HOUSES, with Workshop and spacious Yard, situate in Earl-street, Maidstone; let to respectable tenant.—May be viewed, and particulars had of C. WELBORNE, Esq., 32, Tooley-street, and the Bull and Crown, Bull Hill Hotels, Norwood; principal Inns, Brixton and Camberwell; the Star, Maidstone; and of the Auctioneer, 47, Blackman-street.

TWICKENHAM, MIDDLESEX. Important to Builders, Speculators, and Others in search of valuable Building Sites

MR. PIGGOTT, Estate, House, and Land Agents, begs to announce that he will SELL by AUCTION, at the Greyhound Inn, Richmond, on THURSDAY, June 1, FOURTEEN exceedingly desirable FREEHOLD PLOTS of BUILDING LAND, on a gravelly soil, situate at the end of Twickenham-park-road, admirably adapted for the erection of genteel villa residences, commanding delightful views of Richmond-bridge and adjacent scenery. This property derives considerable attraction from the eligibility of the situation, which renders it for the purposes of building speculation undeniable The respective Lots may be viewed at any time; and further particulars, conditions, and plans may be had of HENRY SMITH, Esq., Solicitor, Ormond-row, Richmond; Messrs. HUME and BIRD, Solicitors, 5, Great James-street, Bedford-row, the Auction Mart, London; and of Mr. PIGGOTT, Auctioneer and Valuer, George-street, Richmond.

IMPORTANT WATERSIDE PREMISES and BASIN, eligible for Wharfingers, Dock, Water, and Boat Companies.

MESSRS. CRAWTER have received instructions to offer this valuable property to public competition, on THURSDAY, June 8, at Garraway's Coffee-house, Change Alley, Cornhill, in lots, without reserve, comprising the Surrey Iron Railway Company's Basin, Wharf, Premises, and Dock, Surrey Canals, Basins, and Land, Warehouses, Cranes, Counting House, and Appendages, Lock keepers House, and two Dwelling Houses, with offices and gardens, delightfully situate, adjoining and communicating with the River Thames, and immediately contiguous to the town of Wandsworth, Surrey, containing in the whole about ten acres, offering an unusual opportunity to any capitalist or mercantile Company to purchase these eligible premises, which afford room for stowage and depository purposes for articles of every description, as well as building for conversion of the materials now in full trade, and, from the access about to be immediately given by the extension of the South-Western Railway to Waterloo and London bridges, brings as it were this property within the metropolis itself, the advantages of which are so well known that no further comment is necessary.—May be viewed by applying to the Superintendent, on the premises, and particulars obtained at the Spread Eagle, Wandsworth; Greyhound, Croydon; Griffin, Kingston; Castle, Brentford; Northumberland Arms, Isleworth; and of Messrs. Lofty and Batt, solicitors, Wandsworth, and Dyer's Hall, College-street, Dowgate-hill; at Garraway's; and of Messrs. CRAWTER, Cobham, Surrey, and No. 7, Southampton-buildings, Chancery-lane.

WANTED TO PURCHASE (the neighbourhood of Lloyd-square, Pentonville, preferred), a well-built HOUSE, containing eight or nine rooms, in an open and airy situation, with garden.—Apply, by letter prepaid, stating full particulars, to Messrs WILLIAMS and DIXON, Surveyors and Estate Agents, 30, Chancery-lane

TO PAY 20 PER CENT.—Eight unfinished HOUSES TO BE LET, to pay the above per centage.—Apply to Mr WHITEWAY, 17, Pelton road, Greenwich.

SYDENHAM PARK.—Several PLOTS of GROUND in this desirable locality TO BE SOLD or LET on Building Leases. Money will be advanced if required.—For particulars apply to Messrs. DREW and SHADWELL, Solicitors, Bermondsey-street; or to Messrs. ALLEN, SNOOKE, and STOCK, Architects and Surveyors, 20, Tooley-street.

TO BUILDERS, IRONFOUNDERS, and Others, requiring large Yard and other Conveniences

A MOST DESIRABLE WHARF TO BE LET, situate No. 1, Cambridge-street, Old St. Pancras-road, with excellent Watercarry on the Regent's Canal; the rent very moderate, with superior advantages in case of building; with extensive premises, drying sheds, saw pits, stabling, &c For particulars apply to Messrs. PARKER, 1, Keppel-street; or on the premises as above.

TO BUILDERS, CAPITALISTS, AND OTHERS.

SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND to LET on LEASE for 80 years (land tax redeemed), on the high road leading from New Cross to Lewisham, in the county of Kent, within a short distance of the Deptford Station, on the London and Greenwich Railway, for first, second, or third rate attached or semi-detached houses. For plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High-road, Deptford, Kent.

TO BUILDERS AND OTHERS.

AN Eligible Site for Building a Terrace, with an uninterrupted Frontage on the river Thames, and a considerable depth for gardens in the rear, TO BE LET, in the rapidly improving parish of Hammersmith, or in plots for one or more Houses to responsible parties. A plan may be seen, and particulars obtained at 1, the Terrace, Broadway, Hammersmith, or at the offices of Messrs. GARLAND and CHRISTOPHER, Architects, Hanover Chambers, Buckingham street, Adelphi.

FOR SALE at GARRAWAY'S COFFEE-HOUSE, CHANGE ALLEY, CORNHILL, on FRIDAY, 2nd June, at Five for Six o'clock precisely,

700 LOADS BALTIC AND COLONIAL TIMBER;
50,000 BALTIC AND COLONIAL DEALS AND BATTENS,
and other Wood Goods.
T. and I. SIMSON, Brokers, Change Alley, Cornhill.

TO EXCAVATORS, CONTRACTORS, MINING AND WATER COMPANIES.

TO BE SOLD, a 20-Horse Condensing STEAM ENGINE and Boiler complete, with capital Force Pump, in good working order, admirably suited for temporary or permanent pumping work. This engine will be sold at such a low price as will induce purchase. Apply to Mr. MANN, Phœnix Company, south-west side of the bridge at Vauxhall.

TO MASONS.—AN OLD ESTABLISHED BUSINESS TO BE PUT OFF

TO any Person with moderate capital this offers a good prospect of business in a large provincial town, which is very remunerative, and has been carried on a well established. The advertiser retires to devote his sole attention to surveying, and consequently could introduce his successor as a Mason Address, S. N., Post-office, Ipswich

A GOOD IRON CRANE and JIB, to be DISPOSED OF, to raise about a ton. Price 10l. To be seen at Mr CHAMBERS, Smith, &c., 305, Upper Thames-street.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington butts.
N.B. Cowley and Kent Bricks of every description, and Kentish Rag-stone direct from the Quarries.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 33, Cross-street, Bla kfriars road

BY BRITISH and FOREIGN LETTERS PATENT.—To Builders, Masons, and Others. LICENCES GRANTED for the use of HUTCHISON'S PATENT, for Indurating Stone, Chalk, Plaster of Paris Works, Carton, Roof Sheeting, &c.; also for Hutchison's Marble and Stone Sawing Frame.—For further particulars apply to Messrs. HUTCHISON, WILFORD, and Co., East Temple Chambers, 3, Whitefriars-street, London.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price. 25, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

HEAL and SONS have made a consider-able REDUCTION in the lower qualities of RED FEATHERS, and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery

Poultry.....	9s. 10d. per lb.	Best Grey Goose ...	2s. 6d. per lb
Grey Goose	1s. 8d. "	White Goose ...	3s. 6d. "
Foreign Grey do.	1s. 8d. "	Best Dantzic do...	3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196 opposite the Chapel, Tottenham-court-road.

TO ARCHITECTS, ENGINEERS, AND SURVEYORS.

LITHOGRAPHY and ENGRAVING of every Description, in all their various Branches, DRAWN and PRINTED; as also every description of Engineering, Architectural, and Mechanical Drawings, on Paper, Parchment, or Vellum, executed in a superior style, at moderate charges, by MACCABE, 23, Parliament-street, and 47, King-street, Westminster.
P.S. Engineers, Architects, and Surveyors, requiring assistance in making Drawings, Tracings, &c., either at their own Office or otherwise, can procure it by applying as above, at a moment's notice.—a large staff of Artists being retained in the Establishment.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe, 4d. per foot run, including fixing.			
2½	d. to 3	4d.	ditto ditto
3	ditto 5	5d.	ditto ditto.
3-inch eave gutter, 3d.			ditto. ditto.
4	ditto 4	4d.	ditto ditto.
4½	ditto 5	5d.	ditto ditto.

Flats covered and Cisterns lined from 6d. to 8d. per foot. Super Corniee Gutters, 5d. to 6d. Pipe and Gutter forwarded to any part of the country. -Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

Inches								
diameter....	2.....	2½.....	3.....	3½.....	4.....	4½.....	5.....	5½
Rain water								
Pipes	1½d.	1s. 3d.	1s. 5d.	1s. 8d.	2s. 0½d.	.....	per yard.	
Half-round								
Gutters.....						11d.	1s. 1s. 2½d.	1s. 6d. "
O Gee ditto.....						1s. 2d.	1s. 6d.	1s. 9d. 2s.

SASH WEIGHTS, 6l. per Ton; Air Bricks, 30s. per gross; Railing Bars, light, 8l.; stout, 8l. 10s. per ton. Other Builders' Castings equally cheap.
Navvy Barrow Wheels, 18s. per dozen, 10l. per gross.
Address W. G. TAY, Union Wharf, near Battersea-bridge, Chelsea, London.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission (from Eight o'clock till Seven), One Shilling; Catalogue, 1s.
JOHN PRESCOTT KNIGHT, R.A., Sec.

METROPOLITAN SURVEY.—A Public Meeting of the SURVEYORS' ASSOCIATION will be held at the WESTERN LITERARY and SCIENTIFIC INSTITUTION, in Leicester-square, on WEDNESDAY EVENING NEXT, May 31, at Seven o'clock precisely, JAMES WYLD, Esq., M.P., in the Chair, to consider and adopt a Petition proposed to be presented to the House of Commons. The attendance of Members of Parliament, Local Authorities, Civil Engineers, and Surveyors opposed to the unconstitutional principle of superseding civil by military bodies, supported from the metropolitan funds, is earnestly solicited.—By order of the Committee.
E. CHADWICK, Secretary.

68, Chancery lane, May 23rd, 1848.

NOTICE of PUBLICATION of the CATALOGUE of the ROYAL POLYTECHNIC INSTITUTION.—The New Edition is now ready, with the following Illustrations: The ELEVATION of the INSTITUTION as now extended next Regent-street, the INTERIOR of the GREAT HALL, and of the NEW LECTURE THEATRE. The Catalogue enumerates upwards of 2,000 Works of great ingenuity and interest, with References to more than 600 Specimens. Price One Shilling. The INSTITUTION, recently ENLARGED, is NOW OPEN Mornings and Evenings, including Saturday Evening.—Admission, One Shilling; Schools, Half price.

TO ARCHITECTS COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

EXTRACT FROM THE "MAGAZINE OF SCIENCE."

MR. JENNINGS, the Patentee of the present undoubted Improvement in Cocks, is already favourably known to the Public as the inventor of a very ingenious method of SHOEING and FASTENING SHOP SHUTTERS WITHOUT THE USE OF THE SHUTTER BAR, and (an equally clever plan of) putting Lead and other Pipes WITHOUT THE AID OF SOLDER.
Skilfully designed, however, as these undoubtedly are, and popular as they have already become, both the Inventions, in point of simplicity and scientific arrangements, must "pull" before the INDIA RUBBER TUBE COCK, and which we submit to our Readers as an invention offering an effectual remedy for the innumerable evils and mischiefs inseparably connected with the OLD PLUG COCK.
JENNINGS'S Inventions may be had, and Testimonials from Government and other Works, can be seen at the Manufactory, 29, Great Charlotte-street, Blackfriars-road.
JENNINGS'S PATENT VALVES can now be had of Messrs. WARNERS and SONS, Jewin-crescent, they being duly Licensed to Manufacture and Sell the same.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 131, CHANCERY-LANE Patent Scale on the 4th day of February, 1845, for Fourteen Years, for Improvements in Fixing Shutters of WOOD and IRON, consisting of the Methods of Raising and Lowering Shutters, with at Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fitted up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which, fully guarantees the Patentee in stating they are beyond dispute, superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed in other makers.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co. Old street.
HARCOURT and QUINCEY, Patentee
CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENT in the above Shutters, and inspect is invited to their Manufactory, 238, Waipping, or at their Agents 476, New Oxford street. The great importance of strength and safety in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twice time stronger than the ordinary flat laths, to insure their general adoption.
CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which possesse all the advantages of the endless screw (a principle which cannot, even be wear, be liable to run down, and entirely avoids the necessity of using the rat-tail wheel, and is at once simple, and below easily effected by the Patented DOUBLE PINION, from any plan yet adopted for that purpose, thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are especially adapted either above or below the window or door, or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; can be supplied at a shorter notice, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes-street, Bank.
CLARK and Co are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS, Engravings and Prospectuses forwarded on application PROVINCIAL and PUBLIC SASH BARS, ANTIRIGALS, MOULDINGS, STALL-BOARD PLATES, &c
Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Bars, and Castiron Girders for bridges, buildings, &c. CLARK and Co., Engineers, 238, Wapping, or at 476, New Oxford-street, London.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
Beg respectfully to solicit a comparison with the Revolving Shutters now in use, or any other Makers, whatever their pretensions. The extraordinary demand, arising from the universal satisfaction given, for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, (which some thousands have been fixed in all parts of the Kingdom), having induced other parties to attempt the introduction, in the most absurd representations of quality and dishonest inventions as improvements, B and C assure their Friends and the Public that, during their most extensive use, they have not yet every really practical improvement at that skill and experience could suggest. A great reduction has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.
The Patent Metallic Sash Bars, &c. have been received and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.
SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron Copper, or Zinc.
B. and C. are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and cellar floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.
Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.
Manufacturers of Patent Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.
Estimates given, and contracts taken, in town or country. Patterns and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

LONDON: Printed by CHARLES WYMAN, of 16, Castelnau Villas in the Parish of Barnes, in the County of Surrey, Printer, at the Printing-office of J. & H. Cox, Brothers, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, May 27, 1848.

The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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ADVERTISEMENTS.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION as FOREMAN, by a good practical Bricklayer and Accountant: can be well recommended for sobriety and ability.—Address J. H., 4, Artillery-place, Westminster.

TO PAINTERS AND BUILDERS.

WANTED, by a Grainer, a Permanent SITUATION. Satisfactory references can be given as to character and abilities.—Address, post-paid, to W. R., Office of "The Builder," 2, York-street, Covent Garden.

SURVEYORS

WANTED, in an Architect's Office, a thorough practical ESTIMATING and MEASURING CLERK, capable of drawing specifications, &c. Particulars, stating references and amount of salary required, to be addressed to Y., 17, King-street, St. James's.

WANTED, by a Young Man, who has served five years to the Carpentering, a SITUATION, or he will have an opportunity of improving himself, and would assist in the office, if required. The country would be preferred to London.—Address, post-paid, to H. G., 7, New-street, Dorset-square, New-road.

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WANTED, by a respectable Young Man, of good business habits and experience, a SITUATION as CLERK. He writes a neat and expeditious hand, is quick at accounts, and quite conversant with the general routine of a builder's Office.—Address, W. D., Mr. Chas. Lucas's, Tredegarhouse, Cardiff.

TO BUILDERS AND CONTRACTORS.

WANTED, by a competent Person, who has served his time to a Builder, a SITUATION as Clerk, Foreman, or Clerk of Works. Can Estimate, Measure up Work, and make working Drawings: has had good practice in that part of the business. References can be given.—Address, A. B., 3, Quadrary, Cornhill-street No objection to the country.

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TO CARPENTERS AND JOINERS.

THE Parents of a YOUTH aged 17, wish to APPRENTICE him to the above Business, in or out-door. A premium will be given.—Address, A. B., Red Lion, Sutton, Surrey

TO SURVEYORS, BUILDERS, OR PARTIES BUILDING.

THE Advertiser wishes for a Re-engagement in a BUILDER'S or SURVEYOR'S OFFICE—experienced in measuring, Bookkeeping, estimating, drawing, &c., and the usual office routine. Address (free) to H. W. H., Office of "The Builder," 2, York-street, Covent Garden

TO ARCHITECTURAL STUDENTS.—The Authors of an extensive practical Work on POINTED ARCHITECTURE, preparing for publication, are willing to receive into their office a YOUNG GENTLEMAN, who, having completed his articles, and possessing a fine taste and feeling for Art style, is desirous of acquiring a thorough practical knowledge of it in all its varieties. He will have the advantage of travelling with the Authors and assisting to obtain materials for the work in question. The advantages offered being such as rarely present themselves to an Architectural Student, will be considered a sufficient equivalent for the services rendered. Specimen Drawings, with testimonials of completion of articles, will be required.—Apply to Messrs. BOWMAN and CROWTHER, Architects, Manchester.

RACES.—GREAT WESTERN RAILWAY. NOTICE IS HEREBY GIVEN, that on TUESDAY, the 6th June, and on THURSDAY, the 8th June, SPECIAL TRAINS will run between Paddington and Slough, for the convenience of parties attending Ascot Races. Additional Booking-offices will be opened at Paddington, and First and Second Class Tickets will also be issued at the Paddington Station for any or all of the race-days upon any previous evening; the holders of which, upon shewing them, will be admitted to the platform through the iron carriage-gates, without having to pass the Booking-offices. Tickets so taken will not require to be stamped on the return journey, but must be given up during the trains.

These tickets can also be obtained on application at the Railway-offices, 449, West Strand; 29, Gresham-street, Bank; and at Messrs. TATTERSALLS, Grosvenor-place, Hyde-park-corner, on Monday and subsequent days. Persons wishing to send Carriages or Horses to Slough or Maidenhead, for Ascot Races, must make early application at the Railway Station to secure a truck or horse-box for that purpose.

Hand-bills, giving full particulars of the trains, &c., will be ready, and may be obtained at the Railway-offices on and after the 1st June, 1848.

By order of the Directors,
CHAS. A. SAUNDERS, Secretary.

Paddington, May 26, 1848.

ASCOT RACES.—The Proprietors of the Local Conveyance Company, and the Paddington Conveyance Association, beg to inform the Public, that they have arranged for a plentiful supply of CARRIAGES to work from the Slough Station of the Great Western Railway, to Ascot and back, on all four Race Days. The fare will be 10s. from Slough to the Four-mile-post and back.—Full particulars may be obtained at the Paddington Station of the Great Western Railway, on and after the 1st June, 1848.

TO ARCHITECTS, BUILDERS, &c

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale and specimens seen at the office of the Patentees, No 152, Fenchurch-street. W. T. FULLER, Agent or retail of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; T. JONES, 262, Charing Cross, and GIBBONS and CO., 3, 30, Oxford street; also of all respectable Ironmongers.

COMPETITIONS.

NORMAL COLLEGE for WALES.—To ARCHITECTS, &c.—The Building Committee is desirous of receiving PLANS for the BUILDINGS necessary for the COLLEGE, and is authorised to offer Two Premiums for the Designs which shall be selected by the Executive Committee, viz.—For the set of plans selected as the best, 25 guineas; for the second so selected, 15 guineas; both or either to be considered the property of the Committee. The plans must be delivered to the Honorary Secretary, prior to the 1st of August next, and those which are unsuccessful will be returned free of expense. Particulars will be furnished on application to the Honorary Secretary, JAMES M. BUCKLAND, Esq., Adelaide-place, Swansea.

May 24th, 1848.

CONTRACTS.

GUILDHALL, 1st June, 1848

THE Committee for Letting the City Lands will MEET at GUILDHALL, on WEDNESDAY, the 14th day of June next, at the hour of One precisely, to receive TENDERS for LETTING on LEASE, for twenty one years from Midsummer next, a House, No. 28, on the south side of Broad-street-buildings; a House, No. 8, on the north side of Cresent-place, New Bridge-street, Blackfriars; and a House, No. 38, on the south side of Upper Thames-street. And also for letting on lease, for a term and a half years from the same Midsummer next, a House, No. 6, on the north side of Providence-row, City-road; and Three Houses, Nos. 16, 17, and 18, on the south side of Chapel-court, and on the east side of Winchill-street, Cripplegate. Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOS. SAUNDERS, Comptroller.

TO BUILDERS AND OTHERS

ALL SAINTS' CHURCH, MAIDSTONE. It is proposed to RESTAT with WAINSCOT SEATING the Parish Church of Maidstone; the Committee who have undertaken to carry the suggested works into effect, are desirous of receiving TENDERS for the performance of the same. The plan, designs of seats, specification, and conditions may be seen at the Parish Committee-room, Knightrider's-street, Maid-stone, between the hours of Ten and Four, on and after Monday, the 5th June, or by application at the office of the Architect, Mr. R. C. Carpenter, 1, Carlton chambers, Regent-street, London, during the same period, and between the same named hours. The Committee do not pledge themselves to accept the lowest or any other Tender. The Tenders to be sent and addressed to C. T. SMYTHE, Esq., the Honorary Secretary, Bre erstreet, Maidstone, on or before Wednesday, 5th July, by 12 o'clock in the forenoon.

TO BUILDERS

KENT COUNTY PRISONS, SAINT AUGUSTINE'S, CANTERBURY. Persons willing to contract for making various Alterations and Additions to the Kent County Prisons, at St. Augustine's, Canterbury, may view Plans and Specifications thereof at the office of Mr. WHICHCORD, the County Surveyor, at Maidstone, or at Saint Augustine's Prisons; and they are requested to deliver Tenders for the said works to the County Surveyor at Maidstone, sealed and marked "Tender for Saint Augustine's Prisons," before Ten o'clock in the forenoon of Thursday, the 22nd day of June next, and to attend personally at the annual general sessions, to be holden at the Court-House, at Maidstone, at One o'clock in the afternoon on that day. The Court will not accept the lowest tenders unless approved of in all respects. Security will be required for performance of the contract and the sureties proposed must be named in the tenders.

H. A. WILDES, Deputy Clerk of the Peace.

Maidstone, May 22, 1848.

CONTRACTS.

TO JOINERS AND ALL TRADES CONNECTED WITH BUILDING

THE Directors of the GROVE BUILDING SOCIETY request TENDERS for the different WORKS required in the ERECTION of ONE HUNDRED VILLA RESIDENCES. The Drawings, Specifications, Agreements, Conditions, and Forms of Tender can be seen at "The Office of Works," Broadway corner of "The Grove," Hammersmith. The first Subscription Meeting is fixed for Monday, 12th June, at the British Hotel, Charing-cross. By order of the Board,

W. C. ROUSE, Secretary.

SUDBURY UNION WORKHOUSE.—TO BUILDERS. Contractors desirous of TENDERING for the ADDITIONS and ALTERATIONS proposed to be performed at the above Building may inspect the Plans and Specification at the Board-room of the Workhouse, Sudbury, Suffolk, from the 7th of June to the 21st inclusive. TENDERS to be delivered at the Workhouse on or before THURSDAY, the 22nd of June, at Ten o'clock, addressed to the Board of Guardians and marked, "Tender for Building."—Approved securities will be required for the due performance of the works.

JOHN BROWN and ROBERT KERR, Architects.

Norwich, May 20, 1848.

TO ARCHITECTS.

THE GUARDIANS of the POOR of the ERPINGHAM UNION are desirous of receiving PLANS for the ERECTION of a NEW WORKHOUSE, sufficient to build for persons, men, women, and children, of each class following, to the regulations of the Poor Law Board. The sum of £ will be paid to the person whose plan shall be approved by the Guardians, the Poor Law Board, unless the architect shall be hot after employed in the erection of such workhouse, in which case he shall be paid a commission for his services as the Guardians may then determine. Such plans to be forwarded to the Clerk on or before the 15th day of June next. By order of the Board,

Southrepps, 31st May, 1848. JAS. S. PLUMBLY, Clerk.

TO BUILDERS

PERSONS desirous of TENDERING for the WORKS required to be done in ERECTING CARCASS of DWELLING HOUSE, and BUILDING and DRESSING WAREHOUSE, FACTORY, STABLING, CART-SHEDS and MANUFACTURING PREMISES, on Ground adjoining Bellingham's Distillery, east side Queen's-road, Hackney, for Mr. Thomas Bartholomew, are informed that the Plans and Specification are now prepared, and may be seen, and all requisite information obtained, between the hours of Ten and Four, at the office of Mr. JOHN CLARKE CATLING, Architect, No. 9, Middleton-road, Dalston. Sealed tenders to be delivered at Seven o'clock p.m. on Thursday, the 8th day of June. Mr. Bartholomew does not pledge himself to accept the lowest, or any other tender.

SAINT GILES-IN-THE-FIELDS and SAINT GEORGE, BLOOMSBURY.—To Stone Merchants, Sewer Masons, Scavengers, Rate Collectors, and Gaslight Fitters. NOTICE IS HEREBY GIVEN, that the Committee for Paving, Cleansing, and Lighting these parishes will meet in the Vestry-room of St. Giles-in-the-Fields, on Thursday, the 8th day of June next, at Ten o'clock in the forenoon precisely, to receive proposals from such person or persons as may be willing to CONTRACT for all or any of the following MATERIALS, pursuant to orders to be given by the Committee namely, for supplying the Committee with the best new squared Aberdeen, Mount Sorrell, and other Granite, of certain widths and depths, at per ton for each sort; also best Eland-edge, Yorkshire, and other foot paving, at per yard superficial. A full particular of the several widths and depths, and thickness of the Granite and York to be supplied, may be had by applying at the Clerk's Office, No. 21, Hart-street, Bloomsbury-square; or of Mr. Birch, Surveyor to the Committee, at his Office, No. 23, Little Russell-street. Also the best Yellow screened binding Gravel, at per yard cube. The said several last-mentioned articles to be delivered in such quantities, at such times, and in such places within the said parishes, or either of them, as the Committee may direct. Also to receive proposals and contract for Carriage for the Committee within the parishes, of Old Stone, Gravel, Sand, &c., as per ton. The cart used for this purpose must not measure less than 40 cubical feet. Proposals for the above to be for the term of one year from Midsummer next. Also to receive proposals from such person or persons as may be willing to contract for one, two, or three years, from Midsummer next, for Cleansing, daily, and twice, or oftener if required, in every week, certain streets and places in parts of the parishes of St. Giles-in-the-Fields and St. George, Bloomsbury, as first were fully be seen at the clerk's office; and also for cleansing once in every week, or oftener if required, the remainder of the squares, streets, and other places within these parishes (Lincoln's-inn-fields and the streets and places built upon land belonging to the Foundling Hospital excepted); and for taking away the Dust and Ashes, &c., from the houses and buildings of the same respectively; and the proposals for the last-mentioned works are, in addition, to contain two separate and distinct tenders,—namely, one tender for cleansing the squares, streets, and other places alone, and another distinct tender for the privilege of taking away the dust and ashes, &c., alone. And also to receive proposals from such person or persons as may be willing to contract for one, two, or three years, from Midsummer next, for supplying the Committee with new Cast Posts and columns, Bracket Irons, Copper Lanterns, Service Pipes, Fittings, &c., and for fixing the same; and also for removing the said gas-posts and columns, &c., and for re-fixing the same complete in such situations as may be required by the committee; the tenders for the last-mentioned articles and works to contain the fixed prices to be charged for the said several respective articles and works, in accordance with the specification to be seen at the clerk's office, and not as estimates or surveys. The severance of contracts and persons sending tenders are required to attend at the Vestry-room at the time of the opening. The contractor or contractors not to let or assign the same; and also for work or works to be done, or any part or parts thereof respectively, without the special consent of the committee. Security to the satisfaction of the committee will be required for the performance of the several contracts, and the names, places of abode, &c., of the persons to be offered as sureties to be sent with the proposals, sealed, to be delivered at the office named by the day above mentioned. Printed particulars for the persons proposing for the supply of Stone, Gravel, and Cartage, may be had of the Clerk or Surveyor as above.—By order of the Committee,

ROBERT FINNIS, Clerk to the Committee.

May 19, 1848.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King street, Baker street, Portman-square. Cash only.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200 feet cases, delivered free in London for 43s. 6d. per case, or cut to size, at per foot. Address, 87, Bishopsgate-street Without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK.
THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 1s., Carriage, 12s. per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper-hangings from 1s. per piece upwards, of very superior description.

GREAT REDUCTION IN THE PRICE OF PLATE GLASS.
THE UNION PLATE-GLASS COMPANY.—Pocket-nook, St. Helen's; 99, Hatton garden, London; No. 13, York street, Mosley street, Manchester; and 26, North John-street, Liverpool, inform Builders and the public generally, that they are now selling ordinary glazing sizes of plate glass from 2s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses and conservatories, at 8d. to 1s. per foot. RICHARD YATES, Secretary.

UNION PLATE-GLASS COMPANY.—Architects, Builders and the Trade generally are solicited to inspect the quality, colour and substance manufactured by this Company. To encourage the use of Plate Glass for glazing, a further reduction in price has taken place on the quality used for the purpose.
ROUGH PLATE GLASS supplied ¼, 3-8, ½, and ¾ inch thick. Particular attention is requested to the superior colour and evenness of this article.
LONDON WAREHOUSE, 99, Hatton Garden, Holborn.
H. CHRISTIE, Agent.

STAINED GLASS.—To the Clergy and Architects. Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other Saints (some having canopies and pedestals), with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tables.
Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 13, Foley-place, Langham-place.

HERRING'S PATENT SAFETY WINDOW. No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sunblind; all simple, cheap, and effective.—Apply for licenses, and to inspect the same, to HERRING'S Patent Steam Bed Feather Factory, 1, King street, London.

CHAS. WM. WATERLOW,

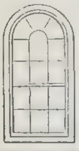




MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well seasoned materials, superior workmanship, lowest prices.—Upwards of 500 Doors and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worthy the notice of all engaged in building.

SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK,

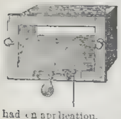




1, Amwell street, Clerkenwell, near the New River Head,
Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner, French polished, and carefully packed for the country. A full list of prices forwarded by return of post, to any part of the country.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.
BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for stained and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 126, Cumberland Market, Regent's park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, Stove Maker to her Majesty, 20, Poland street, Oxford street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.
SMOKY CHIMNEYS—NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

VENTILATION.—FAIRS' PATENT TRANSPARENT VENTILATORS. The progressive increase in the use of this invention during several years' trial, in which it has had to contend with many imitations, encourages the Proprietors to recommend it with confidence to the Public generally, and to the Building Trade in particular, to whom they are now enabled to offer greater inducements for its adoption. For the CURE of SMOKY CHIMNEYS ... the agreeable Ventilation of Apartments, Offices, &c., this invention is unequalled; and its general adoption in the Royal Palaces, the Public Offices, Banking-houses, Insurance Offices, and in the dining rooms and other apartments in the houses of the nobility and ...
BOSWELL and TORPE, No. 26, Lombard-street; and at the Manufactory, 15, Gillingham street, Pimlico.
N.B. ... Wind...

TO BUILDERS AND OTHERS.
AN Eligible Site for Building a Terrace, with an uninterrupted Frontage on the river Thames, and a considerable depth for gardens in the rear, TO BE LET, in the rapidly improving parish of Hammersmith, or in plots for one or more Houses to responsible parties. A plan may be seen, and particulars obtained at 1, the Grove, Broadway, Hammersmith, or at the offices of Messrs GARLAND and CHRISTOPHER, Architects, Hanover Chambers, Buckingham-street, Adelphi.

SHEAR LEG, MAST, OR BEARER FOR RAILWAY VIADUCT (Goodwin's Patent). TO BE SOLD BY PRIVATE CONTRACT. It is well seasoned, 90 feet long, 32 inches diameter, made of the best Dantzic timber, and ready for hooping.—To view the same and for price and further particulars, apply to Mr BLUETT, Mast Maker, Coal-harbour, Blackwall.

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

NEW ZEALAND COMPANY'S SHIP for NELSON, NEW PLYMOUTH, WELLINGTON, and OTAGO, in NEW ZEALAND. The first-class passenger-ship BERNICIA, 548 Tons, now lying in the London Docks, will be despatched by the New Zealand Company for the above Settlements from the port of London, on MONDAY, the 3rd of July next.
Rates of Passage, Provisions included, viz.:—

For each Person.	Chief Cabin.	Fore Cabin.	Steerage Cabin.	Steerage Berth
14 Years old, and upwards	45	25	20	15
7 Years old, and under 14......	27	15	12	8
1 Year old, and under 7........	18	10	8	6
under 1 Year old	0	0	0	0
	Guins.	Guins.	Guins.	Guins.

The Company will appoint an experienced Surgeon, and provide proper medicines, medical comforts, and an ample dietary for each class of passengers.
For freight, passage, or further information, apply at New Zealand House; or to Mr JOSEPH STAYNER, Broker, 110, Fenchurch-street, London.—By order of the Court of Directors,
THOMAS CUDBERT HARINGTON.
New Zealand House, 9, Broad-street-buildings,
London, 22nd, May, 1848.

PATENT DESICCATING COMPANY'S OFFICES are REMOVED from No. 28, New Broad-street, to No. 41, Gracechurch-street, City.

THE ROYAL SHIELDS OF ENGLAND.—A COMPLETE SERIES of the ROYAL SHIELDS of ENGLAND, ACCURATELY EMBLAZONED, with all the Queens, from the Norman Conquest to the present Reign, adapted for a cornice to a hall or gallery, TO BE SOLD VERY MODERATE.—May be seen at WM. PARTIDGES, No. 122, Great Portland-street, Cavendish-square.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

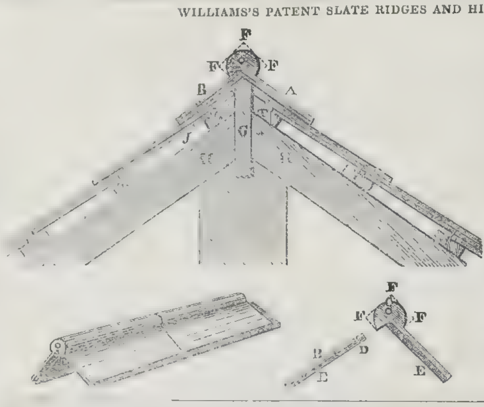
F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

Her Majesty's Woods and Forests,	Honourable Board of Ordnance,
Her Majesty's Commission of Customs,	Her Majesty's Estate, Isle of Wight,
Honourable East-India Company,	Royal Botanical Gardens, Regent's Park.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully entreated to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

WILLIAMS'S PATENT SLATE RIDGES AND HIPS.



THE above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.

Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere road Lambeth, London.

TAAFFE'S PATENT, for a NEW METHOD of SLATING and ROOFING HOUSES, &c., whereby much of the over-lapping of the slates is avoided, as they only lap one way about three inches, and abut the other. The larger the slate the cheaper and more noble the work.

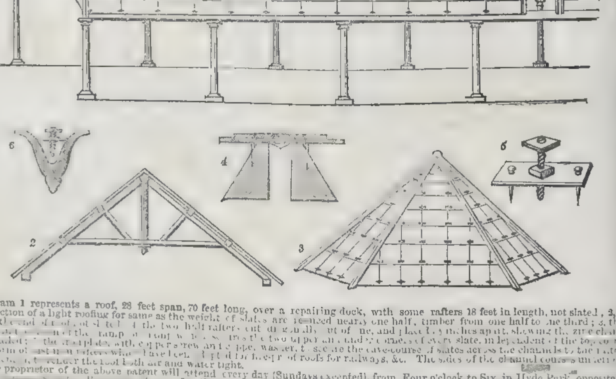


Diagram 1 represents a roof, 28 feet span, 70 feet long, over a repairing dock, with some rafters 18 feet in length, not slated; 2, the construction of a light roofing for same as the weight of slates are reduced nearly one half, timber from one half to one third; 3, three ... the channel ... of every slate, independent of the top corners ... cave-course of slates across the channels to the rafters; ... are ... to render the roof both air and water tight.
The proprietor of the above patent will attend every day (Sundays excepted), from Four o'clock to Six, in Hyde Park, opposite the ... for the purpose of explaining the roof completed for that Society in August last, which the ... of the invention, and its utility in various ways; to take orders for the ... EDWARD STREET, PORTMAN SQUARE, LONDON, and 1, GREAT BRUNSWICK STREET, DUBLIN.
N.B. The advantages are too numerous to set forth by advertisement; suffice to say, the principle is very much admired for its LIGHTNESS, ELEGANCE, DURABILITY, ECONOMY, &c. &c.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe, 4d. per foot run, including fixing.
2½ ditto 4½ ditto ditto.
3 ditto 5d. ditto ditto.
3-inch eaves gutter, 5½d. ditto ditto.
4 ditto 4½d. ditto ditto.
4½ ditto 5d. ditto ditto.

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

THE REGISTERED VALVE, HYDRAULIC RAMS, FOUNTAIN BASINS, in Iron; Water-wheels, Steam-engines, &c.; Pumps for deep Wells, &c.; Liquid-manure Pumps; Fountain Jets of every design; Douche Baths, and every other description, erected and tested on scientific principles. Buildings heated by Hot Water; Kitchens fitted up in the most economical plan, both as regards Fuel and Trouble; Table Fountains to play Scented Water during Dessert; Analysis of Water from 7s. 6d. to 5l. 5s.; by FRAZEMAN ROE, Hydraulic Engineer and Fountain Maker, No. 70, Strand, London.—Wells sunk and boring executed in town and country.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER TAPS. This application of the Vulcanized Caoutchouc (prepared expressly for these valves, with layers of canvas amalgamated therein), having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First, The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or out fast for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence.
THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

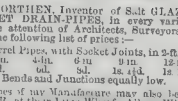
UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Ray-street, Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common cocks. The waterway, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required for ordinary situations, the balls can be made smaller and the rods shorter than usual.
BIB, STOP, and other COCKS, embracing improvements of equal importance are made on the same principle.
Underhay's Patent Sheet Stool Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.
We beg to submit one of the many testimonials in our possession:—
Loddon Works, near Birmingham
Dear Sir, We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action. We are, yours obediently,
Mr. F. G. Underhay. FOX, HENDERSON, and Co.
Messrs. W. CURTIS and Co., Grosvenor-wharf, Thames-bank.
Messrs. T. CURTIS and CO., Thames-bank.
also many other eminent firms who have used large quantities of them, will vouch for their being superior to any other articles applied to the same purpose.

SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAP,
For Sewers and Drains of all kinds.
Registered January 8th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gradient.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and COBBE, Engineers, 26, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

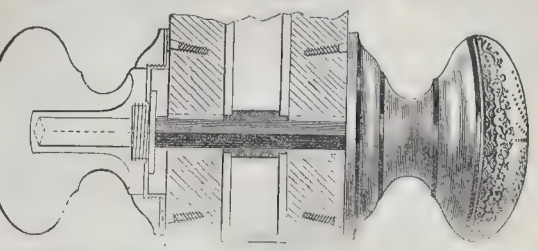
2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 4d.	1s 10d. per foot

Bends and Junctions equally low.

N.B. Drain-pipes of any Manufacture may also be obtained of Messrs. ROSIER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland road; and Limekiln, Limehouse.

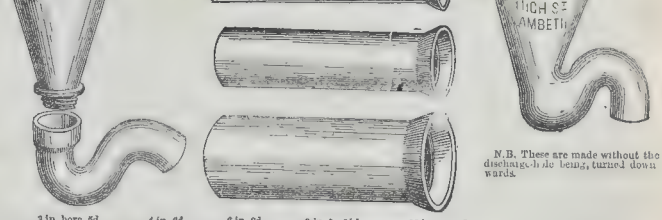
By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knobs is not required. The manner by which the knobs are secured to ordinary mountings, and being fast axes, prevent the disagreement of the door which frequently occurs when the common rosette is used.
The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.
They are made to suit every style of decoration, in Paua and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple Buffalo Horn, &c. &c., en suite with Finger plates, Bell pulls, and Escutcheons. May be obtained of all Ironmongers or of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Furnishing Ironmongers, 81, 83, 85, Wych-street, Strand, London.
N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,
BENDS, JUNCTIONS, TRAPS, &c., 36, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.

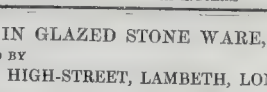


3 in. bore, 6d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

N.B. These are made without the dischargeable bend, turned downwards.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths. In 2 feet lengths.

2 in.	3 in.	4 in.	6 in.	9 in.	12 in	15 in.	18 in. bore.
4d.	5d.	6d.	8d.	1s 1½d	1s. 10d.	3s.	4s. per foot.

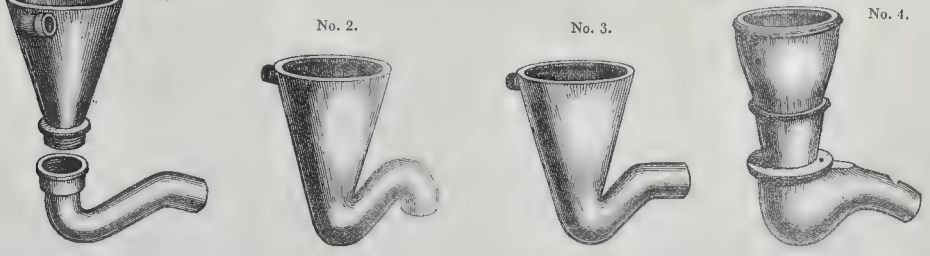
BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH.
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



The importance of a system of thorough cleaning and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.
The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

HALKIN WHARF, PIMLICO.

ON SALE, a quantity of SLATE SLABS, CHIMNEY-PIECES, and SLIPS for the Manufacture thereof. Parties wanting these articles would be liberally dealt with, as the present stock is to be cleared off previous to new arrangements.

ORGAN TO BE SOLD, suitable for a small church or a chamber. Built by Elliot. Compass from GG to F in alt., comprising stop and open diapason, principal, flute, fifteenth, dulciana, and trumpet. Three shifting movements, and an octave of pedals.—To be viewed from Twelve till Four o'clock, at 14, Nottingham place

TO ARCHITECTS AND GENTLEMEN

TO BE SOLD, for a moderate sum, a massive metal EAGLE, elaborately chased; designed for a devotional reading desk. Any Gentleman requiring such for a church will find it a favourable opportunity.—To be seen at SNELL and Co.'s, Upholders, 97, Albemarle-street, Piccadilly.

TO EXCAVATORS, CONTRACTORS, MINING AND WATER COMPANIES

TO BE SOLD, a 20-Horse Condensing STEAM ENGINE and Boiler complete, with capital Force Pump, in good working order, admirably suited for temporary or permanent pumping work. This engine will be sold at such a low price as will induce purchasers.—Apply to Mr MANN, Phœnix Company, south west side of the bridge at Vauxhall.

PROFESSIONAL CHAMBERS, Pall Mall. Superior PROFESSIONAL CHAMBERS, with every accommodation for residence if required, TO BE LET on reasonable terms. Apply to the Housekeeper, on the premises, No. 58, Pall Mall

A BARGAIN.—To Builders and Others.—An UNFINISHED HOUSE TO BE SOLD or TO BE LET, in consequence of the death of the builder, situated at Campden Hill, Kensington, is well built, contains 11 rooms, three-parts finished; and is held on lease for 90 years, at a low ground rent. The adjoining houses have all been let or sold as soon as ready for occupation. A part of the purchase-money may remain on security, or it may be let in its present condition. Apply to Messrs JOHNSTONE and JEANES, 67, New Bond-street.

BUSINESS PREMISES TO LET, comprising (on Plan) 7,000 Square Feet of FIRE-PROOF BUILDINGS, well fitted and drained; and 7,000 Square Feet of OPEN YARD, suitable for a Builder, Cabinet-maker, or for warehousing Goods or Furniture, &c. With or without a commodious Dwelling-house.—Apply to Mr. GEORGE GOULDSMITH, No. 3, Pond street, Belgravesquare.

TO BUILDERS.

TO BE DISPOSED OF, an Old-established BUSINESS, in one of the most flourishing manufacturing districts in the West of England; this concern offers an excellent opportunity for a young Man of capital, who will be treated with on liberal terms, as the present partner is retiring in consequence of ill-health. An immediate successor is desirable.—For particulars apply to Mr. JONES, Estate Agent, 139 a, Cheapside.

TO BUILDERS AND OTHERS

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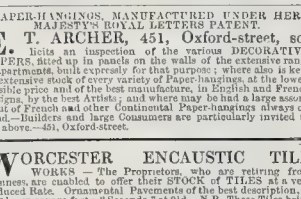
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CLERK WANTED.—NOTICE IS HEREBY GIVEN, that the Commissioners for improving the parish of Bermondsey, in Surrey, will meet at the Workhouse, in Russell-street, in that parish, on TUESDAY, the 20th day of June instant, at Six o'clock in the evening precisely, to receive and consider the testimonials of any person who may desire to fill the situation of Clerk in the office of the Clerk of the Works to that Commission. The salary is 100*l.* per annum. No application will be considered unless accompanied by testimonials that the applicant has a thorough knowledge of Book-keeping and accounts. The person appointed will be required to devote the whole of his time in the service of the Commission.—Further particulars may be obtained after Tuesday next, upon application at the Depôt, in Maltby-street, Russell-street, Bermondsey.

GEORGE and GEORGE H. DREW,
Clerks to the Commissioners.

Bermondsey-street, June 7, 1848.

CONTRACTS.

HALSTED UNION.—TO BUILDERS, BRICKLAYERS, AND CARPENTERS.

THE time for RECEIVING TENDERS for contracting for the execution of the Works, at the Halsted Union Workhouse, is POSTPONED until Friday, the 16th of June instant, at Twelve o'clock at noon.—By order of the Board
Halsted, June 2, 1848. O. HUSTLER, Clerk

TO BUILDERS.

PERSONS desirous of CONTRACTING for the ERECTION of a SCHOOL-HOUSE and MASTER'S DWELLING at BELHAM, near Midden Hall, in the county of Cambridge, may see the drawings and specification at the Ball Inn, Newmarket. All necessary information can be obtained of Messrs. ALLOM and CROSSE, Architects, 14, Marlstreet, Bloomsbury-square, London; or of the Rev. E. P. DAVIS, at Isleham. Tenders to be sent in to the Architects on or before Saturday, the 1st day of July, endorsed "Tender for Schools at Isleham." The lowest tender will not be necessarily be accepted.

N.B. The buildings must be in a forward state by the 1st of October.

TO ARCHITECTS.

THE GUARDIANS of the POOR of the ERPINGHAM UNION are desirous of receiving PLANS for the ERECTION of a NEW WORKHOUSE, sufficient to hold 5 [illegible] persons, women, and children, properly classified according to the regulations of the Poor Law Board. The sum of 6*l.* will be paid to the person whose plan shall be approved by the Guardians and the Poor Law Board, unless the architect shall be hereafter employed in the erection of such a workhouse, in which case he shall be paid a commission for his services as the Guardians may then determine. Such plans to be delivered at the Clerk on or before the 14th day of June next.—By order of the Board,
Southrepps, 23rd May, 1848. JAS. S. PLUMBLY, Clerk.

SOUTH-EASTERN RAILWAY.—To BUILDERS. TENDERS for COTTAGES. Persons desirous of Tendering for the Erection of a considerable number of Cottages in blocks along the line, may see the drawings and specifications at the Architect's Office, Grosvenor Station, on Saturday, June 10th, to Tuesday, June 20th, inclusive, between the hours of Ten and Six. Sealed Tenders, addressed to the Chairman of the South Eastern Railway Company, to be marked "Tender for Cottages," are to be delivered at the Architect's Office aforesaid, on or before Wednesday, June 21st, at Ten o'Clock in the forenoon.—The Directors do not pledge themselves to accept the Lowest Tender.

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CHARLES HORTON PULLEY, Clerk.

Upper Homerton, and 28, Great Winchester-street, Old Broad-street.

CONTRACT for BATHS and WASHING PLACES. TO PLUMBERS and SLATERS.—HACKNEY UNION. The Board of the Poor of this Union are ready to receive TENDERS FOR BATHS AND WASHING PLACES, at the Hackney Union Workhouse, a Specification of which lies there, and also at the Office of Mr. ARTHUR ASHPITEL, the Architect, No. 8, Crown-street, Broad-street, for inspection. Sealed Tenders to be sent to the Clerk, endorsed "Tender for Baths and Washing Places," on or before TUESDAY, the 13th day of June instant, which will be opened by the Board at the next meeting, at Eleven o'clock, when the persons tendering, or some competent person from them, must attend to answer when called for. The Board do not bind themselves to accept the lowest or any other Tender sent in, if they do not see fit. Dated the 2nd day of June, 1848.—By order of the Board,
CHARLES HORTON PULLEY, Clerk.

Upper Homerton, and 28, Great Winchester-street, Old Broad-street.

TO BUILDERS AND OTHERS.

PARTIES desirous to TENDER for the ERECTION of NEW SCHOOLS at MAYFIELD, near Ashborne, Derbyshire, may inspect the Plans and Specification at Mr. HOBSON'S Stationery Warehouse, High-street, Ashborne; and Tenders for the same must be sent to the Architect, Mr. C. W. GREFORD, 12, Waterloo-street, Birmingham, on or before the 25th of June.

GUILDHALL, 6th June, 1848.

THE Committee for Letting the City's Lands will MEET at GUILDHALL, on WEDNESDAY, the 14th day of June inst., at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for twenty-one years from Midsummer next, a House, No. 14, on the north side of Broad-street-buildings; and premises behind the same; a House, No. 28, on the south side of Broad street-buildings; a House, No. 6, on the north side of Crescent-place, New Bridge-street, Blackfriars; and a House, No. 38, on the south side of Upper Thames street. And also for Letting on Lease, for nineteen and a half years (less three days) from Midsummer next, a House, No. 6, on the north side of Providence-row, City-road; and Three Houses, Nos. 16, 17, and 18, on the south side of Chapel court, and on the east side of Windmill street, near Finsbury-square.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOS. SAUNDERS, Comptroller.

NOTICE is HEREBY GIVEN, that a GENERAL QUARTERLY COURT of the GOVERNOR and BOARD of DIRECTORS of the CHARITABLE FUND for the relief of Aged and Decayed BUILDERS' FOREMEN will take place on WEDNESDAY EVENING NEXT, June 14th, at the Bay Tree Tavern, St. Swithin's-lane, for the purpose of auditing the accounts and other general business.

W. ALLARD, Secretary.

THE ANNIVERSARY DINNER of the BUILDERS' BENEVOLENT INSTITUTION will be held at the FREEMASONS' TAVERN, on WEDNESDAY, July 19; Lord ROBERT GROSVENOR, M.P., in the Chair.

The following Aldermen and Gentlemen have already kindly consented to act as Stewards:—

Lord Dudley Stuart, M.P.
Sir Benjamin Hall, Bart., M.P.
Samuel Morton Peto, Esq., M.P.
David Salomans, Esq., Alderman.
William Lawrence, Esq., Alderman.
T. Grissell, Esq., F.S.A.

T. Allen, Esq.	W. Harris, Esq.
T. A. Archer, Esq.	W. Herbert, Esq.
T. Cozens, Esq.	W. E. Kendall, Esq.
G. Chamberlain, Esq.	J. Leaf, Esq.
R. Curtis, Esq.	J. Locke, Esq.
E. Curtis, Esq.	G. Locke, Esq.
H. Bers, Esq.	R. J. Lillie, Esq.
S. Bird, Esq.	T. Nesham, Esq.
G. Bird, Esq.	W. Norris, Esq.
J. Bird, Esq.	D. Nicholdson, Esq.
John Bird, Esq.	S. Pe[illegible]ce, Esq.
A. Burstall, Esq.	P. Palmer, Esq.
A. Burstall jun., Esq.	G. Pownall, Esq.
G. Brown, Esq.	R. Richardson, Esq.
W. Brass, Esq.	S. J. Stephens, Esq.
John Ebbs, Esq.	G. S. Smith, Esq.
D. Ferguson, Esq.	G. Smith, Esq.
G. G. Gutch, Esq.	R. Turnbull, Esq.
Jash. M'Gill, Esq.	J. White, Esq.
W. R. Gretten, Esq.	J. White, jun., Esq.
T. Hockley, Esq.	G. Wigg, Esq.
Josh. Hines, Esq.	C. D. Warrington, Esq.

Dinner on Table at Five o'Clock. Tickets, 20*s.* each, to be had of the Stewards, Freemasons' Tavern, and at the Office of the Institution, Pound House, Broadstreet, Golden square.

WILLIAM GRUBB, Secretary.

PUBLICATIONS.

19, Hollis-street, Cavendish square.

NEW BOOKS SENT FOR PERUSAL (BY RAILROAD AND STEAM VESSELS)

To all parts of the Coast and Kingdom, from Bull's English and Foreign Public Library, Hollis-street, Cavendish-square, London. Terms, gratis, and post-free on application. An unlimited supply of New Books is furnished to the Library, which, as soon as the first demand has been satisfied, may be purchased by the subscribers, if desired, at Half Price.

The DUPLICATE CATALOGUE of such works at present on sale, is now ready, and may be had gratis and post-free on application.

THE YOUNG SURVEYOR'S PRECEPTOR, by JOHN REID, Surveyor, is now completed, and may be had in Parts, price 2*s.*; or neatly bound in cloth, and lettered, price 3*s.* 6*d.*

This useful work contains full instructions for measuring and estimating every description of Builders' work, preparing Specifications, and much other valuable information never before published.

J. BANEVI, 11, Drake-street, Red Lion-square, Holborn; SIMPKIN and MARSHALL, Stationers' Hall-court; and all other Booksellers.

SHEAR LEG, MAST, OR BEARER FOR RAILWAY VIADUCT (Goodwin's Patent).—TO BE SOLD BY PRIVATE CONTRACT, It is well seasoned, 99 feet long, 33 inches diameter, made of the best Dantzic timber, and ready for hooping.—To view the same and for price and further particulars, apply to Mr. BLUETT, Mast-Maker, Coal-harbour, Blackwall.

FIRE BRICKS.—WARD and HART, 16, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles. Lime, sand, gravel, bricks and tiles of every description; Dutch clinkers, house sand (red and white), moulding ditto, &c. &c. Fire Bricks continually unloading in the river, and a considerable assize to purchasers wanting large quantities taking them from the ships.

WEST of LONDON and WESTMINSTER [illegible]

ARCHITECTS', ENGINEERS', and [illegible] FIRE and LIFE INSURANCE COMPANY, 69, [illegible] STREET, [illegible] SQUARE, and 4, WHITEHALL-PLACE.

TRUSTEES.

Thos Leverton Donaldson, Esq.	Anthony Salvin, Esq., F.S.A.
Samuel Grimsdell, Esq.	George Smith, Esq., F.S.A.

The rates of Fire and Life Insurance are as low as can be effected. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left on credit, if required, for seven years or more, at the end of which time it may be paid off, or the assurance be allowed to cease, at the option of the assured.

Prospectuses, forms of proposal, &c., may be had at the Office, 69, [illegible] STREET, [illegible] SQUARE.

Local Boards of Agents for the Country.

AGENTS WANTED for those towns for which appointments have not been made.

JOHN REDDISH, Manager.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.

DIRECTORS.

Henry Fredk. Berens, Esq., Upper Gower-street.	Jos. Henry Goodhart, Esq., Upper Tooting.
William Cabell, Esq., Newington-green.	Thomas Grissell, Esq., Yorkwood, Lewisham.
Thomas Newenham, Esq., M.P., Portman-square.	James Hunt, Esq., 31, Parliament-street, Westminster.
George Lovell Lethbridge, Esq., Bow-street.	John Yeoell Lethbridge, Esq., Greenwich Hospital.
William Evans, Esq., Cheshamstreet, Belgrave-square.	Edmund Lucas, Esq., Millbank-street, Westminster.
William Freeman, Esq., Millbank-street.	James Lys Seager, Esq., Millbank-street.
Francis Fuller, Esq., Abingdon-street, Westminster, and Croydon.	John B. White, Esq., Millbank-street, Westminster.
	Joseph Carter Wood, Esq., Artillery-place, Westminster.

Particular attention is invited to the rates of this Society, for the assurance of sums payable at Death IMMEDIATE ANNUITIES and DEFERRED ANNUITIES, also for Endowments for Children, their attaining the age of Twenty-one or Marriage, and providing for the Deferred Time in their Legal Minority, by this Society.

Temporary Policies of Assurance granted to BORROWERS in BUILDING SOCIETIES, also offering Peculiar Advantages to the Members of those Societies, and securing against the heirs the entire Debt on death.

Prospectuses and further information, free of expense, from

ARTHUR SCRATCHLEY, Actuary.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79, King William-street, City.

The CHISELHURST Freehold Park, Entrance, and Chapel [illegible] Road, Chairman.

RICHARD HARTLEY KENNEDY, Esq., late Pleasure General Engineer, Bengal Service, and Director of the Oriental Bank, Resington Lodge, Notting-hill, Deputy-Chairman.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

This Society [illegible] on the most approved principles of the mutual assurance, the whole of the profits arising from the assurances effected on the participating scale [illegible] of the first five years, [illegible] periods, with the option of continuing for the remainder of life.

Also invalid lives, whether afflicted with mental or bodily infirmities.

All [illegible] of naval and military officers and civilians in India, in any of the Colonies, or other parts of the world.

Annuities granted, and endowments for widows and children.

London, 14, Waterloo-place. A. R. IRVINE, Manager.

The following example shows how small a weekly sum will secure the benefit of Life Assurance for [illegible]

WITH PROFITS.	WITHOUT PROFITS.
At age [illegible] about 10d per week.	At age 15 about 8d per week.
" " 18s. "	" 30 " 10d. "
" " 18s. 4d. "	" 40 " 1s. 1d. "

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.—Established in [illegible]

Invested capital, £250,000

Annual Income [illegible] Bonuses declared, £74,000

Claims [illegible] settlement in the three last years, £67,000

Policies [illegible] Life [illegible]

DIRECTORS.

The Hon. Arthur Kinnaird, Chairman.

The Hon. [illegible] Deputy-Chairman.

Henry B. Alexander, Esq.	William Cotter, Esq.
Henry Bevan, [illegible] Esq.	[illegible] Rawlins, Esq.
George Dorrien, Esq.	James Pedder, Esq.
Alexander Henderson, M.D.	Frederick Squire, Esq.
William [illegible]	[illegible] Thomas Steane, Esq.
Sir Richard D. King, Bart.	Capt. W. J. La Williams

John A. Beaumont, Managing Director.

[illegible]

John Nassau, M.D., F.S.S., 25, Upper Montague-street, Montague-square.

The premiums are the lowest consistent with safety, and in the principal Life Offices, the rate without bonus is lower than that of most other offices.

The bonuses are added to the policies, or applied to the reduction of the next premium.

Policies issued by this Office are purchased at their full value; or [illegible] from [illegible] can afford [illegible] to the existing [illegible]

If a party neglect to pay for the renewal of his Policy, he may [illegible] at any time within twelve months, upon payment of [illegible]

The profits, subject to a trifling deduction, are divided among the [illegible] insured [illegible] in which [illegible] insured a share proportionate to the amount of the premiums he has [illegible]

In addition to the above [illegible] the Directors have determined to adopt the principle of allotting a prospective bonus to policies lapsing between the septennial periods of division, in order [illegible] the [illegible] may participate equally in the profits of the society.

[illegible] PAID FOR THE PRESENT [illegible] BONUS ADDED FOR THE PRESENT [illegible] TIME

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original insurance	Total sum payable, to which future bonuses will be added.
		£. s. d.	£. s. d.	Per cent	£ s. d.
[illegible]	[illegible]	[illegible]	2 [illegible]	[illegible]	5,5 0 2
[illegible]	[illegible]	[illegible]	9 2 1	[illegible]	1882 12 1
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2928 6 6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible] Forms of Proposal and Prospectuses may be had upon application [illegible] Agents throughout the United Kingdom; and at the Head Office, 50, Regent-street.

Cleanliness is necessary at all times conducive to health, and this [illegible] promoted by substituting for the [illegible] and white lead.

STEPHENS' DYES for STAINING [illegible] Colour, and [illegible] of the [illegible] and [illegible] and [illegible] are [illegible] the same [illegible] and [illegible] The Colour may be [illegible] HENRY STEPHENS, 68, Fleet-street, and 136, Kingsland Road, London, in the form of [illegible] Packets, 2s. 6d. per gallon. The Oak Colour can be obtained in powder at 2s. per gallon. The Oak Colour can be obtained in powder at 2s. per gallon, which dissolves in water to form the liquid, and 1 lb. will make [illegible] gallons of stain. N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent-garden, London; and by HOPKINS and PURVIS, 20, Great Queen-street, &c.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission (from Eight o'clock till Seven), One Shilling. Catalogue, 1s.

JOHN PRESCOTT KNIGHT, R.A., Sec.

TO ARCHITECTS [illegible] COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the [illegible] of Reading in Water Colours, and Author of "Landscape Studies," "Architectural Sketches of Paris, Ghent, Rouen, &c." and of "Landscape Studies," offers his services in Tinting Backgrounds, Landscape, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S [illegible] PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the [illegible]

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster bridge, London

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.	Hothouses.	Covering of Railroad and other Arches.
Kitchen Floors, particularly where it is essential to keep damps from rising.	Bar Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tan-room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Dairies, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company, that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been [illegible] with the Asphalte has resulted from the substitution of a spurious one.

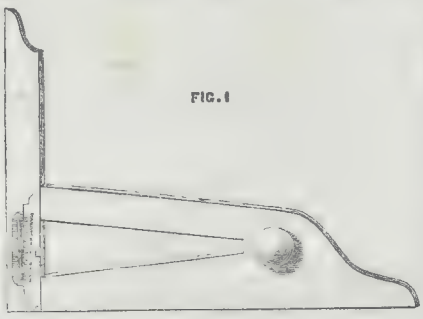
I. FARRELL, Secretary.

Seyssel Asphalte Company, Stangate, London.

BLUNDELL'S BUILDERS' SQUARE.

THIS is an instrument of very simple construction, and intended to supersede the Square and Plumb-bob used by builders and others; and also for the architect and surveyor to ascertain readily and correctly the angles of skew-backings, such as roofs, columns, gutters, &c.

FIG. 1



It consists of a spirit-tube of peculiar form set in a frame having two straight sides, the one at right angles to the other, and an index affixed, divided into degrees and half degrees.

Fig. 1 represents the square complete; it may be observed that the spirit-tube is imbedded, and no part left visible except a portion at the index.

FIG. 2

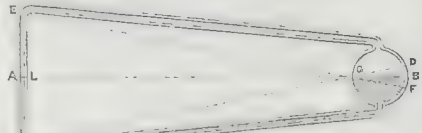


Fig. 2 is a longitudinal section of the spirit-tube, the side EK is that against which the index is placed; the line AB is parallel to the bottom of the square, and intersects the index at the point marked "level." When this line is horizontal, the spirit in the tube remains at "level;" but when it is at an angle with the horizontal line, equal to AGC, the spirit remains at C, indicating the angle of deviation, the line CD then representing the surface of the spirit.

Consequently, if the lower side of the square be placed on any given surface, the spirit will show immediately, and without any calculation, if it be truly level and if not, what the angle of slope is.

The chief advantages this instrument possesses over the Square and Plumb-bob are, that it is not rendered inaccurate by wind, and can be used in the open air in any weather, or about the works of unfinished buildings, &c., and that it is more accurate and more portable.

The accuracy is not affected by changes of temperature, which can be very easily proved.

Size, 37 in. by 20 in. in mahogany, price 1l. 10s.

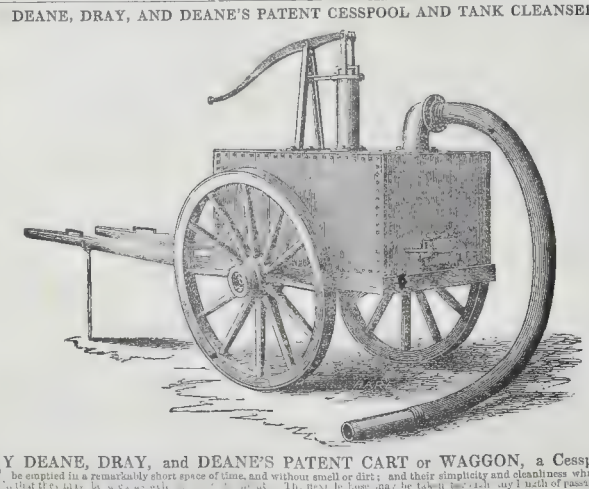
SOLD BY

WM. BISHOP AND CO.,

66, CHEAPSIDE, LONDON.

SOLE AGENTS TO THE INVENTOR.

DEANE, DRAY, AND DEANE'S PATENT CESSPOOL AND TANK CLEANSER.



BY DEANE, DRAY, and DEANE'S PATENT CART or WAGGON, a Cesspool can be emptied in a remarkably short space of time, and without smell or dirt; and their simplicity and cleanliness while in action [illegible] that they may be used with [illegible] The nozzle [illegible] may be taken through any length of passage, &c., to a [illegible] reservoir that might be otherwise impossible, or left uncleansed, on account of the difficulty of getting at it.

Cesspools thus left cause much unhealthiness, especially where many of them are confined in the limits of a small neighbourhood. See Mr. Ellerman's Report on Metropolitan Sewers Removal and Agricultural Improvement, or how to promote health and abundance." See also "Mechanics' Magazine," February 12, 1848.

The directions for use are as simple as the machinery is effective; insert the nozel into the semi-fluid matter to be lifted; then set the Air-pump to work; the pressure of the atmosphere will immediately cause the matter to ascend the pipe, and fall into the cart.

AGRICULTURAL IMPLEMENT DEPOT, NEAR THE MONUMENT, LONDON-BRIDGE.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, or Hanging Walls, Cast-Iron Railings, Cornices, Window Sashes, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual prices.—26, Prince's-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe, 4d. per foot run, including fixing.

2½	ditto	4½d.	ditto
3	ditto	5d.	ditto.
3 inch eaves gutter,		3½d.	ditto
4	ditto	4½d.	ditto
4½	ditto	5d.	ditto

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Cornice Gutters, 5d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—This application of the Vulcanized Caoutchouc prepared expressly for these valves, with layers of canvas amalgamated therein, having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First,—The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or set fast for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence.

THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Ray-street, Clerkenwell, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard; they keep open longer, and are cheaper that common cocks. The water-way, which in the latter averages one-third, in these is equal to that of the pipe. They act under every variety of pressure, and, when required for confined situations, the balls can be made smaller and the rods shorter than usual.

BIB, STOP, and other COCKS, embracing improvements of equal importance, are made on the same principle.

Underhay's Patent Silent Stool Valves are self-acting, cannot leak, and, besides being cheaper than the common ones, are more ornamental. Twenty thousand of the above valves have been sold within two years.

We beg to submit one of the many testimonials in our possession:

London Works, near Birmingham

Dear Sir, We have used many of your patent ball valves, and find that they answer their purpose exceedingly well, and are very certain in their action. We are, yours obediently,

Mr. F. G. Underhay, FOX, HENDERSON, and Co.

Messrs. W. CUBITT and Co., of Gray's-inn-lane, and Messrs. T. CUBITT and Co., Thames-bank,

also many other eminent firms who have used large quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELFACTING EFFLUVIA TRAP

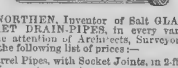
For Sewers and Drains of all kinds.

Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapour, it is entirely self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various forms to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 26, Lombard street, London; and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

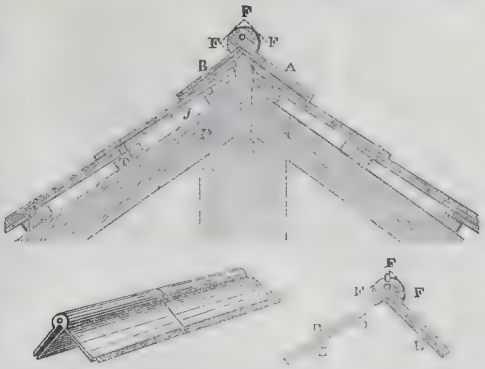
Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

3-in.	4-in.	6-in.	9-in.	12-in. bore
4d.	5d.	6d.	8d.	1s. 1½d. 1s. 10d. per foot.

Bends and Junctions equally low.

N.B. Drain pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

WILLIAMS'S PATENT SLATE RIDGES AND HIPS.



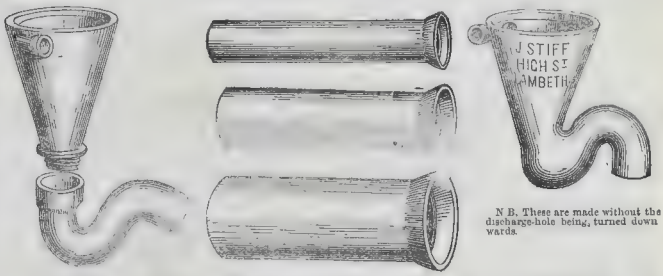
THE above article is recommended as the best and the most suitable covering for Ridges and Hips of slated roofs ever invented, possessing a solid Roll of various sizes, more elegant and durable than lead, and 30 per cent. cheaper.

Sold by Messrs. J. and J. SHARP, Slate Merchants, Tooley-street, and Mr. RICHARD COOPER, Slate Merchant, Belvidere-road Lambeth, London.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 29, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being, turned down wards.

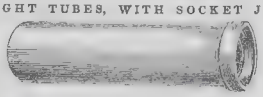
3 in. bore, 3d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.		In 2 feet lengths.				
2 in.	3 in.	4 in.	6 in.	9 in	12 in	15 in.	18 in. bore.
4d.	5d.	6d	8d.	1s 1½d	1s. 10d.	3s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH.

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

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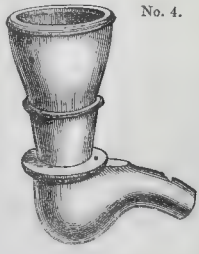
No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleasing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of Pieces of the newest designs. French and English [illegible] per yard, Satins, [illegible] per yard, [illegible] per yard. Patterns [illegible] sent in town or country, and [illegible] forwarded free of expense. A [illegible] discount allowed [illegible] a quantity. [illegible] or other [illegible] cheap. Terms, cash. Established twenty years. W. CROSBY, 22, [illegible].

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—451, Oxford street.

PROFESSIONAL CHAMBERS, Pall Mall. Superior PROFESSIONAL CHAMBERS, with every accommodation for residence if required, TO BE LET on reasonable terms.—Apply to the Housekeeper, on the premises, No. 5, Pall Mall.

HYDE PARK GALLERY of MODERN ART, late CHINESE EXHIBITION. At the close of the present Exhibition, this splendid gallery, including the use of novel and extensive gas fittings, will be TO LET, from the 1st of August, 1848, to the 1st of March, 1849, at which time it will be required for the Annual Exhibition of Paintings.—Apply to the Keeper in the Gallery.—N.B. Size of Gallery, 320 feet long by 47 wide.

TO BUILDERS AND SPECULATORS.

TO BE LET, at an Improved Ground Rent, a CARCASE of a superior first-class HOUSE, in the neighbourhood of one of the Parks, with money advanced to finish.—Apply to Mr. FRANCIS E. H. FOWLER, Architect, 21, Saville-row, Burlington Gardens.

TO STONE MASONS.

TO BE DISPOSED OF, an OLD-ESTABLISHED BUSINESS in the above line, in consequence of the ill health of the proprietor. The Stock to be taken at valuation, and will not exceed 4[illegible]. Apply to FLINT and SON, Land Agents, &c., [illegible].

TO BUILDERS AND OTHERS.

TO BE LET upon Repairing Leases, the undermentioned PROPERTY, viz., in Grenville-street, Somers-town, Nos. 1, 3, 4, 7, 8, [illegible], together or separately; and in [illegible] street, [illegible] Nos. 3, 4, [illegible], 21, 24, [illegible], 29, and 30, together or separately. For further particulars apply at Messrs. JOHNSON'S Office, Grosvenor Wharf, Millbank, Westminster.

TO BUILDERS AND HOUSE AGENTS.

TO LET, a well-established BUSINESS, of upwards of twenty years, within six miles of town, in the above line. The owner is [illegible] it will allow [illegible] to remain [illegible] young man of small capital, this would be most desirable. Coming-in about [illegible]. Letters, pre-paid, addressed to A. G., the Office of "The Builder," will be attended to, and full particulars given.

BUILDING LAND, near the FOREST HILL STATION, London and Brighton Railway, six miles from Town.

TO BE LET, FREEHOLD LAND at moderate ground rents. A considerable extent of valuable park-like Land, beautifully undulating, [illegible] interspersed with Woodland and [illegible] plantations. [illegible] villas, and is intended to be kept as such, and so arranged, as to preserve its present park like appearance. Each Villa may, if required, have Meadow Land, in addition to its pleasure grounds.—For full particulars apply to Mr. MOFFATT, Architect, 9, Spring Gardens. N.B. Trains run to and from London [illegible] every hour, in fifteen minutes.

MANOR PARK ESTATE, STREATHAM, SURREY.

TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of SIXTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-grown timber, is of singular beauty. Private roads, walks, and drives are intended to be made within the Park. Facing bricks, both White and Red, Stocks and others of an excellent quality, and in any quantities, may be had on the estate and an allowance [illegible] superior description is found in abundance on the ground, and water is laid on. Advances will be made, and other accommodation afforded to respectable builders taking an adequate interest in the property, which is likely to be immediately remunerative to them, from a great and increasing demand for houses existing in this neighbourhood.—For Lithographic Plans and Particulars apply to Messrs. RANKEN, FORD, LANGBOURNE, and VICKERMAN, No. 4, South square, Gray's inn; Messrs. GOUGH and ROUMIEU, Architects, No. 16, Lancaster-place, Strand; or Mr. WILKINS, at the Manor park Office, Streatham.

MR. GRISSELL'S extensive Premises, York road, Lambeth, are now cleared, and will be LET on LEASE, either together, or will be divided into the following desirable portions, viz.:

1. A capital Wharf, with feet frontage, Traveller erected, and large Masons' Shed; and immediately opposite, an extensive part of the Main Yard, including a range of Blacksmiths', Plasterers', and Masons' Shops, easily converted to other purposes, a large [illegible] Shops, Sheds, and [illegible] Yard with [illegible] thereon.

2. A large Shed, long range of Workshops, Stabling, Show rooms, &c.; a large portion of open yard, with entrance from Guildford-street, and an excellent Dwelling-house in the York road adjoining, with [illegible].

3. A range of extensive light Workshops, of three floors, with Offices.

4. A small Yard, approached from Edward-street, with Stabling, Workshops, Sheds, &c.

For plans and particulars, apply at No. 11, New Palace-yard; to Messrs. EVERSFIELD and HORNE, Coal Exchange; or 1, Little Smith-street, Westminster.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce that they WILL SELL BY AUCTION, on the Premises, [illegible] Lambeth, [illegible] on MONDAY, June 19th, and following day, the FOURTH PORTION of the STOCK of Mr. Grissell (who is [illegible] the general building business), which will comprise a large quantity of scaffolding, consisting of 2,000 scaffold poles, 2,000 scaffold boards, [illegible] ladders, [illegible] quantity of [illegible] centerings, 3 brick waggons, 3 builder's carts, a cart horse and pony, also a large quantity of well seasoned yellow and white deals, and about 25 loads of [illegible] timber. [illegible] months to buyers of 50l. May be viewed two days prior to the sale, [illegible] Catalogues had at the [illegible] Little Smith-street, Westminster. The extensive PREMISES TO BE LET entire, or in parts.

LIMEHOUSE.

THOMAS COMPTON has been favoured with instructions to SELL BY AUCTION, at Mr. WEBSTER'S WHARF, [illegible]-street, Limehouse, on WEDNESDAY, the 21st day of June, at Twelve o'clock, without reserve. A quantity of SWEDISH GRANITE of various dimensions and lengths, in pillar, block, and curb stones; just imported ex "[illegible]" [illegible]. [illegible] and at the place of sale, and at THOMAS COMPTON'S Offices, 76, Coleman-street, and Enfield, Middlesex.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bell Cement, Bow, [illegible] Works, CHURCH STREET, ROTHERHITHE, [illegible] Atkinson's Cement.—Grey [illegible].

KEENE'S PATENT MARBLE CEMENT [illegible] hard and indestructible Stucco, which may either be [illegible] finished in imitation of stone by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting architrave, and other mouldings, in its application for which pur[illegible] checks the progress of fire and the attacks of vermin. J. B. WHITE and SONS, Patentees and sole Manufacturers, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess [illegible] hydraulic purposes [illegible] sequently superior to every other [illegible] the [illegible] Reservoirs, Cisterns, Baths, Fishponds [illegible] Ornamental Castings, it requires neither colour nor Paint, it never vegetates, and will carry from [illegible]. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has [illegible] in the Thames Tunnel [illegible] Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever, the climate resisting alike the [illegible] of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable [illegible] Orders received by Messrs. ROBINS, ASPDIN, and Co., at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

REMOVED FROM 5, MAIDEN-LANE, TO 23, STEEL-YARD, UPPER THAMES-STREET.

To ARCHITECTS, ENGINEERS, BUILDERS, Masons, Plasterers, and Painters, Merchants, Shippers, and the Public in general.

JOHNS and CO.'S PATENT STUCCO CEMENT, for outside Plastering—perfectly resembles Stone [illegible] by Damp—wants no Paint, never cracks or [illegible] Frost or Heat—may be expressed [illegible] the only Cement that is a [illegible] internal Damp Walls—it is very cheap, and very easily worked.

[illegible]

JOHNS and CO.'S PATENT STONE COLOUR STUCCO PAINT, expressly for Painting over Exteriors of Houses that have [illegible] The PAINT [illegible] Stucco, but is itself with it, stopping the suction, thereby rendering the Wall proof against Weather, and in the finish producing a pure stone-like effect, produced by no other Paint whatever. It is cheap, [illegible] and a Prospectus fully describing the Cement and its mode of application, may be had of Johns and Co., at 23, Steel yard; or the Manufactory, Plymouth.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON [illegible] and the trade generally against confounding [illegible] Cement with others, erroneously [illegible] S and S pledge themselves that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound, is not only free from chemical agency upon any substance with which it may come in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. [illegible]

2. [illegible] it is hardness is uniform throughout its entire thickness.

[illegible] may be made equal to that of the finest [illegible] THROWS OUT ANY SALT, and will receive paint [illegible] without peeling, [illegible] put upon dry work.

It is [illegible] adapted [illegible] for walls, skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it has been extensively applied by Mr. Thomas Cubitt, on the Grosvenor estate, &c.

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most [illegible] Plaster of Paris and Cement Manufacturers, 186, DRURY LANE. Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball, near Bridgwater. The Proprietors of these Works beg to inform the public [illegible] unlimited quantity of the above Cements, and that the Bath and Portland will be [illegible] durability. [illegible] the following reasons:—Being made of Inland Stone (and not dredged from the sea as stone for Roman is), they are not impregnated with salt, therefore never vegetate or turn green (a fault so generally complained of with Roman), they take a much larger [illegible] Hydraulic, and will set under water in a few minutes; as an external Stucco they are impervious to all kinds of water, and not affected by frost [illegible] bility, and require neither paint nor colour to make them resemble [illegible] required) be trowelled up to a face almost equal to marble, or may [illegible] IMPROVED ROMAN CEMENT is made of the same kind of material, and will [illegible] of Bath and Portland (except that of colour); it is cheaper, and in every respect better, than any [illegible] a trial to be [illegible].

A stock of those Cements, as well as Blue Lias Lime ground for [illegible] had at BOARD'S Depot [illegible] and of the following Agents:—viz., Mr. R. Croft, Surrey-street, Kent-square, Liverpool; Mr. Baker, 78, Digbeth, Birmingham; Mr. Furze, Hotwells' road, Bristol; Messrs. Tothill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay, Bath; Mr. Grimsly, Oxford; Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Hurnman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. [illegible].

EMERSON'S PATENT CEMENT PAINT.—This VALUABLE AND ECONOMIC PAINT is ready for use, [illegible] and only ONE SIXTH the cost of oil paint; for beauty it is pre-eminent over all other [illegible] exact appearance of FINE CUT PORTLAND OR OTHER STONE, it can be used at [illegible] and is particularly calculated for country houses, villas, or gate entrances that have become soiled [illegible] beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofs, felts, [illegible] spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence [illegible] requires no preparation, and will dry in a few hours.—Price 2s. per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at [illegible]. GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perfect [illegible] Brackets, Trusses, Wreaths, Scrolls, [illegible] Shafts, Soffits, Bed-moulds, Pateras, &c., &c., 36 inch Centre, [illegible] JOHN [illegible] and SON, Modellers, &c., 42, Parker street, Drury-lane.

TO ARCHITECTS AND BUILDERS.

THE SOCIETY of ARTS has awarded an HONORARY TESTIMONIAL to GEORGE JENNINGS, the Inventor of the SHOP-SHUTTER, SHOE, and FASTENER, for having INVENTED the INDIA RUBBER TUBE COCK. Jennings's Inventions can be seen, or had, at the Manufactory, 29, Great Charlotte street, Blackfriars road.

Jennings's Patent Valves can be had of Messrs. Warners and Sons, [illegible].

N.B. Each Valve has the name of the Patentee and Manufacturer embossed on the cover.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, [illegible], REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are [illegible] superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters of other iron or wood of any other Makers, whatever their pretensions. The extraordinary demand [illegible] universal satisfaction for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in all parts of the kingdom, having induced other parties to attempt the introduction, by the most absurd representations, of sundry old and discarded inventions as Improvements. B and C assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the prices, and they are now much CHEAPER, as well as BETTER, than any others.

The prices of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast Iron, Copper, or Zinc.

B and C are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and balcony floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for building purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and invite them to inspect at their Manufactory, 28, Wapping, or at their Agents, 4[illegible], New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), [illegible] by wear, is unable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window) or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable, and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL BOARD PLATES, &c.

Steam Engines always on hand, Saw and Planing Machinery of every description made to order. Wrought iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 28, Wapping, or at 4[illegible], New Oxford street, London.

LONDON MECHANICS' INSTITUTION, Southampton-buildings, Chancery-lane. The Public are respectfully informed that COURSES of LECTURES on the following interesting Subjects will be given during the Quarter now commencing:—ROBERT KNOX, M.D., F.R.S.E., "On the Races of Men." Mr. CHARLES JOHNSON (Lecturer on Botany at Guy's Hospital) "On the Organization, Habits, and Geographical Distribution of Plants." Mr. HENRY PHILLIPS, "On the Origin and Progress of English Songs and Ballads;" and "On the National Sea Songs and Opera [illegible]." Mr. RICHARD BIRNIE, "Moral and Critical Discourses on Timon of Athens, Hamlet, and Julius Cæsar." Mr. W. M. WILLIAMS, "On the Elements of Phrenology."

Tickets for the Quarter are ready for delivery. Subscription, 6s. per quarter, with 2s. 6d. entrance. Prospectuses, containing particulars, may be obtained at the Library.

A. M'FARLANE, Sec.

WHITSUN HOLIDAYS.

ROYAL POLYTECHNIC INSTITUTION, with the important ADDITIONS of a SPACIOUS THEATRE, &c.—One of the INTERESTING NOVELTIES is the MANUFACTURE of ORNAMENTAL LACE by Improved MACHINERY. All the DISSOLVING VIEWS are [illegible] several are new, and arranged with MECHANICAL MOVEMENTS for DIORAMIC EFFECTS: they are, together with the MICROSCOPE and NEW CHROMATROPE, exhibited on the ENLARGED DISC most advantageously. The LECTURES of Dr. Ryan and Dr. Bachhoffner are selected for their proved popularity. EXPERIMENTS on the WATER with the DIVER and DIVING BELL. MODELS, &c., Described. Numerous BEAUTIFUL SPECIMENS of ART MANUFACTURES.—The MUSIC is conducted by Dr. Wallis.—Admission, One Shilling; Schools, half price. The NEW CATALOGUE, One Shilling.

LONDON: Printed by CHARLES WYMAN, of 16, Castelnau Villas, in the Parish of Barnes, in the County of Surrey, Printer, at the Printing-office of J. & H. Cox, Brothers, 74 & 75, Great Queen-street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, June 10, 1848.

The Builder

AN ILLUSTRATED JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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ADVERTISEMENTS.

WANTED, Two Good PLASTERERS.—None need apply unless reference can be given as to abilities and sobriety.—Apply to Mr. HART, Saffron Walden.

TO BUILDERS' FOREMEN AND SAWYERS.

WANTED, a Steady, Practical Man, as WORKING FOREMAN. Good references will be required.—Address, pre-paid, to FARK and MAY, 15, Curaitor-street, Chancery-lane.

Also, a PAIR of SAWYERS wanted, for about six weeks. Apply as above.

TO ARCHITECTS.

WANTED, by a Young Gentleman, a SITUATION as Assistant in the above Profession; he is a good Architectural Draughtsman, and has been accustomed to the usual routine of an Architect's Office. He also understands Surveying and Mapping. Satisfactory references will be given.—Address, H. B., care of Mr. Starie, Stationer, Titchbourne-street.

TO ARCHITECTS AND BUILDERS.

WANTED by a competent and experienced person, a SITUATION as CLERK of WORKS, or in a BUILDER'S OFFICE. Is a good draughtsman and accountant, understands measuring, getting out quantities, and has nearly twenty years' practical knowledge of building. Testimonials of qualifications, &c., can be given.—Address J. F. Y., Mr. LEARY'S, Printer and Stationer, Strait, Lincoln.

WANTED, in an Architect's Office, a CLERK who understands Construction thoroughly, and who is competent to make fair and detail Drawing with speed and accuracy, and who writes a neat hand. Address, stating particulars of late engagements, and salary required, which must be moderate, to A. B., Mr. Crowwick's, Stationer, John-street, Great Portland-street.

TO MASONS.

WANTED, in the country, a steady Man, who has been used to Caen stone and Gothic work, has some knowledge of making working-plans, &c., and is capable of acting as Foreman to three or four hands principally engaged in restoring churches. Wages, 3s. per day, with constant employment. One who frequents on Sunday the building he is employed in restoring during the week—that is, a Churchman—would be very much preferred.—Address (post-paid) to Mr. APSLEY, Builder, Romford, Kent, with references as to character and ability.

TO ARCHITECTS, SURVEYORS, AND BUILDERS.

A YOUNG MAN, 17 years of age, who has a knowledge of architectural drawing, writes a good hand, and is acquainted with figures, is desirous of obtaining a Situation as CLERK in an office of the above description. A rising salary, commencing at 8s. a month, would be expected, and a country locality preferred.—Address, post-paid, to C. D., Barron and Son, Ironmongers, West Strand.

TO ARCHITECTS AND CIVIL ENGINEERS.

A YOUNG MAN, who has been educated in an Architect's office, and who has since held an appointment under a public company, whereby he has gained considerable practical knowledge of his profession, including land surveying and levelling, is desirous of meeting with an engagement in an Engineer's, Architect's, or Land Surveyor's office. Salary not so much the object sought, as an extension of practice. Address, X. Y. Z., 30, Jewin-street, City.

A YOUNG MAN, accustomed to the inspection of Masonry and Earthwork, wishes for an ENGAGEMENT as CLERK of WORKS, BUILDER'S CLERK, DRAUGHTSMAN, &c. &c. He can measure and calculate Contents, draw up Estimates, execute Levels, Surveys, Maps, Plans, &c. &c. Can produce satisfactory testimonials from his former employers, and give respectable references. Security to any amount required will be given. As employment is the principal object, he is willing to accept a moderate salary.—Address (prepaid), G. R., office of "The Builder," 2, York-street, Covent Garden.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

A YOUNG MAN wishes for a PLACE in the above branches. Wages no object; the Country preferred.—Apply, by letter, L. B., Ship, Mitcham, Surrey.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN being about to leave his present Situation would be happy to meet with an ENGAGEMENT either in town and country. He is accustomed to get out finished and working drawings, and has a general knowledge of surveying, &c. A moderate salary will be expected.—Address X. Z., 20, Bridge-street, Westminster.

A BUILDER'S SON, aged 23, wishes for a SITUATION as BUILDER'S CLERK, or to take charge of a small Business, or as letter-cutter and Writer, in the old ecclesiastical, or modern styles, for tombs, &c. Has been in the habit of paying and superintending workmen, &c., for eight years. References and security (if required) given.—Address, P. Z., Goudhurst, Kent.

A PARTNER WANTED in the BUILDING BUSINESS, either dormant or an active persevering person, with a Capital from 1,000*l.* to 1,500*l.*, to join a diligent, active, and practical person, with a first-rate connection and increasing business, a few miles from London. The profits are considerable, and plenty of business, without entering into competitions. Respectable references can be given, and will be expected.—Letters addressed A. B., care of Messrs. J. and C. Robinson, Solicitors, 7, Queen-street-place, London, will meet with due attention.

TO ARCHITECTS.

THE Advertiser, a neat and expeditious Draughtsman, whose articleship with a highly respectable Architectural and Building firm having expired, is desirous of ENGAGING himself with an Architect of good practice, improvement in the profession being the primary object. A small salary required, or board and lodging will be considered equivalent thereto. Address to F. A. D., Post-office, Linton, near Staplehurst, Kent.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission from Eight o'clock till Seven, One Shilling; Catalogue, 1s.

JOHN PRESCOTT KNIGHT, R.A., Sec.

TO ARCHITECTS, COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

CONTRACTS.

SOUTH EASTERN RAILWAY.—TENDERS FOR COTTAGES EXTENSION OF TIME. At the request of several parties estimating for the Cottages, advertised in last week's Builder, the time for delivering Tenders has been extended from June 21st to WEDNESDAY, the 28th inst., when sealed Tenders, addressed to the Chairman of the South Eastern Railway Company, and endorsed "Tenders for Cottages," are to be sent to the Architect's Office, Greenwich Station, at Ten o'clock in the forenoon.

TO BUILDERS.

RUSSELL INSTITUTION, Great Coram-street.—The Committee of the Institution are willing to receive TENDERS for the execution of certain REPAIRS of the Premises, under the direction of Mr. DONALDSON, Architect; but will not be bound to take the lowest tender. During the ensuing week particulars may be had of the Secretary, at the Institution, between the hours of Ten and Four o'clock.

June 16, 1848. EDW. W. BRAYLEY, Secretary

TO BUILDERS.

PERSONS desirous of CONTRACTING for the ERECTION of a SCHOOL-HOUSE and MASTER'S DWELLING at ISLEHAM (near Molden Hall), in the county of Cambridge, may see the Drawings and Specifications at the Bull Inn, Newmarket.—All necessary information can be obtained of Messrs. ALLOM and CROSSE, Architects, 14, Hart-street, Bloomsbury-square, London; or of the Rev. H. P. DAWES, at Isleham. Tenders to be sent in to the Architects on or before Saturday, the 1st day of July, endorsed "Tender for Schools at Isleham." The lowest tender will not necessarily be accepted.

N.B. The buildings must be in a forward state by the 1st of October.

ORSETT UNION.—TO BUILDERS.—Persons willing to CONTRACT for the ERECTION of VAGRANT WARDS, FEVER WARDS, WORKSHOPS, and other extensive additions and alterations to the Union Workhouse, are invited to inspect the plans and specifications of the works to be performed, as the same have been prepared by Mr. THOMAS SMITH, Architect, Hertford, at my office at Romford, from Friday, the 16th instant, to Tuesday, the 27th June instant, and to deliver at the same place, on or before WEDNESDAY, the 28th June instant, sealed tenders for executing such works. The tenders will be considered by the Board at their meeting, to be held on Thursday, the 29th June instant, and the contractor will be required to enter into a bond, with two sufficient sureties, for the due performance of the contract. The Guardians will not, however, bind themselves to accept the lowest tender. By order of the Board,

Romford, 10th June 1848. NORTH SURRIDGE, Clerk.

BUILDERS' BENEVOLENT INSTITUTION. LIST of NOBLEMEN and GENTLEMEN who have already assented to be STEWARDS at the ANNIVERSARY DINNER to be held at the FREEMASONS' TAVERN, on the 19th July, 1848.

Lord ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

Lord Dudley Coutts Stuart, M.P.
Sir Benjamin Hall, Bart., M.P.
Samuel Morton Peto, Esq., M.P.
Col. Thomas Wood.
David Salomons, Esq., Alderman.
William Lawrence, Esq., Alderman.
Thomas Grissell, Esq., F.S.A.

Allen, Thomas, Camden-town.
Archer, E. T., New Oxford-street.
Angell, Samuel, St. Clement's-Danes and St. Mary-le-Strand.
Bien, Hugh, Carlton Villas.
Bird, Stephen, Kensington.
Bird, George, Edgware-road.
Bird, Joseph, Portman-place.
Bird, John, Seymour-place.
Burstall, Abraham, St. Martin's-lane.
Burtall, Robert, ditto.
Brown, George, Lisson grove.
Chamberlain, George, Crawford-street.
Cooper, R. W., Belvidere-road.
Cowes, Thomas, Lisson grove.
Curtis, R., Stratford.
Curtis, E., ditto.
Day, Ebenezer, Edgware-road.
Ebbs, John, Aberdeen-place.
Ferguson, Daniel, Stafford-street.
Gutch, George, Paddington.
Godwin, George, F.R.S., Brompton.
Gooch, E. W., Connaught-terrace.
Gritten, W. R., Bull's Head-court.
Hockley, Thomas, Earl-street, Blackfriars.
Higgs, Joshua, Davies-street, Berkeley-square.
Harris, William, Green street, Grosvenor-square.
Herbert, William, Clapham.
Heathcote, Upper Baker st.
Laws, E. P., Chesham and Southern Division of Battersea.
Kendall, H. E., District of Hampstead.
Lonz, John, King-street, Portman-square.
Locke, George, Red Lion-square.
Lillie, R. J., High-street, St. Marylebone.
Mullin, John, Brixton.
Nesbitt, Thomas, Theobald's-road
Norris, William, Hackney.
Nicholson, D., Windsor-crib.
Pownall, George, St. Giles-in-the-Fields and St. George's, Bloomsbury
Pearse, Samuel, High Holborn.
Palmer, Philip, St. Martin's-lane.
Richardson, R., Queen-street, Edgware-road
Rogers, William, South Lambeth and Streatham
Smith, G. S., Baker-street.
Stephens, S. J., Charlotte-street, Portland place
Turnbull, T., Portland town
Tawin, Isaac, Portland-town.
Virtue, John, Newman-street.
White, John, Marylebone.
White, John, jun., ditto
Wigg, George, Bedford-row.
Warrington, E. D., City-chambers.

Dinner on Table at Five o'Clock. Tickets, 9s. each, to be had of the Stewards, Freemasons' Tavern, Mr. G. BIRD, Prospect, and at the Office of the Institution, Poland House, Broad-street, Golden-square.

WILLIAM GRUBB, Secretary.
Hawley-road, Kentish-town.

WANTED TO PURCHASE, a good CHEST of JOINER'S TOOLS.—Particulars addressed to G. V., Post-office, Epsom, Surrey.

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR, of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c. &c.—29, Great Charlotte-street, Blackfriars'-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Dispensing with Breaking the Line of Wood Lath, with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters (either iron or wood) of any other Makers, whatever their pretensions. The extraordinary demand, arising from the numerous reductions given for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in all parts of the Kingdom, having induced other parties to attempt the introduction, by the most absurd representations, of sundry old and discarded inventions as Improvements, B. and C. assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.

The prices of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either Plain or Ornamental. Strong Cast Iron moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. are also sole Patentees of MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and balcony floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS,

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Engines, sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 29, Lombard-street, London; and at the Works, Deptford, Kent.

KING'S CROSS.

TO RAILWAY CONTRACTORS. [illegible] TO BE SOLD, or [illegible] ON LEASE, the [illegible] adjoining [illegible] For particulars apply to W. DENNIS, [illegible] Wharf, King's-cross.

ISLINGTON.—LAND TO LET for a SINGLE VILLA, 40 feet frontage with extensive garden ground, 185 feet deep and 125 feet wide, at rear. Rent, 9 guineas per annum; Lease, 97 years. It is fronting the high road, and near to Canonbury. Omnibusses [illegible] any one wishing to build a second or third rate for their own occupation, or for investment, will find this a desirable opportunity, as the houses erecting on this estate sell and let [illegible] they are finished. Also ground adjoining for a pair of third rate Villas, at four shillings and sixpence per foot; frontage, 140 feet deep. — Apply No. 5, Devonshire-cottage, Green-lanes, Stoke Newington.

MR. GRISSELL'S extensive Premises, York-road, Lambeth, are now cleared, and will be LET on LEASE, either together or will be divided into the following desirable portions, viz.:—

1. A capital Wharf, with 43 feet river frontage, Traveller erected, and large Masons' Shed, and immediately [illegible] part of the Main Yard, including a range of Blacksmiths', Plasterers', and Masons' Shops, easily converted to other purposes; a large Carpenters' Shop, Sheds, and [illegible] Yard, with Traveller fixed thereon.

2. A large Shed, long range of Workshops, Stabling, Show-rooms, &c.; a large portion of open yard, with entrance from Guildford-street, and an excellent Dwelling-house in the York-road adjoining, with back entrance to the premises.

3. A range of extensive light Workshops, of three floors, with Offices.

4. A small Yard, approached from Edward-street, with Stabling, Workshops, Sheds, &c.

For plans and particulars, apply at No. 11, New Palace-yard; to Messrs. EVERSFIELD and HORNE, Coal Exchange; or 1, Little Smith-street, Westminster.

SALES BY AUCTION.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL BY AUCTION, on the Premises, Belvedere-road, Lambeth, and at the New Mills [illegible], on MONDAY, June 19th, and following day, the FOURTH PORTION of the STOCK of Mr. Grissell, who has relinquished the general building business, which will comprise a large quantity of scaffolding, consisting of 2,000 scaffold poles, 3,000 scaffold boards, 700 putlogs, 600 [illegible] planks, mortar boards [illegible] screens, wheelbarrows, ladders, [illegible] quantity of [illegible] and quarterings, 3 brick waggons, 3 builder's carts, a cart horse and pony; also, 11 crab engines, 8 hoisting jacks, 6 sets of blocks and falls, 3 builder's carts, spring tilt cart, 5 hand stone-trucks, timber truck, 3 railway brick waggons, portable forge, cart horse, and about 30 tons of wrought and cast-iron, &c. The Second Day will comprise a large quantity of dry, [illegible] and about 250 loads of Dantzic fir timber.—Approved bills at four months to purchasers [illegible] mornings before the sale, and catalogues [illegible] Premises and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster. The extensive PREMISES TO BE LET entire, or in parts.

CLOTHING AND STORES, BUILDING MATERIALS, &c., Royal Hospital, Greenwich.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, at the Storeyard, Greenwich Hospital, on THURSDAY, June 22, by order of the Commissioners of Greenwich Hospital, a large quantity of STORES, comprising blue woollens, cuttings of blue cloth, striped linen and rags, coverlets, linings, flannels, &c.; hats and shoes, copper, brass, and tin ware. After which, at the Works' Department, a quantity of sashes, doors, framing and firewood; copper, wrought and cast-iron, two iron girders, 17 feet long; cast-iron erection of clock tower, with dome top, and other effects. May be viewed two days prior to Sale, and Catalogues had at the Steward's Office, Royal Hospital, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

LIMEHOUSE.

THOMAS COMPTON has been favoured with instructions to SELL BY AUCTION, at Mr. WEBSTER'S WHARF, 14, Fore-street, Limehouse, on WEDNESDAY, the 21st day of June, at Twelve o'clock, without reserve. A quantity of SWEDISH GRANITE of various dimensions and lengths, in pillar, block, and curb stones; just imported ex "Enigheten and Malmo" Quarry, near Uddevalla, and now lying as above.—To be viewed until the sale: Catalogues had at the place of sale, and at THOMAS COMPTON'S offices, 76, Coleman-street, and Enfield, Middlesex.

BROOM WOOD, UGLEY, ESSEX.—TO BE SOLD BY AUCTION, BY

MARTIN NOCKOLDS, upon the pre-mises, at Eleven o'clock, on MONDAY, June 26, 1848, 63 [illegible] OAK TIMBER TREES of excellent quality [illegible] and about 25 loads of Top-wood. The above Timber [illegible] lies contiguous to the turnpike road, a short distance from the Chequers Inn, Ugley. May be viewed [illegible] GEORGE REED, the Woodward at [illegible] of whom Catalogues may be had, and of the Auctioneer, Saffron Walden. Credit will be given until Christmas next upon approved joint security.

TO GENTLEMEN, BUILDERS, ARCHITECTS, CONTRACTORS, AND OTHERS.

CARVED LOUIS XIV. CHIMNEY PIECES in scarce Italian Marbles, Stoves richly mounted with ormolu, Fenders, and Gilt Firedogs, adapted for magnificent saloons and reception-rooms.

MESSRS. FOSTER and SON are directed by Messrs. Moser and Co., who are removing their show rooms to No. 53, Frith-street, on the expiration of the lease of their present premises, to SELL by AUCTION, at Nos. 51 and 52, Frith-street, Soho-square, on FRIDAY, June 16, and following day, at One precisely, the SURPLUS STOCK, which has been accumulating more than half a century; including very beautiful chimney pieces floridly carved in the taste of Louis XIV. and of the time of the period, in Breschia Serancolin, rouge royle, vert de mer, and statuary marbles; highly-polished steel stoves and fenders with ormolu mountings in the same taste, and some of Elizabethan and Gothic character, about 70 pairs of gilt ormolu firedogs chased in the renaissance, Louis XIV. and XVI. periods, and in the taste of the empire; wall lights of graceful forms, Florentine bronzes of the most popular subjects, lamps, &c. Messrs. Foster are directed to state the sale of this the surplus stock of Messrs. Moser and Co., will not [illegible] interfere with their usual routine of business. On view two days prior, and catalogues had of Messrs. FOSTER, 14, Greek-street, and 54, Pall Mall.

TO LOCK MANUFACTURERS, SILVERSMITHS, GLASS CUTTERS, MACHINISTS, and OTHERS. The valuable Lock and General Machinery and Tools for Manufacturing the Bramah Locks, Patent Ever-pointed Pencils and Cedar Pencils, also large Stock of Locks, Counting-house Fixtures, and Effects.

MESSRS. BOYES and SAFFELL are instructed by the Trustees of Mr. G. Riddle, to SELL by AUCTION, on the Premises, 172, BLACKFRIARS-ROAD, on MONDAY, the 19th instant, and following day, at Twelve, the whole of the valuable PLANT and MACHINERY, comprising a capital key cutting machine, machine for [illegible] the barrels of locks, [illegible] presses, an excellent [illegible] inch bar engine lathe, [illegible] lathes [illegible] with chucks [illegible] [illegible] Messrs. BOYES and SAFFELL, Auctioneers, [illegible]

TO CARPENTERS AND BUILDERS.

TO BE DISPOSED OF AT RAMSGATE, a small but highly respectable BUSINESS.—The premises in the centre of the town, at a low rent, a young person of small capital will find this an excellent opportunity. For particulars, apply at F. R. WILLIAMSON'S, 35, Chiswell-street, Finsbury-square, or W. WOODLAND'S, Ramsgate.

TO BUILDERS AND CARPENTERS.

TO BE DISPOSED OF, a well-established BUSINESS in the above line, in the Isle of Wight, having most excellent premises, and every convenience for carrying on a good trade. There is a large and most respectable Jobbing connection with it. To any person of capital it is a concern offering great advantages, and as the present proprietor is immediately retiring from the same, they would be treated with on liberal terms.—For particulars, apply to A. F. LIVESAY, Esq., Architect, Portsmouth.

TO PAY 20 PER CENT.—Eight un-finished HOUSES TO BE LET, to pay the above per centage. The necessary bricks, lime, and cement will be supplied, if required, on security of the property. The situation would command immediate tenants close to the new church and pier, Greenwich.—Apply to Mr. WHITEWAY, 17, Picton-road, Greenwich.

TO BUILDERS.

A PORTION of the GROUND in the New North Road, Islington (80 Sites), held under the Worshipful the Company of Clothworkers, TO BE LET on Building Leases.—For plans, &c., apply to No. 41, Moorgate-street, between Ten and Four. None but respectable Builders will be treated with.

TO BUILDERS AND OTHERS.

DESIRABLE LAND TO BE LET for BUILDING PURPOSES, on advantageous Terms to the Builder, for Third or Fourth-rate Houses, out of the district. Within one mile of a Railway Station on the Eastern Counties Line; lies high on a gravelly soil, and well supplied with water.—Apply to Messrs. ROBERTS and ROBY, Surveyors, 24, Moorgate-street, Bank.

AMERSHAM PARK, NEW CROSS.

FRONTAGE for VILLAS or other PRIVATE RESIDENCES, TO BE LET in this Park, on long Leases. The Park is within ten minutes' walk of the Deptford Railway Station, and commands a beautiful view of Blackheath and the surrounding country. For further particulars apply to Messrs. PEARCE and THYNNE, 11, Great George-street, Westminster; or to Mr. G. A. WALLIS, Lewisham High-road, Deptford.

PROFESSIONAL CHAMBERS, Pall Mall. Superior PROFESSIONAL CHAMBERS, with every accommodation for residence if required, TO BE LET on reasonable terms. Apply to the Housekeeper, on the premises, No. 58, Pall Mall.

TO BUILDERS AND OTHERS.

TO BE LET upon Repairing Leases, the undermentioned PROPERTY, viz., in Grenville-street, Somers-town, Nos. 1, 3, 4, 5, 7, 8, 19, 20, 21, 22, 23, 24, 25, 26, and 28, together or separately; and in New-street, Kensington Gravel Pits, Nos. 3, 4, 5, [illegible] 22, 23, 24, 25, 26, 27, 28, 29, and 30, together or separately. For further particulars apply at Messrs. JOHNSON'S Office, Grosvenor Wharf, Millbank, Westminster.

TO BUILDERS AND OTHERS.

TO BE LET, with liberty of purchasing the Freehold, some very eligible PLOTS of BUILDING GROUND, one admirably adapted for a public-house, only 2½ miles from London bridge. The estate lies upon a high turnpike-road, and is almost contiguous to High-street, Peckham, and in the parish of Camberwell; is bounded and intersected by public [illegible] thoroughfare, and with sewers already in. Money will be advanced if agreed upon.—Apply to Mr. SINGLE, Surveyor, 34, Coleman-street, City.

BUILDING LAND, near the FOREST HILL STATION, London and Brighton Railway, six miles from Town.

TO BE LET, FREEHOLD LAND at monderate ground rents. A considerable extent of valuable park-like Land, beautifully undulating, finely timbered, and interspersed with Woodland and thriving ornamental plantations. The whole has been laid out as an entire design for building detached villas, and is intended to be kept as such, and so arranged, as to preserve its present park-like appearance. Each Villa may, if required, have Meadow Land, in addition to its pleasure grounds.—For full particulars apply to Mr. MOFFATT, Architect, 9, Spring Gardens.—N.B. Trains run to and from London-bridge every hour, in fifteen minutes.

BRITISH MUTUAL LIFE OFFICE.— The Public are invited to examine for themselves the advantages gained for Assurers by the plan on which policies are granted by this Office. Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge-street, Blackfriars.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

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The rates for both Fire and Life insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one-third till the end of life. Thus large sums may be insured at the smallest present outlay.

Prospectuses, forms of proposal, &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.

AGENTS WANTED for those towns for which appointments have not yet been made. JOHN REDDISH, Manager.

THE CITY OF LONDON LIFE ASSURANCE SOCIETY, FOR ACCUMULATIVE AND GENERAL ASSURANCES, 2, Royal Exchange Buildings, London.

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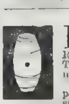
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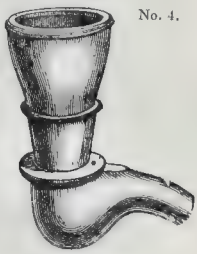
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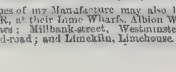
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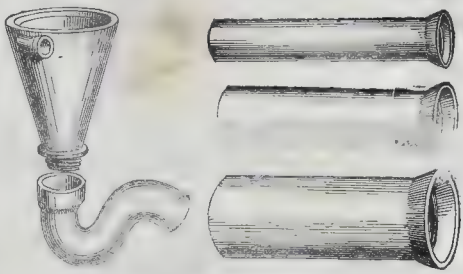
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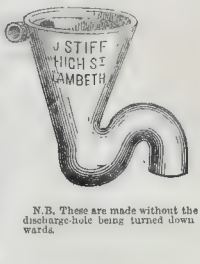
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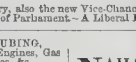
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Fig. 1.

2 in.	3 in.
1s.	1s. 3d.



Fig. 2.

4 in.	6 in.
1s. 9d.	2s. 3d.



Fig. 3.

9 in.	12 in. bore.
3s. 6d.	5s. 6d. each.

JUNCTIONS.



Fig. 4.

2 in.	3 in.
1s.	1s. 3d.



Fig. 5.

4 in.	6 in.	9 in.
1s. 6d.	2s.	3s. 6d.



Fig. 6.

12 in. bore of main tube.
5s. 6d. each.

DOUBLE JUNCTIONS AS FIGS. 7, 8, AND 9.

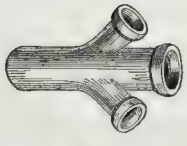


Fig. 7.

2 in.	3 in.
1s. 4d.	1s. 8d.

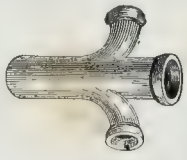


Fig. 8.

4 in.	6 in.	9 in.
2s.	2s. 8d.	4s. 6d.

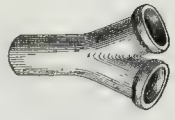


Fig. 9.

12 in. bore of main tube.
7s. each.

THE JUNCTIONS MAY BE OF ANY DIAMETER.

TRAPS.



Fig. 10.

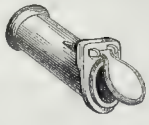


Fig. 11 (Registered 1379).

SYPHON TRAPS AS FIG. 10.

2 in.	3 in.	4 in.	6 in.	9 in.	12 in. bore.
2s.	2s. 6d.	3s. 6d.	5s.	7s. 6d.	10s. each.

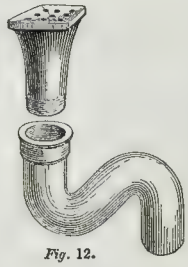


Fig. 12.

REGISTERED TRAPS AS FIG. 11,

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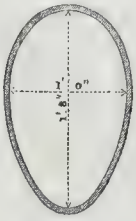
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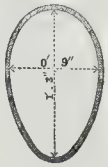
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The Builder.

A JOURNAL FOR THE

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VOL. VI.—No. 281. JUNE 24, 1848. PRICE FOURPENCE. Stamped 5d.

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London, June 12, 1848.

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TO BUILDERS

HOLLINGBOURN UNION. — The Guardians of the Hollingbourn Union will be prepared, at a special meeting of the Board, to be held at the WHITEHEATH UNION WORKHOUSE, on SATURDAY, the 1st day of July, at Four o'clock in the afternoon, to receive Tenders for the ERECTION of certain BUILDINGS and the making of certain ALTERATIONS at their Workhouse at Whitchelth. Plans and specifications will be deposited at the Union Workhouse on and after Thursday, the 22nd June, where they may be seen; and further information may be obtained at the offices of Messrs WITHERDEN and SON, Architects, Maidstone. The guardians do not pledge themselves to accept the lowest or any other tender.

—By order of the Board, S. G. READER, Clerk.

Stone-street, 20th June, 1848.

BUILDERS' BENEVOLENT INSTITUTION—LIST of NOBLEMEN and GENTLEMEN who have already assented to be STEWARDS at the ANNIVERSARY DINNER, to be held at the FREEMASONS' TAVERN, on the 19th July, 1848,

Lord ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

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Sir Benjamin Hall, Bart., M.P.
Samuel Morton Peto, Esq., M.P.
Col. Thomas Wood.
David Salomons, Esq., Alderman.
William Lawrence, Esq., Alderman.
Thomas Grissell, Esq., F.S.A.
George Godwin, Esq., F.R.S.
Wm. Cubitt, Esq.

Allen, Thomas, Camden-town.
Archer, E. T., New Oxford-street.
Angell, Samuel, St. Clement's-Danes and St. Mary-le-Strand.
Ayers, Hugh, Carlton Villas.
Bartleet, Jun., Kennington.
Bird, George, Edward-street.
Bird, Joseph, Pimlico place.
Bird, John, Seymour-place.
Bush, J. F., Haverstock-hill.
Burchell, Abraham, St. Martin's-lane.
Burstall, Robert, ditto.
Brown, George, Lisson grove.
Chamberlain, George, Crawford-street.
Cooper, R. W., Belvidere-road.
Cozens, Thomas, Lisson grove.
Curtis, R., Stratford.
Curtis, E., ditto.
Day, Robert, Edgware-road.
Ellis, John, Aberdeen-place.
Ferguson, Daniel, Stockwell-street.
Gates, George, Paddington.
Gooch, E. W., Connaught-terrace.
Gritten, W. E., Bull's Head-court.
Hockley, Thomas, Lisson street.
Higgs, Joshua, Davies-street.
Hurdis, William, Green street
Herbert, William, Clapham.
Heal, George, Upper Baker st.
Hayes, E., jun., Charlotte-st.
Southern Division of Battersea.

Kendall, H. E., District of Hampstead.
Leonard, Alex., Holloway.
Lever, George, Camden-town.
Long, John, King-street.
Meeke, George, Red Lion-square.
Lillie, B. J., High-street.
Mullin, John, Brixton.
Nelham, Thomas, Tweedale Fenchurch-street.
Norris, William, Hackney.
Nicholson, D., Wandsworth
Outhwaite, Jno., Eagle-hill, Old Ford.
Pownall, George, at Messrs. Pinches and St George's, Bloomsbury.
Pearse, Samuel, High Holborn.
Palmer, John, St. Mary-le-bone.
Ponsford, James, Castlebar-park, Richardson, R., Queen street.
Rogers, William, South Lambeth and Streatham.
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Smith, Thomas, Islington.
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Unwin, Isaac, Portland-town.
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		£	£ s. d.	Per cent.	£ s. d.
21	1806	[illegible]	417 10 2	[illegible]	917 10 2
521	1807	[illegible]	[illegible] 12 1	[illegible]	1,882 12 1
1,174	1810	1,200	1,160 5 6	[illegible]	2,360 5 6
1,393	1811	1,600	1,328 8 6	[illegible]	2,928 8 6
[illegible]	[illegible]	[illegible]	[illegible] 13 5	[illegible]	[illegible] 13 5
[illegible]	[illegible]	[illegible]	[illegible] 17 8	[illegible]	[illegible] 17 8
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Sold by all the principal Stationers in town or country.

C[illegible] is necessary at all times and conducive to health, and this [illegible] the [illegible] of painting with oil and white lead.

STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT. For decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural staining, which is so superior to imitations by art, and at the same time avoid the [illegible] and [illegible] consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6*d.* and 1*s.* each, and at 10*s.* per gallon. The dark colour may be obtained in powder at 5*s.* per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain. N.B. The trade supplied. Sold also at the Office of "The Builder," 2, York-street, Covent Garden, London; and by HOPKINS and PURVIS, 2, Greek-street, Soho.

CRANE WANTED.—Any person having a new or second-hand CRANE capable of lifting from one to two tons, may send full particulars of same, and lowest price, to Mr. NAYLOR, No. 13, [illegible] street, [illegible] street, Cal[illegible].

OLD IRON-WORK.—WANTED to PURCHASE, a PAIR of IRON GATES, wrought in the style which prevailed in the latter part of the sixteenth or seventeenth century, in good condition, and large enough for a carriage entrance measuring 10 feet between the piers. Apply to Mr. J. M. CLARK, Architect, Ipswich, Suffolk.

CONTRACTOR'S RAILS.—Wanted twenty to thirty Tons of Contractor's Rails. Particulars, specifying weight per yard (which should not be less than [illegible]), the width of upper and lower flanges and depth of rail, with price per ton, delivered in the Thames, to be addressed by letter to V, Jamaica Coffee-house, St. Michael's-alley, Cornhill, London.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety, at MINTON and CO.'s Warehouse, 9, Albion place, Surrey side of Blackfriars bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) [illegible] attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the [illegible] station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193, Piccadilly. March 1, 1847. These machines may also be seen at Mr. [illegible]'s, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. [illegible] Hall's, 1[illegible], Buchanan street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Limdvady, County Derry.

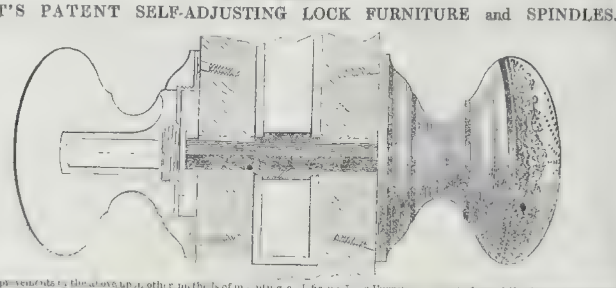
EMBOSSED FLEUR (REGISTERED).



ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE, [illegible] of "Peake's Terro-Metallic", No. 4 Wharf, City-road Basin, London; also, at the Works, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by [illegible] as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements of the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the follower; the action also is more pleasant than with ordinary mountings, and being fixtures, prevent the disfigurement of the door which frequently occurs when the common rosette is used.

The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger plates, Bell pulls, and Levers. May be obtained of all Ironmongers or of the Patentee [illegible] HART and SONS, Wholesale Ironmongers, 53, 54, 55, Wych street, Strand, London.

N.B. PITT'S PATENTED SPINDLE [illegible] the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such [illegible] will be an Infringement of the Patent.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.
Kitchen Floors, particularly where it is essential to keep damps from rising.
Garden Walks and Terraces.
Carriage Drives.
Coach-houses and Stabling.

Dog kennels.
Barn Floors.
Granaries.
Tun-room Floors.
Malt-house Floors.
Piggeries, &c. &c.

Covering of Railroad and other Arches. The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to [illegible] the use of spurious materials it is important that all applications for Works to be executed be made direct to the [illegible], and as a further [illegible] it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

L. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.

HEAL and SONS have made a considerable REDUCTION in the lower qualities of BED FEATHERS, and are now selling them at the following prices:—
Grant ... quite sweet and free from dust, being purified by steam heat on their own premises.

Poultry ..... 6d. 10d. per lb.	Best Grey Goose .. 2s. 6d. per lb
Grey Goose ..... 1s. 2d. "	White Goose .... 2s. 6d. "
Foreign Grey do. 1s. 6d. "	Best Dantzic do... 3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196, opposite the Chapel, Tottenham-court-road.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-causeway, Newington butts.
N.B. Cowley and Kent Bricks of every description, and Kentish rag-stone direct from the Quarries.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles, sand, marl, and all kinds of every description of fire clay. Orders addressed as above, or Building Office, &c. Fire Bricks continually unloading in the river, and a considerable saving to purchasers wanting large quantities taking them from the ships.

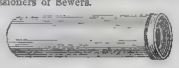
SANITARY IMPROVEMENTS.
BUNNETT'S
PATENT SELFACTING EFFLUVIA TRAP.
For Sewers and Drains of all kinds.
Registered January 5th, 1848.
A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, and cannot get out of order, and can be readily applied to all situations without altering the present gratings.
The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and duly workmanship models, the whole of Messrs. BUNNETT and COOPER, Engineers, 36, Bernard-street, London; and at the works, Deptford, Kent.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—In application of the vulcanized Caoutchouc prepared expressly for these valves, with layers of canvas amalgamated therewith, having now stood the test of two years' trial with perfect success, the inventors beg to point out some of its many important advantages over the old plug and other taps and valves. First.—The security in shutting it up, so sure as to prevent the extreme drain-ability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or useless for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance where they have been fixed, many miles to be seen, have they been found to fail, many letters of which can be given with the greatest confidence.
THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

UNDERHAY'S PATENT BALL VALVES, Manufactured by C. BOTTEN, Crawford-passage, Bow-street, Covent-garden, where Drawings and Price Lists can be obtained. These valves can neither stick nor work hard, and require no oil, last longer, and are cheaper than common cocks. The waterway, which is the latter averages one-third, is three times equal to that of the pipe. They act under every variety of pressure, and, when required for certain Institutions, the Balls can be made solder and with the best of Channel Metal. GUN-METAL and other COCKS, embracing improvements of all descriptions, are made on the same principle.
The Patentee's Patent Silent Steel Valves are self-acting, cannot stick, and are only about half the cost of those in use, are more than twenty thousand of the above valves have been sold within two years.
We beg to submit one of the many testimonials in our possession.

Loudon Works, near Birmingham
Dear Sir, We have used many of your patent ball valves, and find that they answer the purpose extremely well, and are very much in demand on our Water-works district.
Mr. F. G. Underhay. Messrs. W. CUBITT and Co., of Gray's-inn-lane, and Messrs. T. CUBITT and Co., Thames-bank, so many other eminent houses have had the largest quantities of them, will vouch for their being superior to any other articles applicable to the same purpose.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Soil GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices

Straight Barrel Pipes, with Sockets and Spigots, in 2-ft. Length					
2-in.	3-in.	4-in.	6-in	9-in	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low
N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSSER, at their Lower Wharfs, Upper Thames-street, Blackfriars; Millbank street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Rolled Bars, Sinks, and Stable Troughs, Air Bricks, Coal Plates, &c. Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Shop-front Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Ply and other Wheels, Wheel Plates, &c.
BAKERS' OVEN WORK, Force Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
103, DRURY-LANE, and CHARLES STREET, DRURY-LANE.
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of Iron-work for every purpose, either structural or ornamental.
Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Mould.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
103, DRURY LANE, and CHARLES STREET.

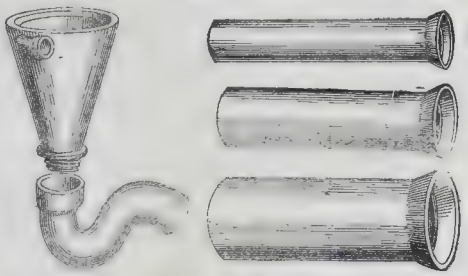


LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury, do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application for dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from 1 inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass taps, upper brackets, and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints of hot water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1761.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.

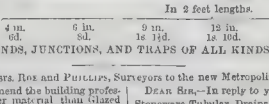


N B, These are made without the discharge-hole being turned down wards.

2 in. bore, 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them also at superfluous. Their cheapness, strength, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware
May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin; Deckhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, Kings-road, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,

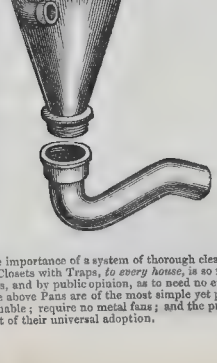


In 3 feet lengths.		In 2 feet lengths.				
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d.	2s.	4s. per foot

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.
DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS
DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH,
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.
The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

FREEHOLD LAND.

WANTED, on the Surrey side of, and within a distance of 7 Miles from London Bridge, a a PIECE of LAND, containing 6 or 7 Acres.—Particulars, stating the dimensions and price, &c., to be sent to Mr. HENRY JARVIS, Architect and Surveyor, 32, Trinity Square, Newington, Surrey.

LAND (FREEHOLD) and FARM BUILDINGS FOR SALE, adjoining a railway station, about eight miles from London, 60 acres of LAND, suitable for building or agricultural purposes.—Apply to Mr JOHN DAWSON, Auctioneer and Estate Agent, Pall Mall, and Kingston, Surrey.

NEW CROSS, SURREY. — Two very DESIRABLE RESIDENCES fronting on the high road, and near to the railway station, having fore courts and large gardens in the rear, one with a coach-house and stable attached, TO BE LET on repairing leases or otherwise. For terms and further particulars, apply to Mr WM. SNOOKE, Architect and Surveyor, 69, Tooley-street, Southwark.

ISLINGTON.—LAND TO LET for a SINGLE VILLA, 40 feet frontage, with extensive garden ground, 185 feet deep and 125 feet wide, at rear. Rent, 9 guineas per annum; Lease, 97 years. It is fronting the high road, and near to Canonbury. Omnibusses constantly passing, and any one wishing to build a second or third rate for their own occupation, or for investment, will find this a desirable opportunity, as the houses erecting on this estate sell and let before they are finished. Also ground adjoining for a pair of third-rate Villas, at four shillings and sixpence per foot; frontage, 140 feet deep. Bricks and money advanced, if required.—Apply No. 5, Devonshire Cottage, Green-lanes, Stoke Newington.

TO BUILDERS.

TO LET, on BUILDING LEASE, for a term of 97½ years, a PLOT OF GROUND in the immediate neighbourhood of the Old Kent-road, for the erection of six fourth-rate houses. The ground measures in frontage 140 feet, and 105 feet in depth. Ground-rent moderate. A premium of 40*l.* will be given to the builder when the houses are finished to the approbation of lessor.—Apply, in the first instance, by letter, pre-paid, to A. M., at Mr. Bowden's, 4, Hand court, Holborn.

TO BE LET on LEASE, CAPITAL PREMISES in DRURY-LANE, for any business requiring publicity, opposite the end of Long Acre, connected with a house and shop in Great Queen-street, with which it may communicate; and there is also a private entrance from Wild-street. The premises formerly was known as the White Horse, and can be let together or separate.—For terms and particulars, apply to Mr. GODWIN, Architect, 24, Alexander-square, Brompton.

BUILDING LAND, near the FOREST HILL STATION, London and Brighton Railway, six miles from Town.

TO BE LET, FREEHOLD LAND at monderate ground rents. A considerable extent of valuable park-like Land, beautifully undulating, finely timbered, and interspersed with Woodland and thriving ornamental plantations. The whole has been laid out as an entire design for building detached villas, and is intended to be kept as such, and so arranged, as to preserve its present park-like appearance. Each Villa may, if required, have Meadow Land, in addition to its pleasure grounds.—For full particulars apply to Mr. MOFFATT, Architect, 9, Spring Gardens.—N.B. Trains run to and from London-bridge every hour, in fifteen minutes.

TO BUILDERS AND CARPENTERS.

TO BE DISPOSED OF, a well-established BUSINESS in the above line, in the Isle of Wight, having most excellent premises, and every convenience for carrying on a good trade. There is a large and most respectable Jobbing connection with it. To any person of capital it is a concern offering great advantages; and as the present proprietor is immediately retiring from the same, they would be treated with on liberal terms. For particulars, apply to A. F. LIVESAY, Esq., Architect, Portsmouth.

SALES BY AUCTION.

FIVE THOUSAND PIECES OF PAPER-HANGINGS, 13 Dove, Vein, Marble, and Stone Chimney-pieces.

MR. BRAY, Jun., will SELL at his Rooms, 253, High Holborn, on WEDNESDAY, June 28, at Twelve, upwards of FIVE THOUSAND PIECES of PAPER-HANGINGS, comprising the different varieties.—May be viewed, and Catalogues had at the Rooms.

WESTMINSTER IMPROVEMENTS. Building Materials.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, Broad Sanctuary, Westminster, on MONDAY, June 26, at Twelve, by order of the Dean and Chapter of Westminster, the excellent MATERIALS and FITTINGS of Seven Houses in Broad Sanctuary, Dean-street and Flood-street, with extensive STABLING, consisting of lead in flats, gutters, and pipes; sound timber in joists, girders, and floor-boards; glazed sashes, and frames, doors, and fittings. Stable fittings, stone paving, a large quantity of sound brickwork, and numerous other effects. May be viewed one day prior to the sale, and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith street, Westminster.

FREEHOLD BUILDING GROUND, Land-tax Redeemed, situate in WELLCLOSE-SQUARE, St. Greoge's East, near the Docks and Blackwall Railway, of the estimated annual value of 60*l.*, by

MESSRS. FULLER and HORSEY, on WEDNESDAY, June 28, at Twelve, at the Mart, in one lot, by order of the Trustees under the will of the late Mrs. Katherine Whitmore, FREEHOLD BUILDING GROUND, land-tax redeemed, having a frontage of 100 feet next Wellclose-square, by a depth of about 90 feet, forming a valuable site for the erection of any manufacturing premises, being within a few paces of the London and St. Katharine's Docks and the Custom House, or for dwelling-houses, and of the estimated annual value of 60*l.* per annum.—To be viewed till the sale; particulars may be had at the Mart, of Messrs. ROUMIEU and WALTERS, Solicitors, 9, New-square, Lincoln's-inn; and of Messrs. FULLER and HORSEY, Billiter-street, City.

TO THE NOBILITY, GENTRY, ARCHITECTS, COLLECTORS, &c. Oak Carvings, Pictures, Decorative ditto, Ancient Oak Furniture, Louis XIV. ditto.—By

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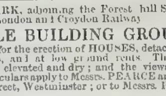
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The Tenders to be addressed to "The Secretary to the Board of Ordnance," and indorsed "Tender for Works at Detachment Hospital, Chatham."

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Kensington 1, Canning-place, 29th June, 1848.

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Camberwell, 26th June, 1848.

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DESPATCH GAS COOKING STOVE.—At any moment, day or night, this apparatus can be put in full operation, at a small cost, for broiling chops, steaks, kidneys, bacon, or frying fish, boiling or stewing, or other modes of cookery. Sold, at 21 lbs. each, by the registered proprietor, CHARLES RICKETTS, manufacturer of the Patent Caloriferic Gas Stoves for warming halls, rooms, shops, churches, or any other building that has not any chimney.—No. 5, Agar-street, Strand, opposite Charing-cross Hospital.

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission from Eight o'Clock till Seven. One Shilling; Catalogue, 1*s.*

JOHN PRESCOTT KNIGHT, R.A., Sec.

INSTITUTION for the FREE EXHIBITION of MODERN ART, HYDE-PARK GALLERY.—This Gallery is NOW OPEN. From until the Close of the season. Mornings, from Ten to Six; Evenings, from Seven to Ten (Saturdays excepted), when the Admission will be 1*s.* each.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington-butts.

N.B. Cowley and Kent Bricks of every description, and Kentish Rag stone direct from the Quarries.

BRICKS, TO BUILDERS AND OTHERS.

J. SMITH, of the Commercial-road Fields, Peckham, begs to call the attention of Builders and others, to his STOCK of very superior MALM BRICKS, comprising Seconds, Cutters, Paviours, and Pitchers.

N.B. Several acres of very eligible BUILDING LAND to let, for a term of Ninety-nine years. Land tax redeemed.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles. Lime, sand, gravel, bricks and tiles of every description. Dutch clinkers, house sand red and white, moulding ditto, &c. &c. Fire Bricks continually unloading in the river, and a considerable saving to purchasers wanting large quantities taking them from the ships.

RICHARD A. C. LOADER, 24, Pavement, Finsbury, respectfully solicits all parties about to furnish, and requiring FURNITURE, to inspect his stock, which will be found to consist of the newest designs of Furniture of the best seasoned materials, at the lowest possible prices. An estimate given for any quantity of goods, from one room to an entire house. Books of prices may be had on application, and also books of designs lent. An early inspection is respectfully solicited, and your particular attention to the drawing is requested in full. RICHARD A. C. LOADER, 24, Pavement, Finsbury.

R. A. C. LOADER has just introduced a unique and beautiful article of furniture, which he denominates the QUEEN'S EASY CHAIR, made of fine Spanish mahogany, spring and hair stuffed, and covered with the finest quality of Morocco. The price, complete, 4*l.* guineas. The GONDOLA EASY CHAIR, of the same quality, 4*l.* guineas.

BUILDERS' BENEVOLENT INSTITUTION.—LIST of NOBLEMEN and GENTLEMEN who have already assented to be STEWARDS at the ANNIVERSARY DINNER to be held at the FREEMASONS' TAVERN, on the 19th July, 1848.

Lord ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

Lord Dudley Coutts Stuart, M.P.
Sir Benjamin Hall, Bart., M.P.
Samuel Morton Peto, Esq., M.P.
C. Tilstone Wood.
David Salomons, Esq., Alderman.
William Lawrence, Esq., Alderman.
Thomas Grissell, Esq., F.S.A.
George Godwin, Esq., F.R.S.
Wm. Drake, Esq.

Allen, Thomas, Camden-town.
Angell, Samuel, St. Clement's Danes and St. Mary-le-Strand
Archer, E. T., New Oxford-street.
Biers, Hugh, Carlton Villas.
Bird, Stephen, Kensington.
Bird, George, Edgware-road.
Bird, Joseph, Portman place.
Bird, John, Hamilton terrace.
Boulting, —, Union-street, Middlesex Hospital.
Brown, George, Lisson-grove.
Burnall, Abraham, St. Martin's-lane.
Burstall, Robert, ditto.
Bywaters, Mr., Clyde's-place.
Chamberlain, George, Crawford street.
Cooper, R. W., Belvidere-road.
Cozens, Thomas, Lisson-grove.
Curtis, R., Stratford.
Curtis, E., ditto.
Day, Ebenezer, Edgware-road.
Ebbs, John, Aberdeen-place.
Ferguson, D., Stafford-street.
Gooch, E. W., Connaught-terrace
Gritten, W. R., Bull's Head-court.
Gutch, George, Paddington.
Harris, William, Green street.
Herbert, Wm., Clapham common
Head, the late, Upper Baker st.
Hersilet, Lewis, Greek-st., Soho.
Hewlett, Quebec-street.
Higgs, Joshua, Davies-street.
Hockley, Thomas, Enri-street.
Hoof, Jas., Madeley-street, Kensington.
I'Anson, E., jun., Clapham and Southern Division of Batteries.

Kendall, H. E., District of Hampstead.
Lee, Wm., Upper Ground-street.
Leonard, Jno., Holloway
Lever, George, London town.
Lillie, B. J., High-street.
Long, John, West-acre green.
Lucas, George, Red Lion-square.
Markham, C., Chandler-street.
Merrill, James, Lisson-grove.
Mullin, John, Bruton.
Needham, Th., Tredegar's rd.
Nicholls, R. D., Walden-rth.
Norris, William, Hackney.
Outhwaite, Jno., East Smithfield.
Palmer, Philip, St. Martin's-lane.
Penn, Samuel, High Holborn.
Pousford, James, Castle-st. park.
Pownall, George, St. Giles-in-the-Fields and St. George's, Bloomsbury.
Richardson, R., Queen street, Edgware-road.
Rogers, William, South Lambeth and Streatham.
Scrivener, Mr., Walden-rth.
Smith, Geo., Pimlico.
Smith, G. S., Upper Baker-street.
Sparke, G., King-street, Tower-hill.
Stephens, S. J., Charlotte-street.
Tattersall, Edmd., Hyde-park-corner.
Timson, Mortimore, Stanhope st.
Turnbull, T., Pentland-town.
Unwin, Isaac, Hackney.
Warrington, E. D., City-chambers
Virtue, John, 68, Newman-street.
White, John, Marylebone.
White, John, jun., ditto.
Wigg, George, Bedford row.

Dinner on Table at Five o'Clock. Tickets, 20*s.* each, to be had of the Stewards; the Bar of the Freemasons' Tavern; the Treasurer, Mr. G. BIRD, 36, Edgware-road; Mr. Laura Herbert, Collector, 43, Crawford street; and at the Office of the Institution, Poland House, Broad street, Golden-square, daily, from 10 till 4; and of WILLIAM GURR, Secretary,
Hawley-road, Kentish-town.

PAPIER MACHE AND CARTON PIERRE ENRICHMENTS MANUFACTORY.

49 & 50, RATHBONE-PLACE.

GEORGE JACKSON and SONS beg the attention of Architects, Builders, Decorators, and others, to their large assortment of ENRICHMENTS in every style, executed in the highest class of art. Enrichments for ceilings of every period, elaborate or simple, Gothic, Elizabethan, pendentive or flat, Louis XIV. in much variety, and to any degree of cost, Italian and Greek, Renaissance, and many nondescript characters executed for the first houses, and from designs of architects of the highest eminence; wall dressings, rich panels of every period, rich Elizabethan and Gothic Dados, in many designs. Door cape, mouldings, and dressings.

A large assortment of Gothic Bosses to many varied intersections of all sizes, tracery and panel headings for church works, organ dressings, of most periods, and faithfully executed to the traits of each.

The general decorations of Drawing and Dining Rooms, Libraries, &c., of very considerable extent, as furniture, glass frames, tables, window cornices, screens, candelabrum, and the whole range of accommodations to Reception Rooms of the first class, as well as more subdued.

The facilities and repeated enlargement of means enable GEORGE JACKSON and SONS to announce the execution of works of the above descriptions in these advantageous materials at a cost considerably below any known method, while for quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

PAPIER MACHE AND CARTON PIERRE WORKS, 49 & 50, RATHBONE-PLACE, LONDON.

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages claimed for assurances by the plan on which policies are granted by this Office. Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge-street, Blackfriars.

COMMERCIAL and GENERAL LIFE ASSURANCE ASSOCIATION, 113, Cheapside.

HENRY GEORGE WARD, Esq., M.P., Chairman.

Life Assurances effected upon every system. Credit given for half the amount of premium. Loans granted to policyholders upon either real or approved personal security. A liberal commission allowed to solicitors and agents.

JAMES DANIEL, Secretary

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard street, London.

CHAIRMAN—SYDNEY SMIRKE, Esq., R.A.

TRUSTEES.

Thos. Leverton Donaldson, Esq. | Anthony Salvin, Esq., F.S.A.
Samuel Grimsdell, Esq. | George Smith, Esq., F.S.A.

The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one-third till the end of life. Thus large sums may be insured at the smallest present outlay.

Prospectuses, forms of proposal &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.

AGENTS WANTED for those towns for which appointments have not yet been made.

JOHN REDDISH, Manager

The Oldest Mutual Fire Insurance Society in existence for the United Kingdom is the

KENT MUTUAL FIRE INSURANCE SOCIETY, which is established under the Acts of Parliament relating to Friendly Societies, and has been very successful in its operations. Among the principal features are—

No persons liability—no legal expenses—the Directors chosen by the insured—perfect security—being enrolled and having an ample capital—Profits Invested and Returned to the insurer every three years—reasonable rates—no charge for Policies—prompt and liberal settlement of losses—economical management—Policies transferred from other offices free of expense.

Prospectuses may be had of the Agents throughout England, Scotland and Wales, at the Offices of the Society, Rochester, Kent; and at 37, Moorgate-street, London.

THOMAS BURR, Secretary.

Agents wanted where none are appointed.

This Society was originally confined to Kent, but is now extending to every County in Great Britain

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WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer the PRESENT STOCK of TILES at a very Reduced Rate for immediate Pavements of the best description, at 1s. 2d. per square foot. These goods, at 9d. NB These Tiles being manufactured in exact imitation of the best ancient patterns, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "machings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are now at work at Alperton and at the Company's office, 139A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Scrimgeour who has been appointed manager in the room of Mr John Ainslie will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 139A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 133, Buchanan-street, Glasgow; Mr. Robert Chaser, Millhill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

EMBOSSED FLEUR REGISTERED.



ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving for corridors, stables, and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London: also, at the Trade, Thorough staff orders. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and terms if the London or Staffordshire prices are wanted.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c., &c. Also Architects, Surveyors, and Builders to a great variety of Decorations for Parapets, Basements, Terraces, Pediments, Window Cornices, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. &c. &c. All of which are of a superior manner, and charged at a reasonable price.—2, Pavement, Finsbury square, from Albion Wharf, Blackfriars-bridge.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and only Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

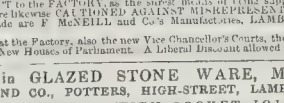
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland, at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, also used for under slates at the Royal Agricultural Society's House, in Hanover square.

It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 29 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions for its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the country. A Deputation from the Patentees will wait on Architects, Builders, &c., also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully informed to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in full enjoyment of the protection of the PATENT, against MISREPRESENTATION, as all such works in great lengths best suited to their roofs. They are likewise CAUTIONED AGAINST PURCHASING any unsold works in great Britain where the above roofing is made are F. McNEILL and Co's Manufactories, LAMB's-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament. A Liberal Discount allowed to the Trade.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON and CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.		In 2 feet lengths.				
2 in. 4d.	3 in. 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1d.	12 in. 1s. 10d.	15 in. 2s.	18 in. bore. 4s. per foot

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and doing that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

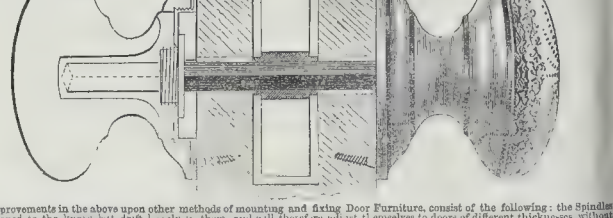
DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly.

Mr. H. Doulton. JOHN ROE.

By Her Majesty's  Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will direct themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the follower; the action also is more pleasant than with ordinary mountings, and these fixtures prevent the disagreement of the door with the rose which frequently occurs when the common rosette is used.

The knobs are rendered both stronger and truer by the omission of the screw holes from the necks, and the liability of breaking the spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.

They are made (to suit every style of decoration), in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger-plates, Bell-pulls, and Levers. May be obtained of all Ironmongers, or of the Proprietors and Sole Manufacturers, HART and SON, Wholesale Ironmongers, 23, 24, & 25, Newman-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.

W. CROSBY, 22, Lowther Arcade, Charing Cross.

FRENCH PAPER-HANGINGS.—The complete stroke of all the workmen in Paris has induced Messrs. MARKS and Co. to extend their Manufacture of Papers here, and at Prices that will defy competition for good papers and good works, viz., Bed-room Papers on grounds, 7d.; Oaks, 9d.; Marbles 10d.; Satins, 8s. per piece of 12 yards long and 21 inches wide. Crimsons and Flocks equally low. A large stock of French still on hand. 58, Princes-street, Leicester square.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, 80-Begs an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand. Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Anne Elias.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean street, Soho, London.

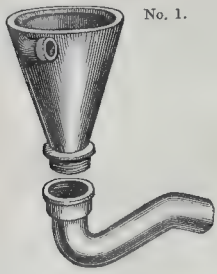
Cleanliness is necessarily at all times conducive to health, and this as well as economy, is greatly promoted by substituting for the tedious process of painting with oil and white lead,

STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT. For decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior in imitation by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 31, Stamford street, Blackfriars, and Londn., in bottles of 6d. and 1s. each, and at 16s. per gall. The Oak Colour may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain. N.B. The trade supplied.—Sold also by the Office of "The Builder," 2, York-street, Covent Garden, London; and by HOPKINS and PURVIS, 30, Greek-street, Soho.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH,

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



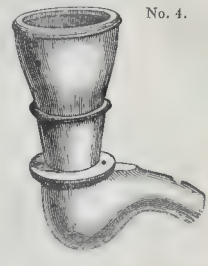
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No. 3.



No. 4.

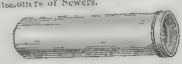
The importance of a system of thorough cleaning and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and impershable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

UNION BROWN STONE POTTERY,

CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
2 in.	4 in.	6 in.	9 in.	12 in. bore	
3d	5½d	6½d	8½d	1s 1½d	1s. 10½ per foot
4d	5½d	6½d	8½d	1s 1½d	1s. 10½ per foot

Bends and Junctions equally low

N.B Drain-pipes from Manufacture may also be obtained of Messrs. ROSHER, at Pell Lime Wharfs, Alfred Wharf, Hollan l-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Lunehouse.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELFACTING EFFLUVIA TRAP

For Sewers and Drains of all kinds.

Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours. It acts entirely self-acting and self cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

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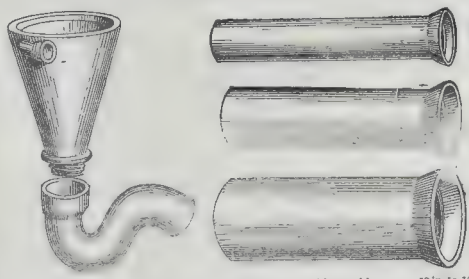
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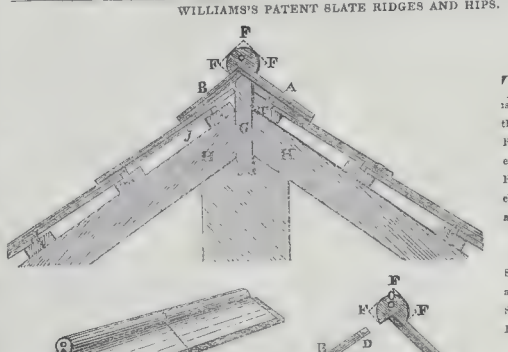
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PERSONS willing to deliver TENDERS for RE-PAVING TWO STREETS by CONTRACT, at Wapping, as per the Bridewell Hospital Estate can inspect the specification at the Clerk's office, Bridewell Hospital, New Bridge-street, Blackfriars, any day from this date until Monday, the 17th inst., between the hours of Ten and Three o'clock. The tenders to be sealed, endorsed "Tender," and addressed to the Governors of Bridewell Hospital, are to be delivered at the Clerk's office before Three o'clock, on the 17th inst.

B WELTON, Clerk.
Bridewell Hospital, July 4, 1848.

Kensington, 1, Canning-place, 29th June, 1848.
TO ENGINEERS AND OTHERS

PERSONS desirous of CONTRACTING for the STEAM-BOILER and COOKING APPARATUS for the NEW WORKHOUSE, Kensington, may see the plans and specifications at the office of Messrs. ALDOM and CROSSE, 14, Hart-street, Bloomsbury square, after Tuesday, the 11th of July next. Tenders to be forwarded to the Clerk's office on or before the 10th day of July next. The Guardians do not bind themselves to accept the lowest tender.—SAMUEL CORNELL, Clerk to the Board of Guardians.

TO STONE, FLINT, KENTISH RAG, GRAVEL MERCHANTS, CARMEN, AND OTHERS.

THE Board for the Repair of the Highways of Saint Mary, Newington, Surrey, will meet at the Vestry-room, on TUESDAY, 18th July instant, at Six o'clock in the evening precisely, to receive proposals from persons willing to CONTRACT for the supply of PAVING, GRANITE, FLINT, KENTISH RAG, and GRAVEL; also for such cartage as may be required, from the said 18th July instant, to Easter Tuesday, 1849, both days inclusive. For further particulars and forms of tender, application to be made to Mr. Andrew Aird, at No. 1, Churchyard, Newington Butts, Surrey.—By order of the Board.
Vestry Room. HENRY CHESTER, Jun., Clerk.

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Wokingham, June 22, 1848. JOHN R. WHEELER.

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T. J. BUCKMAN, Secretary
London Terminus, June 29, 1848.

GUILDHALL, 30th June 1848.

THE Committee for Letting the City's Lands will meet at Guildhall, on WEDNESDAY, the 12th day of July next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for twenty-one years from Michaelmas, 1848, a House, No. 14, on the north side of Broad-street-buildings, and Premises behind the same; a House, No. 38, on the south side of Broad street-buildings; and a House, No. 33, on the south side of Upper Thames-street. Also to receive Tenders for Letting on a Building Lease for eighty years from Michaelmas, 1848, a large Plot of Ground on the east side of Paddle Dock, on the south side of Upper Thames-street, and on the north side of the river Thames.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.
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NOTICE IS HEREBY GIVEN, that the Examiners appointed by and in pursuance of the Metropolitan Buildings Act will hold their next Examination of Persons desirous to obtain a certificate of qualification for the office of District Surveyor on THURSDAY, the 27th day of July instant.

Persons desirous to be examined must apply on or before the 24th instant, at the latest, at which time they are required to deliver a preliminary statement, according to the course of examination prescribed in the rules for that purpose, copies of which, and any other information with which may be had at the Office, or at Mr. WEALE'S, Architectural Bookseller, High Holborn.

Subsequent Examinations will be held in the months of October, January, and April, or at such other periods as shall be appointed, of which due notice will be given.

ARTHUR SYMONDS,
Registrar of Metropolitan Buildings.

LAST WEEK BUT ONE

ROYAL ACADEMY of ARTS, Trafalgar-square.—The EXHIBITION of the ROYAL ACADEMY is NOW OPEN. Admission from Eight o'clock till Seven; One Shilling; Catalogue, 1s.
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THE INDUSTRIAL and FINE ARTS.—LONDON MECHANICS' INSTITUTION. The SECOND EXHIBITION of the DRAWINGS of CLASSES of this Institution will open on MONDAY, July 10th, at Seven o'Clock in the Evening, and remain open every evening during the week to members and their friends; and also to members of other Literary and Scientific Institutions, on presenting their ticket of membership.
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BUILDERS' BENEVOLENT INSTITUTION.—LIST of NOBLEMEN and GENTLEMEN who have already assented to be STEWARDS at the ANNIVERSARY DINNER to be held at the FREEMASONS' TAVERN, on the 19th July, 1848.

Lord ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

Right Hon. Lord Viscount Morpeth, M.P.
Lord Dudley Coutts Stuart, M.P.
Sir Benjamin Hall, Bart., M.P.
Benjamin Bond Cabbell, Esq., M.P.
Sydney Morton Leto, Esq., M.P.
C. I. Thomas Wood, Esq.
David Salomons, Esq., Alderman
William Lawrence, Esq., Alderman,
Thomas Grissell, Esq., F.S.A.
George Godwin, Esq., F.R.S.
Tom Cubitt, Esq.

Allen, Thomas, Camden town.
Angell, Samuel, St. Clement's-Danes and St. Mary-le-Strand.
Archer, T. T., New Oxford-street.
Badger, C. R., Dist of Lewesham
Biers, Hugh, Carlton Villas.
Bird, Stephen, Kensington.
Bird, George, Edgware-road.
Bird Joseph, Putney, place
Bird, John, Harrold's-place
Bird, John, Jun., Seymour-place
Blythe, District of Bromley.
Boulding, —, Union-street.
Brown, George, Lesson-grove.
Bursall, Abraham, St. Martin's Bursall, Robert, ditto.
Burton, H., Aldersgate-street.
Bush, J. F., Hayes's-place.
Chamberlain, George, Crawford-street.
Cooper, R. Belvidere-road.
Cragie, Thomas, Isleson-grove.
Curtis, R., Stratford.
Curtis, E., ditto.
Day, Edmeer, Edgware-road.
Ebbs, John, Aberdeen-place.
Ferguson, D., Stafford street
Gooch, E. W., Connaught-terrace.
Gritten, W. R., Bull's Head-court.
Gurney, George, Paddington.
Hakewill, E. C., District of St. Paul's, Covent Garden.
Harris, William, Green street.
Herbert, William, Islington common.
Head, George, Upper Baker st.
Herniker, Lewis, brickmaker, Soho.
Hewett, Charles-street.
Hicks, Joshua, Baker street.
Hooley, Thomas, Paddington.
Hoof, Jas., Kensington.
Hutchins, Wm., Berners-place
Lehmann, —, Dist. St. Marylebone
Southern District of Bow-road.
Kendall, H. E., District of Hampstead.
Kendall, H. E., District of St Mary-le-bone-Fields
Lee, Wm., Upper Ground-street.
Legg, Geo., St. Andrew's, Holborn
Leonard, Jno., Holloway.
Lewis, George, Camden town.
Lillie, R. J., High-street.
Long, John, Westbourne green.
Locke, George, Red Lion-square.
Mashman, C., Charlotte-street.
Metcalf, James, Euston-place.
Meulan, John, Dist. of Streatham
Neal, Jn. Thomas, Theobald's-road.
Nicholson, D., Wandsworth.
Norris, William, Hackney.
Offield, Charles, Regent's-park-terrace
Outwaite, Jno., East Smithfield.
Palmer, Philip, St. Martin's-lane.
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Phillips, John, Sewer's Office.
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Pownall, George, St. Giles in the-Fields and St. George's, Bloomsbury
Richardson, R., Queen street.
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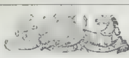
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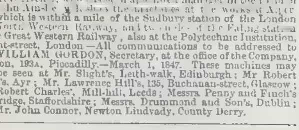
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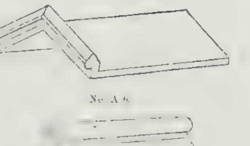
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GREAVES'S BLUE LIAS LIME and LIAS CEMENT. Messrs. BURTY and VEREYS, 3, South Wharf, Paddington, [illegible] Works at Stratford-on-Avon [illegible] GLAZED STONE WARE DRAIN PIPES on [illegible]

ATKINSON'S CEMENT.—WILLIAM W[illegible], Manufacturer of Roman, Portland, and [illegible] Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT [illegible] which may either be [illegible] in imitation of stone, [illegible] It is a cheap and efficient substitute in place of wood for skirting, architraves, and other mouldings, in its application for which purpose it checks the progress of fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as the Building and Lining of Reservoirs, Cisterns, Baths, [illegible] &c. For External Plastering and Ornamental Castings, it requires neither Colour nor Paint; it never vegetates, and will carry from three to four times its own bulk of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it [illegible] or turn green, nor is it affected by [illegible] whatever the climate [illegible] from five to sixty minutes. For all purposes that Cement is applicable [illegible]. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall.

PATENT PORTLAND CEMENT.—To ENGINEERS, ARCHITECTS, SURVEYORS, and BUILDERS. Messrs. ROBINS, ASPDIN, and Co., are preparing at their Wharf, Great Scotland yard, Whitehall, a course of experiments to test [illegible] strength of their Portland Cement, as compared with Cements of every description manufactured by any other parties, and for the satisfaction of the building trade, they hereby invite all Cement Manufacturers to compete with them, either at their Wharf, or any other place to be agreed upon [illegible] the great superiority of their cement over all others. R., A., and Co., will announce in "The Builder" and other papers, the time of trial to afford the opportunity of Engineers, Architects, Surveyors, and Builders being present thereat.

MARTIN'S FIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON Patentees, beg to caution their friends and the trade generally against [illegible] Cement [illegible] erroneously said to be of the same description. S. and S. pledge them[illegible] that MARTIN'S CEMENT is totally dissimilar in composition and manufacture from every other, and being a neutral compound [illegible] resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1. Its great [illegible] hardness of surface.
2. Unlike other [illegible] its hardness is uniform throughout its entire thickness.
3. Its [illegible] equal to that of the finest marble. NEVER THROWS OUT ANY SALT, and will receive paint in four days, without peeling, when put upon dry work.

[illegible] skirtings, architraves, mouldings, and enrichments of all kinds, to all of which purposes it [illegible] extensively applied by Mr. Thomas Cubitt, [illegible]

For the above purposes, it possesses great advantages over woods, being more economical and durable, resisting fire, damp, and vermin.

For the floors of halls and fire-proof warehouses, its lightness, durability, and uniform surface give it an immense advantage over stone, being, at the same time, much more economical. The most satisfactory references can be given. To be had of the Patentees, Plaster of Paris and Cement Manufacturers, 185, DRURY LANE. Agent for Liverpool and Manchester, Mr. R. PART, 28, Canning-place, Liverpool.

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT, Dunball near Bridgwater.—The Proprietor of these Works begs to inform the public that he is now enabled to supply them with an unlimited quantity of the above cements, and that the Bath and Portland will be found to resemble those celebrated stones both in colour and durability. They are recommended as being superior to all others, for the following reasons:—Being made of Inland Stone (and not [illegible]) they [illegible] turn green (a fault so generally complained of with Roman), they take a much larger quantity of sand than other Cement, never crack, blister, or peel off, and will be found [illegible] preferable to [illegible]. They are perfectly Hydraulic, and will set under water in a few minutes; as an external Stucco [illegible] kinds of water and not affected by frost or heat; they improve both in texture and durability, and require neither paint nor colour to make them resemble the best Bath and Portland stone, no other mixture being required than common sand. When used as an internal Stucco for walls, staircases, passages, &c., the Bath and Portland Cements may (if required) be trowelled up to a face almost equal to marble, or may be painted [illegible] in a few days. The IMPROVED ROMAN CEMENT [illegible] qualities of Bath and Portland except that [illegible] it is harder, [illegible] in every respect better than any [illegible] appreciated.

A stock of those Cements, as well as Blue Lias Lime ground for [illegible] always on hand, which may be had at BOARD'S Depot Stone-yard, Paddington Station, and of the following Agents—viz. Mr. R. C[illegible], Kent-square, Liverpool; Mr. Baker, 78, Digbeth, Birmingham; Mr. Furze, Hotwells' road, Bristol; Messrs. Tothill and Co., Temple Backs, Bristol; Mr. W. Davey, Quay, Bath; Mr. Grimsly, Oxford; Messrs. Clarkes, Reading; Mr. Thos. George, Windsor; Mr. Hurniman, Taunton; Mr. Tuckett, Exeter; Messrs. Browne's and Co., Bridgwater; Messrs. Southam and Evans, Gloucester.

PROTOXIDE PAINT, for Stucco Fronts, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and [illegible] of Painting. This Paint has been [illegible] years, is [illegible] under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence [illegible] to Mr. B. TODD, Patentee, 23, [illegible] street, Soho, London.

EMERSON'S PATENT CEMENT PAINT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE SIXTH the cost of oil paint, for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can [illegible] beautified [illegible]

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS, [illegible] sheds, railing, and all kinds of out-door work, [illegible] preparation, and [illegible] PATENT ASPHALTE ROOFING, AND SHEATHING FELT [illegible]

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church-court, Clement's-lane, Lombard-street.

COMMERCIAL and GENERAL LIFE ASSURANCE ASSOCIATION, 112, Cheapside.

HENRY GEORGE WARD, Esq., M.P., Chairman.

Life Assurances [illegible] credit given for half the amount of premium. Loans granted to policy holders upon either real or approved personal security. A liberal commission allowed to Solicitors and Agents.

JAMES DANIEL, Secretary.

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The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one-third till the end of life. Thus large sums may be insured at the smallest present outlay.

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Parties desirous of providing for the Renewal Fine in their Leases, can do so with facility in this Society.

Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

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GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79 King William-street, City.

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RICHARD HARTLEY KENNEDY, Esq., late Physician General, Bombay, Deputy-Chairman of the Oriental Bank, Kensington Lodge, Notting-hill, Deputy-Chairman.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

This Society is established upon the most approved principles of the mutual system, dividing the whole of the profits among the members; and allows credit for half the amount of the first five annual premiums.

The first division of profits will be in the year 1849.

Proposals of every description entertained, involving the contingency of human life.

INDIA AND LONDON LIFE ASSURANCE COMPANY.

CAPITAL, 250,000*l.*, IN 5,000 SHARES OF 50*l.* EACH.

This Company assures the lives of healthy persons in any part of the world, at as low rates of premium as can be taken consistently with perfect security; whilst, for the accommodation of the assured, a half premium table (No. 2) has been constructed on a plan peculiar to this office, and affording great advantages to parties assuring for short periods, with the option of continuing for the remainder of life.

Also invalid lives whether afflicted with mental or bodily infirmities.

And lives of naval and military officers and civilians in India, in any of the Colonies, or other parts of the world.

Annuities granted, and endowments for widows and children.

London, 14, Waterloo-place. A. R. IRVINE, Manager.

The following examples show how small a weekly sum will secure the benefit of Life Assurance for 100*l.*:—

WITH PROFITS.	WITHOUT PROFITS.
At age of 20, about 9d. per week	At age of 20, about 8d. per week
" 30 " 1s. "	" 30 " 10d. "
" 40 " 1s. 4d. "	" 40 " 1s. 1d. "

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.—Established 1806.

Invested Capital, 1,250,000*l.*
Annual Income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*
PRESIDENT.—The Right Honourable Earl Grey.

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The Hon. Arthur Kinnaird, Chairman.
The Rev. John Sherman, Deputy-Chairman.

Henry B. Alexander, Esq.	William Ostler, Esq.
Henry Blencowe Churchill, Esq.	George Round, Esq.
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The rates of premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other offices.

The bonuses are added to the policies, or applied to the reduction of the premiums.

Policies issued by this Office are purchased at their full value; or loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within twelve months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the Insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective bonus to policies lapsing between the septennial periods of division, in order that all the policy-holders may participate equally in the profits of the society.

THE FOLLOWING TABLE SHOWS THE AMOUNT OF BONUSES ADDED TO POLICIES EXISTING AT THE PRESENT TIME.

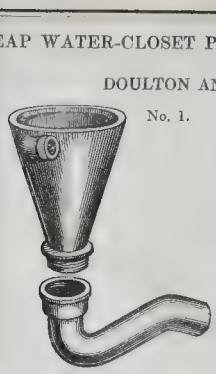
Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original insurance.	Total sum payable, to which future bonuses will be added.
		£	£ s. d.	Per cent.	£ s. d.
21	1806	[illegible]	[illegible]15 10 2	83 16	91[illegible] 10 2
[illegible]21	18[illegible]	[illegible]	[illegible]82 12 1	10[illegible] 17	1,882 12 1
1,[illegible]	1810	1,[illegible]	1,1[illegible] 5 6	96 68	[illegible] 6
1,[illegible]	1811	1,[illegible]	[illegible] 8 6	83 [illegible]3	[illegible] 8 6
[illegible]	18[illegible]	2,[illegible]	[illegible] 13 5	9[illegible] 3	[illegible]6 13 5
[illegible]3	18[illegible]	[illegible]	[illegible] 7 8	7[illegible] 17	8,[illegible] 17 8
4,[illegible]	182[illegible]	[illegible]	2,[illegible] [illegible] 6	[illegible] 7	[illegible] 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and at the head Office, No. 50, Regent-street.

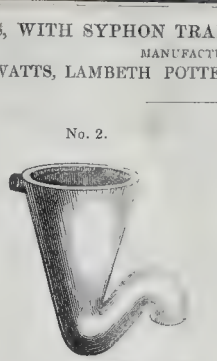
CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH,

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



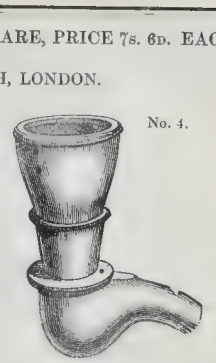
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary Inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and serviceable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

ARCHITECTURAL ENRICHMENTS.

PIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronised by her Majesty, by the honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords at Dublin Castle, at Prayt n Manor, the new Conservative Club House, Gto ers' Hall, &c. also at the British Museum and the Queen's Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of rooms, &c. A volume of enrichments, containing more than 1,000 figures of the papier mâché ornaments, with a tariff, price £1—Office, 15, Wellington Street North, Strand.

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WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that as a large Stock of Sheet-Glass on hand, which he will supply in 50-feet cases, delivered free in London for 43s. 6d. per case, or 50 size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash

BROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; Patent Lead, 27s.; and Colours and Brushes, Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.

Garden Pans; Propagating, Bee, and Cucumber Glasses; Paperings from 1s. per piece upwards, of very superior description.

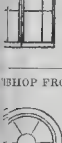
GREAT REDUCTION IN THE PRICE OF PLATE-GLASS. THE UNION PLATE-GLASS COMPANY.—Pocket-book, St. Helen's; 99, Hatton garden, London: No. 13, York-street, Mosley-street, Manchester; and 26, Old Bond-street, Liverpool; inform Builders and the public generally, that they are now selling at prices varying from 2s. to 3s. per foot, and smaller plates suitable for cottages, greenhouses, and conservatories, at 6d. to 1s. per foot.—RICHARD JONES, Secretary.

THE NOBILITY, CLERGY, GENTRY, ARCHITECTS, &c.

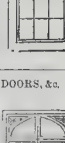
ORNAMENTAL, EMBLAZONED, and FIGURED STAINED GLASS, and ENCAUSTIC TILES. New processes.—The Advertiser is prepared to execute orders of every kind, and patterns, whether in medallions, flowers, figures, escutcheons, or monograms, in colours of the most beautiful and durable brilliance, and indestructible by the atmosphere, so as to meet the wishes of whoever supplies him with the design for such; and peculiarly adapted for cycles of stained glass and armorial bearings, &c. In not being restricted to size of object, nor to diversity of arrangement, and prepared to meet any competition, the encaustic Tiles are specially adapted for portions of apartments, the centre of the floor, also for paths, dairies, fire places, windows, &c. presenting to the eye the most pleasing proof of quaintness and decorum, and not affected by either dirt or moisture.

The ornamental, figured, enamelled patterns of Glass, at 1s. per square foot; and any private design will be executed at this price, when the order is not for less than 100 feet. The Tiles are at equally low price per square yard. Orders will receive the most prompt attention, and be specially completed. For cash only.—GEORGE WALKER, Paradise-street, Tunstall, Staffordshire Potteries.

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MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 300 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.



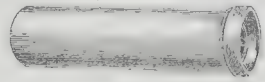
JOHNSON and PASK, 1, Amwell-street, Clerkenwell, near the New River Head,

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and neatly packed for the country.—A full list of prices forwarded by return of post, to any part of the country.



TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.			In 2 feet lengths.			
2 in. 4d.	3 in. 5d	4 in. 6d.	5 in. 8d.	12 in. 1s. 3d.	15 in. 2s. 1od.	18 in. here 3s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR, I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1id. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost unnecessary. Their cheapness, efficiency, and durability are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin; Dockhead, Bermondsey; Denver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, Kingsland-road, Camden New Town.

RIDER'S RAILWAY BRIDGE.—To Railway Companies. A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licences granted for its erection, on application to Mr. MOULTON, Bradford, Wilts

INDUSTRY *versus* BARRICADES.—FRENCH PAPER HANGINGS. Messrs. Marcus and Co. have great pleasure in announcing to the various Employers in Town and Country that the Barricade Workmen have not been their followers from the paths of honest labour, have all resumed their work with redoubled energy, and which will enable Messrs. M. & Co. to complete all their orders, and promptly execute all fresh orders which they may receive. July 8, 1848.—39, Princes street, Leicester-square.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 5d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent to town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Fancy decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 22, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, 80. Begs an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the establishment of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above. 451, Oxford street.

BRICKS.—Superior White-facing Bricks and Hard Stable Paviors, &c. &c., may be had at W. and S. WRIGHT'S Brick and Tile Works, Hanwell, Middlesex. Moulded Bricks and Tiles to any pattern, on liberal terms. The above works adjoin the Grand Junction Canal and Great Western Railway, from which goods may be conveyed to town and country at a trifling expense.

BRICKS.—TO BUILDERS AND OTHERS

J. SMITH, of the Commercial-road Fields, Peckham, begs to call the attention of Builders and others, to his STOCK of very superior MALM BRICKS, comprising Seconds, Cutters, Paviours, and Pickings

N.B. Several acres of very eligible BUILDING LAND to let, for a term of Ninety-nine years. Land-tax redeemed.

FIRE BRICKS.—WARD and HART, Houdurns Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from the manufactories direct, at the lowest prices. A large stock of every quality always on hand at the wharf as above. Goods made to pattern at a short notice. Patent corn-drying malting tiles. Lime, sand, gravel, bricks and tiles of every description; Dutch clinkers, loam and red and white moulding bricks, &c. &c. Fire Bricks continually unloading in the river, and a consideration saving to purchasers wanting large quantities taking them from the ships.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—35, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

THE BUILDER.

TO CARPENTERS, JOINERS, AND CASE-MAKERS.

TO BE DISPOSED OF, an OLD-ESTABLISHED BUSINESS in the above line, the proprietor being about to retire. The Lease of the House, Shops, and Premises will not exceed Three Years. Address, Mr. Gibbs, 326, Gray's-inn-road, Holborn.

VALUABLE WHITE BRICK AND TILE WORKS

TO BE DISPOSED OF, with immediate possession, an OLD-ESTABLISHED BUSINESS, now in full work, with all necessary buildings, fixtures, and machinery for the trade, and an inexhaustible supply of the finest Brick-earth this country can produce. The works adjoin a navigable river, from which a constant and speedy supply of coals can be had. Full particulars may be obtained on application to Messrs. D. NICHOLSON and SON, Wandsworth, Surrey.

SALES BY AUCTION.

VALUABLE OAK CARVINGS

MESSRS. CAFE, SON, and REID, will SELL BY AUCTION, at the Rooms, Great Marlborough-street, on THURSDAY, July 13, at Twelve, the OAK FITTINGS of a Church, comprising exquisitely carved columns, arches, screens, &c. May be viewed on Wednesday, and Catalogues had.

TO BUILDERS, CABINET MAKERS, AND FURNITURE DEALERS.

MR. H. BIERS has been directed by the Administrator to SELL by AUCTION, upon the premises, 3, Titmus-street, Hoxton-square, on THURSDAY, July 13, 1843, at Twelve precisely, the whole of the valuable STOCK, consisting of Mahogany in log, plank, and thickness; dry pine deals, rosewood, very fine walnut tree veneers, and other hard woods; quantity of mahogany furniture, fine old patchwork, marquetrie chairs, and numerous items.—May be viewed on Wednesday and morning of sale, when catalogues will be upon the premises, and at the office of Mr. H. BIERS, 13, Broad-street, Golden-square.

OAKLEY MEWS, ST. PANCRAS. CARCASS BUILDINGS AND BUILDING GROUND. Under a Fiat in Bankruptcy.

MR. H. BIERS has been directed by the Assignees of Mr. JOHN NOKES to SELL BY AUCTION, at the Mart, on MONDAY, July 17, lots of Freehold Lots, Three Small Carcass Dwellings, for Residences, for Immediate Occupation, As also, Sixteen Plots of BUILDING GROUND, the footing and vaults partly built, situate on the north side of Oakley-square, St. Pancras.—For particulars apply to F. JOPSON, Esq., Official Assignee, 6, Bedford-street; Messrs. SELBY and MACKENZIE, 7, Bedford-street; Messrs. SELBY and MACKENZIE, 59, Lincoln's-inn-fields; at the Mart; or of Mr. H. BIERS, 13, Broad-street, Golden-square.

SHREWSBURY.—TO BUILDERS. Or dwelling Premises of small Pretensions, opposite the Eastern Counties Railway Terminus, remaining Stock in Trade, &c., by

MR. MASON, on Thursday, July 13, on the Premises, George-street, by order of Mr. Little and the Executors of the late Mr. Oakeshott, DANTZIC TIMBER, Deals, Battens, sashed and glazed frames and frames in pieces, mouldings, moulded and glazed doors, partitioning, old timber, five stalled dwelling and three-story and other dwellings, seasoned poles, carts, trucks, a phaeton, harness, new ironmongery, and other articles in the trade. Catalogues of the Auctioneer, Norton-folgate House, Bishopsgate-street; and of the sale Yard, Shrewsbury.

SURREY IRON RAILWAY WHARF

MESSRS. D. NICHOLSON and SON have received instructions TO SELL BY PUBLIC AUCTION, on the above Premises, on WEDNESDAY, July 12, at One o'clock, 2,000 STONE BLOCKS, of various dimensions and various descriptions, recently removed from off the Surrey Railway; in lots, and intended to suit the convenience of Purchasers. The Stone may be viewed during the week, free of wharfage, and must be cleared within days from the time of purchase.—On view three days previous to Sale. Catalogues to be had on the Premises; of Messrs. BUTLER and HUNT, 8, Bow-lane, High-street, Wandsworth, and at Dyers' Hall, Dowgate-hill; and at the Auctioneers' Offices, Wandsworth.

CARCASES AND BUILDING GROUND ON THE CLOTHWORKERS' ESTATE, AT ISLINGTON.

MR. BRAY, Jun., is directed by the Mortgagee, to SELL, at Garraway's, on TUESDAY, 18th July, at Twelve o'clock, in three lots, unless previously disposed of by private contract, THREE BRICK CARCASES, numbered respectively in Coleman-street and South street, and a frontage in Prebend-street, capable of containing 19 other houses, all in Brittania Fields, in the parish of St. Mary Islington. Held for an unexpired Term of 80 years, at a ground rent of £30 per annum. May be viewed; and particulars had on the premises; of the Auctioneer, 2, Bloomsbury-square; and of Messrs. HENRY BROWN and T. A. ROBERTS, 23, Throgmorton-street.

TO BUILDERS, SEWER CONTRACTORS, AND OTHERS

MR. MELVIN is favoured with instructions to SELL by AUCTION, on the Premises, Rochester-row, Westminster, on TUESDAY, July 18, and two following days, at Twelve precisely each day, the STOCK in TRADE of Messrs. BENNETT, who are retiring from business, comprising handsome and substantial mahogany and other wood counters, shop fittings, and shelving, two excellent weighing machines, two weighing machines for heavy goods, two powerful crabs, two iron pulley blocks, three iron sash frames, a large quantity of iron bars, iron work, and wrought plates, planks, and scantlings, a large quantity of rough timber, two waggons, carts, &c., railroad iron, carpenters' benches, levels, a quantity of dry, well seasoned cut stuff for joiners' work, York paving, curbing, bricks, sand, and the usual implements and utensils of a builder's yard. On view, and catalogues had on the premises, and of Mr. MELVIN, Auctioneer, Bedford-row.

N.B. The compact Premises, built and fitted up for the business, to Let.

WESTMINSTER IMPROVEMENTS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the Premises, on MONDAY, July 10, at Twelve, by order of H. K. Abraham, Esq., Architect to the Improvement Commissioners, the MATERIALS of PORTIONS of SNIVELLING HOUSES, situate in Bridge-street Buildings, New Way, New Peas-tree, Providence-place, and Brewer's-street, Westminster, to be taken down and cleared away by the purchasers. May be viewed one day previous to the Sale, and Catalogues had on application to Mr. Robinson, Clerk to the Improvement Commissioners, Improvement Offices, Parliament-street, Westminster; and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL BY AUCTION, on the Premises, Belvedere-road, Lambeth, and Saw-mills, Stangate, on MONDAY, July 10, the valuable STOCK of SEASONED TIMBER, Deals, Battens, sashed and glazed frames and frames in pieces, mouldings, moulded and glazed doors, partitioning, old timber, five stalled dwelling and three-story and other dwellings, seasoned poles, carts, trucks, a phaeton, harness, new ironmongery, and other articles in the trade. Catalogues of the Auctioneer, Norton-folgate House, As also, sixteen Plots of BUILDING GROUND, the footing and vaults partly built, situate on the north side of Oakley-square, St. Pancras.—For particulars apply to F. JOPSON, Esq., Official Assignee, 6, Bedford-street; Messrs. SELBY and MACKENZIE, 7, Bedford-street; Messrs. SELBY and MACKENZIE, 59, Lincoln's-inn-fields; at the Mart; or of Mr. H. BIERS, 13, Broad-street, Golden-square.

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STUDIO.—WANTED a STUDIO adapted for a Sculptor, with or without a residence. The neighbourhood of Belgrave-mews, Regent's-park, the vicinity of Oxford-street, and Hyde park Gardens preferred. Particulars, addressed, prepaid, to W. T. II, Argyll-place, Regent-street.

TO BE LET or SOLD, a PLOT of FREEHOLD LAND, only Two Miles from the City, on a good road and thoroughfare; one part just the spot for a Tavern. —Apply to Mr. SINGLE, Auctioneer, 34, Coleman street, City.

£—OR £—TO ADVANCE ON MORTGAGE OF LEASEHOLD PROPERTY.

TO BE SOLD, the RIGHT of ADVANCE to the above sum, in one of the best Building Societies in London. For particulars, apply to real name and address, apply to B. B., 3, Leadenhall-street.

STRATFORD, ESSEX.—LAND to be LET on BUILDING LEASES, in an open and healthy situation, at Stratford New-town, close to the Eastern Counties Railway Station, and Fair Field, a populous and rapidly-improving locality. Apply to Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's-inn-fields.

BUILDING GROUND TO BE LET, on moderate terms, to BUILDERS, CAPITALISTS, and BUILDING SOCIETIES. Capital Terrace, Crescent, Detached Villas, Shops, &c., of six or eight rooms, which kind of property is much in request in the neighbourhood. Sand and gravel on the estate. Bricks may be had within a mile. Letters addressed (post-paid) to L., Rose Villa, Mill-street, Lambeth.

READ THIS!—A most advantageous Investment.—LONG LEASEHOLD PROPERTY. TO BE SOLD (CHEAP, by PRIVATE CONTRACT, moderate Ground-rents, two extra-substantial and well-built CARCASES, coupled together, held for a long term of years direct from the Ironmongers' Company. Views may be had by applying to the occupiers, where they will be sold or treated for. For further particulars apply to Mr. SAUNDERS, Leigh's Arms, Wenlock-street, St. Luke's, back of the Church.

ELIGIBLE BUILDING SITES, admirably adapted for the erection of Detached Marine Residences and Fire-brate Lodging Houses, upon an improved and newly constructed Estate, contiguous to the Terminus of the Great Yarmouth and Norwich Railway, commanding magnificent Views of the German Ocean.

WM. SPELMAN and SONS have been instructed TO LET ON LEASE, BY AUCTION, on Thursday, July 13th, 1843, at the Star Inn, Great Yarmouth, at Six o'clock in the evening, the following BUILDING SITES, situate at GREAT YARMOUTH, NORFOLK, in 21 Lots. Eight most eligible pieces of Building Ground, admirably adapted for the erection of Lodging-house Residences, varying in extent of Frontage from 18 to 21 feet. The Plots to be let on these sites will all face the sea, and open directly upon the terrace. Three pieces of Building Ground, suited, in every respect, to the erection of good dwelling houses, varying in extent of frontage from 21 feet to 24 feet in the North Trafalgar-road, with good sea views. Five Plots of Building Ground, suitable for Lodging-houses, with frontages of 20 feet each, on the west side of the North Trafalgar-road, several of these with sea views. A piece of Building Ground, situated to the west of the last mentioned Plots, with a frontage on the public road. All the sites are of ample depth, varying from 90 feet to 95 feet. Leases of the several Lots will be granted by the Lessors for the term of 74 years. The Purchaser of Lot 1 will, when the Lessors have taken up the Freehold, upon payment to the Lessors of six years' purchase of the rent at which the Lessee shall hire the same, be nevertheless allowed to hold the same at the Peel-hold of each Lot.

That Yarmouth is fast rising into importance from its prosperous trade, as well as from the great and rapidly increasing influx of visitors, is abundantly proved by the fact, that the large tract of land near the terrace has, within the last five years, been nearly covered with houses, as to give the aspect and character of an entirely new Town, and which have been tenanted as rapidly as they have been completed. The Britannia terrace is approached by a direct carriage road from the theatre gates, being the shortest route from the Railway Station. It is situated on the most accessible and convenient part of the shore, and is almost the only portion of sea-frontage which has not already been built upon. The terrace commands an extensive, varied, and interesting view of the fisheries and other busy scenes of the beach, enlivened by the innumerable coasting and foreign vessels, which are constantly passing for and in the Roads. In front of the building plots is an ornamental and substantial concrete sea-wall, with massive stone coping, has just been constructed, descending, by a flight of steps and railway, to the high-water mark, and to the bathing stations adjacent to the terrace. A firm gravel footway, 16 feet in width, runs round the eastern side of the terrace, and a carriage road adjoins the footway in front of the building line. A marine parade from the front of the site, along the beach, is also projected. Further particulars may be had on application to CHARLES CORY, Esq., Solicitor, Great Yarmouth; to P. A. HANROTT, Jun., Esq., Queen-square, Bloomsbury; to J. J. SCOLES, Esq., 11, Argyle-place, Regent-street, London, Architect; to Mr. HILLING, Town Surveyor, Great Yarmouth; and at the offices of WM. SPELMAN and SONS, Norwich and Yarmouth.

COMPETITION DRAWINGS.—The Advertiser is anxious that any Gentlemen who require Colour, Architectural Designs, Perspectives, &c., should send at moderate terms. The Advertiser has had a wide field for making a consideration in his charges should the competition prove successful. Address, Mr. EDWARDS, 16, Woolstaplestreet, Bond-street.

TO ARCHITECTS, COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architect," "The Picturesque Rambler in London," and "Picturesque Views on the Southern Coast of England," begs to announce his services as Painter in Water-colours, Landscape, Perspective Views, Interiors, &c. From the long experience he has had in these branches, he is fully aware of the points essentially necessary to be attended to. Drawings and Designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.

MR. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, is about half the usual time, and at a considerable less expense, best to offer his services for that purpose, promising that any orders he may be favoured with will be executed with attention. He answers admirably for multiplying Tracings.—Lithographic Printing Office, 15, Cheapside, London.

HEAL and SONS have made a considerable REDUCTION in the Lower qualities of BED FEATHERS, and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery.

Poultry.....	0s. 10d. per lb.	Best Grey Goose ...	2s. 0d. per lb
Grey Goose.....	1s. 2d. "	White Goose ...	2s. 6d. "
Foreign Grey do.	1s. 6d. "	Best Dantzic do...	3s. 0d. "

A list of prices of every description of Bedding sent free by post on application to HEAL and SONS' Factory, 196, opposite the Chapel, Tottenham-court-road.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shade.

HHH fit for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for tracing.	B black for shading.
H for sketching.	BB ditto ditto.
H B hard and black for drawing.	BBB ditto ditto.
M medium.	B B B B ditto ditto.

Sold by all the principal Stationers in town or country.

TO CONTRACTORS, ROAD-MAKERS, AND OTHERS.

GOOD GRAVEL and HOGGIN for Sale, at STRATFORD NEW TOWN, Essex, close to the Railway Station, and within a short distance of water carriages on the River Lea. Apply to Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's-inn-fields.

BENHAM'S ICE CLOSETS for Keeping Provisions perfectly Cool during the hottest weather.—For economy, as well as comfort, they are invaluable; also, for cooling wine, or ensuring a delicious draught of cold water to admirers of that beverage; price three guineas and upwards. Benham's Cream Freezers will freeze a quart of cream, fit for the table, in six minutes; price five guineas. Patent Knife Cleaners, Benham and Sons, Agents, price 28s. These machines work quite clean, but actually polish the knife, and the most unskilful person can accomplish the work in less than one fourth the usual time. They are now adopted at all the principal hotels.—19, Wigmore-street, Cavendish-square.

PUBLICATIONS.

PRICE ONE SHILLING.

THE BUILDERS' FRIEND, published in a concise form, so as to fit the pocket-book. It shows, in one line, the relative prices plank, deals, battens, and timber, from 20l. to 60l. the hundred. Any person about building will easily discover which is cheapest for him to buy.

Sold at the office of "The Builder," 2, York-street, Covent Garden, and to be had by order of all Booksellers in the United Kingdom. Forwarded by post for 13 penny stamps.

NEW WORKS.—Mr. WEALE'S NEW SERIES of RUDIMENTARY WORKS for BEGINNERS.

Mr. WEALE is preparing for publication, in a neat and convenient size, a Series of Original and Useful Volumes, by the most eminent writers, forming a Rudimentary Course for the easy comprehension of the leading principles of various sciences.

It has been remarked, that of those who are in the ship of science ought to remember that the disciples cannot arrive without the aid of chests. Popular treatises are to science what boats are to large ships: they assist people in getting aboard, but as no one would trust himself to a weak or inefficient boat, so no one ought to board the study of science with an imperfect guide. It sometimes happens that popular treatises are made to appear easy by the omission of those very details which are essential to be known; they state results without going through the necessary processes by which those results are gained; they deal largely in facts, and leave principles untouched.

The only method of avoiding this error is to confide to men who are masters of their respective subjects, the task of drawing up Popular Introductions to the several branches of science. The Publisher trusts that the following list of names will be a sufficient guarantee to the public that what he proposes to attempt in the cause of popular instruction will be done well, and that these little treatises will fully answer the purpose for which they are intended, namely, to become convenient and correct Guide-Books in Government and other Schools, and in Popular Institutions generally, while their low price will place them within the reach of all classes among their daily forms a knowledge of the elements of science is a positive gain in the common pursuits of life, as well as a means of winning from gross tastes, and presenting to the mind noble and worthy objects of thought.

The FIRST SERIES will be comprised in FOURTEEN VOLUMES, several of which will be amply illustrated, price 1s. 6d. complete in demy 12mo., cloth; and for the convenience of purchasers, the several subjects will be published separately at the following prices:—

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The Builder.

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ADVERTISEMENTS.

MONEY.—Bedford Paving Act, 39 & 40 Geo 3.—The Commissioners under the above Act require the LOAN of £1,000, on the Security of the Rates raised by virtue of the said Act, the Interest payable half-yearly: and request persons who are disposed to advance the same, in Sums not less than £200, to send proposals, stating the rate of Interest required, on or before the 1st of August next, to JOHN WOOD, Clerk to the Commissioners, 24, Gordon street, Gordon-square.

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CONTRACTS.

TOWN HALL, BIRMINGHAM.—TO BUILDERS.—Persons desirous of contracting for the completion of the Town Hall, Birmingham, may see the Plans and Specification after Tuesday next, July 18th, by applying at the Office of Mr. Charles Edge, Bennett's-hill, Architect to the Commissioners. Tenders sealed up and endorsed, "Tender for Town Hall," to be sent to the office of Messrs. HAINES and ARNOLD, Solicitors, 36, New-street, on or before July 28, 1848.

LAMBOURN CHURCH.—Builders desirous of sending in TENDERS to the Churchwardens for executing the REPAIRS to this CHURCH, under the direction of Mr. T. L. Donaldson, the Architect, may see the Specifications and other particulars on application to the Churchwardens, Lambourn, near Hungerford, Berks. The Tenders to be sent in on or before Monday, the 31st July. The Churchwardens do not pledge themselves to accept the lowest Tender.

GOLBOURN CHURCH, LANCASHIRE. Persons desirous of TENDERING for this church may see the plans and specification at Parsonage Mills, Golbourn, near Warrington, from Wednesday, July the 19th. Sealed tenders, endorsed, to be forwarded to JOSEPH CLARKE, Esq., Architect, No. 1, Lincoln's-Inn Fields, London, on or before the 31st day of July. The committee do not pledge themselves to accept the lowest or any other tender unless satisfactory.

TO PAVIORS AND MASONS

PERSONS willing to deliver TENDERS for RE-PAVING TWO STREETS by CONTRACT, at Wapping, upon the Bridewell Hospital Estate, can inspect the specification at the Clerk's office, Bridewell Hospital, New Bridge-street, Blackfriars, any day from this date until Monday, the 17th inst., between the hours of Ten and Three o'clock. The tenders to be sealed, and read "Tender," and addressed to the Governors of Bridewell Hospital, are to be delivered at the Clerk's office before Three o'clock, on the 17th inst. B. WELTON, Clerk.

Bridewell Hospital, July 4, 1848.

TO BUILDERS

TENDERS are required, either in parts or for the whole of the Works in BUILDING a NEW CHURCH at HILSTON, in the County of Stafford, under the direction of Mr. JOHNSON, Architect, Lichfield. The Plans may be seen at his office after the 12th inst., between the hours of Nine and Six o'Clock; and sealed Tenders to be delivered to the Rev. R. J. HEAFIELD, Hilston, on or before the 1st of August next.—The lowest Tender will not necessarily be accepted; and persons tendering must give the names of two Sureties for the due performance of the works.

SUDBURY UNION WORKHOUSE.—TO BUILDERS.—Contractors desirous of TENDERING for the ADDITIONS and ALTERATIONS proposed to be made to the above building, may inspect the plans and specifications at the Board-room of the Workhouse, at Sudbury, Suffolk, from the 8th of July to the 22th inclusive. Tenders to be delivered at the Workhouse on or before Thursday, the 27th of July, at Half-past One o'Clock in the Afternoon, addressed to the Board of Guardians, and marked "Tender for Building." Approved sureties will be required for the due performance of the work, and the guardians will not be bound to accept the lowest tender.

JOB BROWN, }
Norwich, July 6, 1848 ROBERT KERR, } Architects

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.—TO CONTRACTORS, BUILDERS, &c.

THE Directors of the London, Brighton, and South Coast Railway Company are prepared to receive TENDERS for the erection of warehouses, to be built either of brick or timber work, at the Bricklayer's Arms Station.—Drawings and specifications may be seen at the Engineer's office, Brighton, on and after Wednesday next, the 19th inst., and at the Station, at the Yard under cover to the Secretary, London-bridge Station, not later than Monday, the 31st inst. By order,

T. J. BUCKTON, Secretary.

London Terminus, 13th July, 1848.

WEST LONDON RAILWAY COMPANY.—The Directors of the above Company are prepared to receive TENDERS for the REMOVAL of the MUD which has accumulated in the BASIN of the KENSINGTON CANAL, at Kensington, into some excavated Gravel Pits nearly adjoining. The quantity of mud to be removed is estimated at from 80,000 to 100,000 cubic yards and the Tenders which must state the price per yard for the removal of the same, must be sent to this Office, on or before Twelve o'Clock, on the 1st day of August next.—Full particulars may be obtained of Mr. ARMITT, the Company's Toll Collector, on the spot, or at this Office.

JOHN THOMPSON, Secretary.

Office, 11, Abchurch-lane, July 13, 1848.

CONTRACTS.

ROYAL ENGINEERS' OFFICE, 11, James-street, Buckingham-gate, July 14th, 1848.

THE Commanding Royal Engineer, London District, hereby gives notice, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before the 26th July, from Persons desirous of CONTRACTING with the Hon. Board of Ordnance for SLATERS' WORK to the BARRACKS and STORE-YARDS, BUILDINGS, in London, agreeably to a Schedule, which may be seen at the Royal Engineers' Office, 11, James-street, Buckingham-gate.

The persons, whose tender may be accepted, will be required to enter into a bond with two eligible securities, jointly and separately, to be bound under a penalty of 200l. for the due performance of the contract.

The Tenders to be addressed to "The Secretary to the Board of Ordnance," and endorsed "Tender for Contract for Slaters' Work in London." No Tender can be admitted after the 26th July.

TO BUILDERS AND OTHERS.

THE Trustees of the Poor Lands, Bethnal-green, are willing to receive TENDERS for the Erection of FENCES to inclose the TWO PADDOCKS adjoining St John's Church, Bethnal-green, comprising between 2 or 3 and 1,000 lineal feet. Plans and full particulars may be obtained at the Office of Mr. E. N CLIFTON, Architect to the Trustees, 9, Token-house-yard, Lothbury. The Trustees do not bind themselves to accept the lowest or any Tender. The Contractor will be required to find security Tenders to be delivered to the Trustees at Eleven o'Clock in the Forenoon of Tuesday, August 1st, at the Vestry-Room of St. John's Church, on Bethnal-green; and at the same time the Trustees will be willing to receive Tenders for the removal of the present Fences, upon certain conditions, to be obtained at the Office of their Architect. July 13, 1848.

ARCHITECTURAL PUBLICATION SOCIETY.—The arrangements of the Committee being nearly completed, Gentlemen desirous of becoming MEMBERS are requested to forward their Names, that they may be included in the next announcement of the Society's proceedings. Annual Subscription, One Guinea.—The prospectus may be obtained of Mr. T. L. DONALDSON, Bolton-gardens, Russell-square, Honorary Treasurer; or of Mr. WYATT PAPWORTH, 10, Caroline-street, Bedford-square, Honorary Secretary.

NOTICE IS HEREBY GIVEN, that a GENERAL QUARTERLY MEETING of Members of the INSTITUTION of BUILDERS' FOREMEN will take place on WEDNESDAY evening next, July 19, at the Bay Tree Tavern, St. Swithin's-lane, to receive the Report of the Audit Committee, and other general business. W. ALLARD, Secretary.

BUILDERS' BENEVOLENT INSTITUTION. LIST of NOBLEMEN and GENTLEMEN who have already assented to be STEWARDS at the ANNIVERSARY DINNER, to be held at the FREEMASONS' TAVERN, on the 19th July, 1848.

Lord ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

Right Hon. Lord Viscount Morpeth, M.P.
Lord Dudley Coutts Stuart, M.P.
Sir Benjamin Hall, Bart. M.P.
Benjamin Bond Cabbell, Esq., M.P.
Samuel Morton Peto, Esq., M.P.
Col Thomas Wood
David Salomons, Esq., Alderman
William Lawrence, Esq., Alderman,
Thomas Grissell, Esq., F.S.A.
George Godwin, Esq., F.R.S.
Wm Drake, Esq.
Sydney Smirke, Esq.

Allen, Thomas, Camden-town.
Angell, Samuel, St Clement's-Danes and St Mary le Strand
Archer, T. T. New Cavendish-street
Badger, C. R., Dist of Lewesham
Biers, Huch, Carlton Villas.
Bird, Stephen, Wyvanhoe-st.
Bird, George, Edgware-road.
Bull, Joseph, Portman place.
Bird, J. Jun. Hamilton terrace.
Bird, John, Jun., Seymour-place
Blythe, District of Bromley.
Boulting, —, Union-street
Brown, George, Jesson grove.
Burstall, Abraham, St. Martin's
Burnell, Robert, ditto
Burton, H., Aldersgate street.
Bush, J. F., Hayes's-place
Chamberlain, George, Crawford-street.
Cooper, R. Belvedere road
Cozens, Thomas, Lisson-grove.
Curtis, R., Stratford.
Curtis, E., ditto
Day, Ebenezer, Edgware-road.
Ebbs, John, Aberdeen place
Ferguson, D., Stafford street
Gooch, E. W., Connaught-terrace.
Gritton, W. R., Bull's Head-court.
Gutch, George, Paddington.
Hakewill, E. C., District of St. Paul's, Covent Garden.
Harris, William, Green street.
Herbert, Wm. of Upper Baker st
Herbert, George, Upper Baker st
Herbert, Lewis, Brook-st, Soho.
Hewlett, Quebec-street.
Hicks, Joshua, Dart-street.
Hookey, Thomas, Earl street.
Hoof, Jas., Kensington.
Hutchons, Wm., Dorset-place.
Jobson, E., Inv., Caledonian and Southern Division of Battersea.
Kendall, H. E., District of Hampstead.
Kendall, H. E., District of St Martin's in the Fields.
Lee, Wm., Upper Ground-street.
Lee, Geo., St. Andrew's, Holborn
Leonard, Jno., Holloway.
Lewer, George, Camden-town.
Lillie, R. J., High-street.
Long, John, Westbourne-green
Locke, George, Red Lion-square.
Mashman, C., Lord Up street.
Mecull, James, Euston place.
Mallows, John, Dist of Streatham
Nicholson, Thomas, Theobald's rd.
Nicholson, D., Wandsworth.
Norris, William, Hackney.
Pallant, Charles, Regent's-park-terrace
Outhwaite, Jno., East Smithfield.
Palmer, Philip, St. Martin's-lane.
Pearce, Peter, High Holborn
Phillips, John, Sewer's Office.
Pomsford, James, Castlebar-park.
Pownall, George, St. Giles-in-the-Fields and St. George's, Bloomsbury
Richardson, R., Queen-street.
Roe, J., Sewer's Office.
Rogers, Wickham, 5th Lambeth and Streatham.
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Smith, C. S., Bedford-street.
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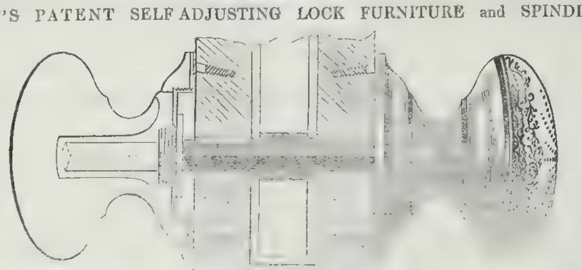
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Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat [illegible] ONE PENNY PER SQUARE FOOT. Samples, [illegible] TESTIMONIALS [illegible] The TRADE are respect[illegible] DIRECT to the FACTORY [illegible] CAUTION AGAINST MISREPRESENTATION [illegible] McNEILL and Co's Manufactories, LAMB'S BUILDINGS, BUNHILL-ROW, LONDON.
[illegible] the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

TERRA-COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he [illegible]
Specimens of the material to be seen at the Office of "The Builder," [illegible] Covent Garden, and at the Works.

MAGNUS'S ENAMELLED SLATE.—Under the patronage of Her Majesty, Prince Albert, the [illegible] eminent Architects, Builders, &c. &c. This beautiful material has [illegible] taking the place of marble in the mansions of the nobility generally. It is also extensively used in Government offices, the principal railway stations, and other public buildings. [illegible] Pimlico Slate Works are chimney pieces, consoles, billiard and [illegible] tazzas, mural tablets, baths, wash-stand tops, &c. &c. Cisterns, [illegible] exceedingly moderate terms. Welsh slate slabs, of the finest description, [illegible] N.B. The trade supplied with whole cargoes, self-faced, or planed on one or both sides, direct from the quarries.—A book of prices will be forwarded on application to Mr MAGNUS, Pimlico Slate Works, Upper Belgrave-place, London.

RICHARD A. C. LOADER, 24, Pavement, Finsbury, respectfully solicits all parties about to furnish, and requiring FURNITURE, to inspect his stock, which will be found to consist of the newest designs of Furniture of the best seasoned materials, at the lowest possible prices. An estimate given for any quantity of goods, from one room to an entire house. [illegible] particular attention to the address is requested in full.—RICHARD A. C. LOADER, 24, Pavement, Finsbury.
R. A. C. LOADER has just introduced a unique and beautiful article of Furniture, which he designates the SULTAN EASY CHAIR, made of fine Spanish mahogany, spring and hair stuffed, [illegible] the finest quality of Morocco. The price, complete, 4½ guineas.—The GONDOLA EASY CHAIR, of the same quality, 3½ guineas.

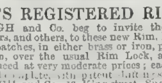
PATENT EXPANDING MACHINES for SWEEPING CHIMNEYS and CHIMNEY POTS.—The Patentee, Mr Osman Gittins, of Hereford Lodge, Old Brompton, has spent much time in inventing and perfecting a series of Machines for effectually Cleansing Chimneys of every construction, [illegible] Institution and other places, of which notice will be given in "The Builder."

TO ARCHITECTS AND BUILDERS.
CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for Strong Rooms. A large stock of the above, of all sizes, made in the best manner, and [illegible] CHUBB'S PATENT DETECTOR LOCKS throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr JOHN FAULKNER, Ironmonger, 8, St. Martin's-le-Grand, London, opposite the new Money-Order Office.



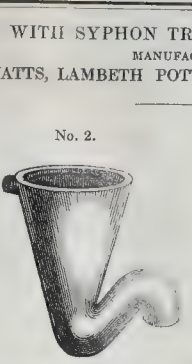
T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to these new Rim, Drawback, and Dead Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted [illegible] with patent [illegible] To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of [illegible] nails, iron and brass foundry, mortice locks and latches, plain, half rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH,
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

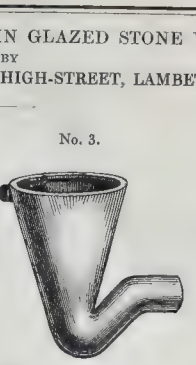
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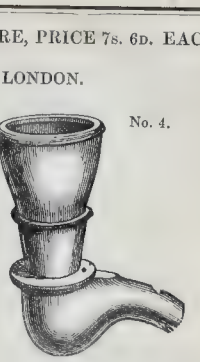
No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c &c

70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE, used in Building upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention. WILLIAM PIGGOTT, 115, Fore Street, City. Manufacturer to Her Majesty's Honourable Board of Ordnance

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR; of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c &c 14, Great Charlotte-street, Blackfriars-road

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS. Manufactory, 99, REGENT STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and economy, both in the use of cog wheel work and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c

Beg respectfully to solicit a comparison with the Revolving Shutters either iron or wood of any other Makers, whatever their pretensions may be, now so generally adopted, giving both the universal satisfaction given, for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, which combine many facts and principles hitherto known, but not adapted to any purpose, and not the smallest part has been at present represented as one of sundry old and discarded inventions as Improvements. B and C assure their Friends and the Public that, during their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in their prices, and they are now much CHEAPER, as well as BETTER, than any others

The prices of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stable and [illegible] required. Shop Fronts, &c., completely glazed and painted.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. are also sole licensees for MARVIN and MOORE'S PATENT DIAGONAL CASTINGS, for areas at shop fronts for shutters, [illegible] &c., which do not require the shutters to be [illegible] of ladies walking over or [illegible] on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Ebb Traps for Sewers, Drains, &c

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation, daily, at the Works, Stamford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns and every particular may be obtained, on application at the Office of the Patentees, 36, Lombard street, London; and at the Works, Deptford.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing the only means of a endless screw and wheel, cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel, and is at once the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner BURBIDGE and HEALY, 130, Fleet-street.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,

In 3 feet lengths.		In 2 feet lengths.			
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore.
4d.	5d.	6d.	8d	1s. 1½d.	1s. 10d	3s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

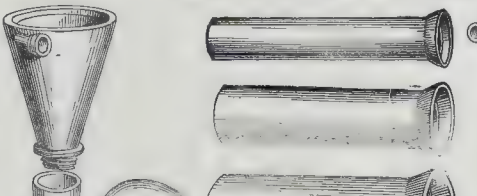
I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1731.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so extensively understood, as to render any enumeration of them alike unnecessary. Their cheapness, efficiency, and durability, are universally admitted, while the rapidly increasing demand for them proves their estimation in every city over every other kind hitherto before the public for similar purposes.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin; Docklead, Bermondsey; Patent's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assortment of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

WEBB and GREENWAY, Brass Founders, and Lock Manufacturers, York-street, Birmingham, beg to call the attention of Architects, Builders, and Cabinet-makers to their REGISTERED KNOB CUPBOARD TURN, having a shifting spindle, fast tongue, and stop washer rose, it being a considerable improvement upon the ordinary article.

BRASS and GUN METAL CASTINGS.—Present price for Castings above 1 lb. weight each:—Brass, 9½d. per lb.; Gun Metal (common), 10½d. per lb.; Gun Metal (best), 1s. 0d. per lb.; Copper to 2½ oz. tin, 1s. 4d. per lb.

J. TAYLOR and SON, Brassfounders, Warwick lane, Newgate-street, London.

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot houses, &c. with a new apparatus of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner BURBIDGE and HEALY, 130, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN POWLER'S method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN POWLER, 63, Dorset-street, Fleet-street.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 3000 are now in use, defying injurious Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory

FLEXIBLE INDIA RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

THE BUILDER.

BUILDING SOCIETIES.—Any Member that has an Advanced HOUSE PROPERTY through one of the Building Societies, and is now desirous of SELLING his interest in the same for cash, may hear of a Purchaser, by addressing a letter, stating full particulars, pre-paid, to C. H., at Mr. Todd's Library, No. 8, Warwick-terrace, Pimlico.

SALES BY AUCTION.

SALE POSTPONED.—MR. BRAY, Jun., begs respectfully to inform the Public that the Sale of the FIFTEEN CARCASES and BUILDING GROUND at Islington, advertised to take place at Corsham Down, Tuesday, the 9th July, is POSTPONED, until further notice.—Auction Offices, 20, High-street, Pimlico.

OAKLEY-SQUARE, ST. PANCRAS.—CARCASS BUILDINGS AND BUILDING GROUND.—Under a Flat in Bankruptcy.

MR. H. BIERS has been directed by the Assignees of Mr. JOHN NORTH to SELL by AUCTION, at the Mart, on MONDAY, July 7, at 12 o'clock precisely, Three Carcass Dwelling-houses, BUILDING GROUND, for Second-rate Houses, Angles, Screen Palings, and Portion of Old Materials, with the Wall partly built upon, as the whole stand, in Oakley-square, St. Pancras. Area, 1 acre.—For particulars apply to F. JOHNSON, Esq., Official Assignee, 20, Basinghall-street; Messrs. SELBY and MACKESON, 58, Lincoln's-inn-fields; at the Mart; or of Mr. H. BIERS, 13, Bridal-street, Golden-square.

TO STATUARIES, SCULPTORS, MASONS, BUILDERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at the Marble Wharf, Belvedere-road, Lambeth, near Waterloo-bridge, on WEDNESDAY, 29th July, at Ten for Eleven o'Clock precisely, by order of the Proprietors, about 200 Tons of MARBLE, comprising Statuary, Veined Siennas, Dove, Rubbon, Dove-Black, and other Marble. May be viewed three days prior to sale, and catalogues had on the premises, and of the Auctioneers, 54, Exchange-st, Little-bond-street, Westminster.—Approved bills at six months to purchasers of 50*l*.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, Bell-street, Lambeth, and Sun-mills, Stangate, on MONDAY, July 24, and following day, at Eleven precisely each day, the FIRST PORTION of the STOCK of Mr. GRISSELL (who has relinquished the general Building Business), which will comprise a large quantity of scaffolding, consisting of 600 scaffold poles, 900 walking planks, scaffold boards, 100 dozen scaffold ties, 50 dozen fir and oak cup and cup falls and slings, five screw jacks, crow bars, jackaxes, pitchforks, saws, axes, hatchets, baskets, four pumps and suction-pipe, a few lots of quartering boards, and numerous other effects.

THE SECOND DAY will comprise a large quantity of well-seasoned yellow deals, battens, and flooring boards, about 12 loads of Pantiles for timber. Approved bills at four months to buyers of 50*l*.—May be viewed two days prior to the sale, and catalogues had on the premises, and of the Auctioneers, Coal Exchange, No. 1, Little Smith-street, Westminster.

TO BUILDERS, SEWER CONTRACTORS, AND OTHERS.

MR. MELVIN is favoured with instructions to SELL by AUCTION, on the Premises, Rochester-row, Westminster, on TUESDAY, July 23, and following days, at Twelve each day, the Whole of the STOCK in TRADE of Messrs. BENNETT, who are relinquishing business, comprising 2,000 feet of well-seasoned yellow deal flooring boards, 1,000 feet of scaffold poles, 500 feet of 4-inch and 3-inch boards, scaffold ties, 50 feet of elevator planks and rafters, three screw jacks, four capital pumps, with chains, two sets of pulleys, 200 feet of boring engine, timber carriage, two waggons, seven carts, 600 feet matched, carpenters' benches, levels, a quantity of dry, well seasoned cut stuff for joinery work, York paving, crabs, picks, sand, and the usual implements and utensils of a builder's yard. On view and catalogues had of the premises, and of Mr. MELVIN, 46, Hunter-street, Brunswick-square.

N.B. The compact Premises, built and fitted up for the business, to be let.

GREAT MARLBOROUGH-STREET.—STOCK IN TRADE of BRICKLAYER and BUILDER.

MESSRS. WOOLLAMS & CARPENTER will SELL by AUCTION, on the premises, Marlborough Mews, Great Marlborough-street, on TUESDAY, the 18th of July, and following day, by direction of assignees, under a fiat in bankruptcy, the entire valuable STOCK in TRADE of Mr. Cox, a Bricklayer, consisting of about 1,000 well-seasoned Deals, Battens, Portland, Yorkshire Stone; carpenters' work benches; plumbers', masons' and slaters' tools; bricks, tiles, slates; a quantity of brass work, lead, and iron; a large assortment of ornamental and other timber, also the interesting and valuable ancient carvings in oak panels; magnificent statuary marble chimney-piece, adapted for a large room; two antique oak cabinets; drawing desks; scaffolding; ladders, carts, truck, harness, and other effects. The whole may be viewed on Monday previous to the Sale, and catalogues had of the Auctioneers, 20, Old Burlington-street; at the Mart; and of HERBERT EVANS, Esq., 22, Bedford-row, Official Assignee; and Messrs. WOOLLAMS and CARPENTER, 16, Old Burlington-street, Auctioneers.

REGENT'S PARK and HAMMERSMITH.—Valuable Freehold and Leasehold Building Land and Two Private Residences.

MESSRS. FAREBROTHER, CLARK, and LYE have received instructions to SELL by AUCTION, at Garraway's, on WEDNESDAY, July 19th, at Two, in Lots, FIVE VALUABLE FREEHOLD PLOTS of BUILDING LAND, one in the Queen's Road, Gloucester-gate, Regent's Park, adjoining the Rev. Hugh Stowell Brown's chapel, the other four in Scott's Park, Hammersmith, held for 80 years, at a peppercorn; and TWO newly-erected VILLA RESIDENCES in Percy-road, Shepherd's Bush, adjoining Wright's Nursery, producing 80*l*. per annum; and part unlet at the Yew and Albany, Regent's park; Windsor Castle, Hammersmith; of J. R. COOK, Esq., Solicitor, 12, Cockspur-street, Piccadilly; and at Garraway's; and at the offices of Messrs. FAREBROTHER, CLARK, and LYE, Lancaster place, Strand.

NEW CROSS. Extensive Sale of Building Materials, Erection of Three spacious Conservatories, newly-built Stabling, and very Commodious Dwelling-house.—Messrs. FORMAN & Sons

PULLEN and SON are favoured with instructions from the Governors of Christ's Hospital to SELL by AUCTION, on the Premises, on THURSDAY, July 27, at Ten for Lots, all the Excellent BUILDING MATERIALS and FIXTURES of TWO DWELLING-HOUSES, extensive granaries, seed rooms, newly-built stabling, cart sheds, erection of green-houses, pine and melon pits, and various buildings covering a large extent of ground, forming corner houses, close to the railway station; comprising about 250,000 stock bricks (the greater part nearly new), land gutters, cisterns and pipes, 20,000 slates, 200 squares of sheeting, 30 squares of flooring, 25 sashes, doors, partitions, and interior fittings, flooring and lining boards, shop front, iron racks and mangers, clinker and other paving, iron railing and fencing, stoves, grates, pumps, and a great variety of useful effects, as the lots lie in order; the situation of parties following regular employment, and the day previous, and catalogues had of JOHN SHAW, Esq., Christ's Hospital; and of PULLEN and SON, 8, Lurcher-street, Cripplegate.

FREEHOLD BUILDING GROUND, Enfield Highway, most prominently situate, with frontages to the high road, modern Cottage Residences, &c.

MR. C. WARTON is directed to SELL BY AUCTION, at the Mart, on WEDNESDAY, July 19, at Twelve, in lots, unless an acceptable offer be previously made, several PLOTS of eligible FREEHOLD GROUND, in a very prominent situation, fronting, with their rear frontages to the high road, to Enfield Highway, within a short distance of the Government Board of Ordnance, where some important works are employed, many of whom are unable to obtain eligible dwelling-houses in the neighbourhood; also a capital site, adapted for villa residences, retired from the high road; also a compact modern cottage, with garden, in Parry-street, contiguous.—May be viewed, and particulars had at the Mart; at the Bell and Woolpack Inns, Enfield; Bull Inn, Ware; the Rose and Crown, Cheshunt; the Four Swans, Waltham-cross; the Kings Head and Coach and Horses Inns, Enfield; of WM. BITTLESTON, Esq., Solicitor, 18, New Broad-street, and of Mr. C. WARTON, Auctioneer and Estate Agent, 38, Threadneedle-street.

TO CABINET MAKERS, TIMBER MERCHANTS, BUILDERS, AND OTHERS.

FOR SALE, BY AUCTION, on the Premises, Pimlico-wharf, Lupus-street, Pimlico, on TUESDAY, 25th, and WEDNESDAY, 26th July, both days at Twelve o'clock precisely, by direction of Messrs. JOHNSON and McORE, who are dissolving partnership:—

7 Logs Honduras Mahogany
Cuttack ditto ditto in planks and boards.
50 Logs St. Domingo ditto ditto.
50,000 feet (mill) ditto.
Planks Rosewood
12,000 feet Mahogany, Rosewood, Maple and Birch veneers.
4,000 Satinwood Yellow Pine Plank and Deals.
Pipe Staves.
200 Logs and Planks, Birch.
Maple planks, Birch boards, cut deals, dry wide Pine boards, dry walnut planks, and Hoops and other goods.
Also the Pitscrews, Screw Jacks, Handspikes, Crowbars, Rollers, Saws, and various implements in trade.

To be viewed the day previous, and on the mornings of Sale. Catalogues may be had on the premises, and of JOSEPH EDWARDS, Mahogany Broker and Auctioneer, 4, Railway-place, Fenchurch-street, London.

TO CARPENTERS AND BUILDERS.

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THE NEW SOCIETY of PAINTERS in WATER COLOURS—WILL CLOSE SATURDAY, the 29th inst., the Fourteenth Annual Exhibition of the New Society of Painters in Water-Colours, now Open at their Gallery, FIFTY-THREE, PALL-MALL, near St. James's Palace, from Nine o'Clock till Dusk.—Admission, 1*s.*; Catalogues, 6*d*

JAMES FAHEY, Secretary.

CONTRACTS.

TENDERS.—The Welsh Education Committee of the National Society are desirous to receive TENDERS for providing SLATES and IRONMONGERY for the Training College at Carmarthen. Schedules and descriptions of the articles required may be obtained on application to the Architect, H. CLUTTON, Esq., 26, Charles-street, Haymarket, London; or to the Clerk of the Works, Training College, Carmarthen

TOWN HALL, BIRMINGHAM.—TO BUILDERS.—Persons desirous of contracting for the completion of the Town Hall, Birmingham, may see the Plans and Specification after Tuesday next, July 18th, by applying at the Office of Mr. Charles Edge, Bennett's-hill, Architect to the Commissioners. Tenders sealed up and endorsed, "Tender for Town Hall," to be sent to the Office of Messrs. HAINES and ARNOLD, Solicitors, 36, New-street, on or before July 28, 1848.

BUILDING CONTRACT.—PARISH of LAMBETH. Builders and others wishing to CONTRACT for NEW STORE ROOMS at the Lambeth Workhouse, can see the plans and specification at the Office of Mr. Rogers, Architect, Palace Chambers, Old Lambeth. Tenders to be delivered at the Workhouse, Prince's-road, sealed, and marked "Building Tender," and directed to the Board of Guardians, on or before Tuesday, the 1st of August next, at 10 a.m.—The Guardians do not bind themselves to accept the lowest tender.

REPAIRS and ALTERATIONS.—TO BUILDERS.—Builders desirous of TENDERING for the REPAIRS and ALTERATIONS to FOUR HOUSES and a RANGE of STABLING, in the City of London, the property of one of the City Companies, can see Specifications thereof at the Office of Mr. F. Sedgwick, Surveyor, 61, Mark-lane.—Tenders endorsed "Tenders for Repairs," to be addressed to W. H. SAUNDERS, Esq., Solicitor, 53, Mark-lane, to be delivered on or before the 31st instant. The Company does not bind itself to accept the lowest tender.

ST. OLAVE'S UNION WORKHOUSE, SOUTHWARK.—Builders desirous of CONTRACTING for sundry REPAIRS and other works proposed to be executed in different parts of this establishment, may learn the particulars on application at the Offices of the Guardians, Messrs. PARKER and STOCK, 62, Tooley-street, Southwark. Tenders sealed and directed to the Board of Guardians, and indorsed, "Tender for works," to be delivered at the Board-room of the Workhouse, Parish-street, Horsleydown, on or before Thursday, the 27th instant, before 3 o'clock. The Guardians do not bind themselves to accept the lowest tender. GEO. R. CORNER,
July 18th, 1848. Clerk to the Guardians.

SUDBURY UNION WORKHOUSE.—To BUILDERS. Contractors desirous of TENDERING for the ADDITIONS and ALTERATIONS proposed to be performed at the above building, may inspect the plans and specifications at the Board-room of the Workhouse, at Sudbury, Suffolk, from the 8th of July to the 20th inclusive. Tenders to be delivered at the Workhouse on or before Thursday, the 27th of July, at Half-past One o'clock in the Afternoon, addressed to the Board of Guardians, and marked "Tender for Building." Approved sureties will be required for the due performance of the work, and the guardians will not be bound to accept the lowest tender.

JOHN BROWN, }
Norwich, July 6, 1848. ROBERT KERR, } Architects.

TO BUILDERS AND OTHERS.

THE Trustees of the Poor Lands, Bethnal-green, are willing to receive TENDERS for the Erection of FENCES to inclose the TWO PADDOCKS adjoining St John's Church, Bethnal-green, comprising between 2,000 and 3,000 lineal yds. Plans and full particulars may be obtained at the Office of Mr. E. N. CLIFTON, Architect to the Trustees, 3, Token-house-yard, Lothbury. The Trustees do not bind themselves to accept the lowest Tender. The Contractor will be required to find security. Tenders to be delivered to the Trustees at Eleven o'Clock in the Forenoon of Tuesday, August 1st, at the Vestry-Room of St. John's Church, on Bethnal-green; and at the same time the Trustees will be willing to receive Tenders for the removal of the present Fences, upon certain conditions, to be obtained at the Office of their Architect.—July 12, 1848.

ST. MARYLEBONE PUBLIC BATHS and WASH-HOUSES.—To Excavators, Gravel Diggers, Builders, Founders, Slate Merchants, and others.—The Commissioners are desirous of receiving TENDERS from persons willing to purchase the Gravel to be excavated from the site of the Public Baths and Wash-houses to be erected on part of the vacant ground adjoining the Yorkshire Stingo Tavern, and also from persons willing to undertake the execution of the several artificers' works necessary for the erection of the building. The plans, specifications, and conditions under which the contract is to be made, may be seen at the office of Mr. EALES, Architect, Chapel-place, Cavendish-square, on and after Monday next, the 24th instant, between the hours of Eleven and Three, until Saturday, the 29th instant. And the Commissioners will meet at the Court-house, St. Marylebone, on Tuesday, the 15th day of August next, at Eleven o'clock in the forenoon, to receive the Tenders for either of the above-mentioned trades, or for the whole, which are to be delivered sealed up and endorsed "Tenders for Works," (mentioning the specific trade), and each person making a tender must attend personally and be prepared with the names of two persons, to be approved, who will join them as sureties for the due performance of the works. The Commissioners do not pledge themselves to accept the lowest tender.—JOHN GOMM, Clerk to the Commissioners.
18th July, 1848.

CONTRACTS.

ROYAL ENGINEERS' OFFICE, 11, James-street, Buckingham-gate, July 11th, 1848.

THE Commanding Royal Engineer, London District, hereby gives notice, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before the 28th July, from Persons desirous of CONTRACTING with the Hon Board of Ordnance for SLATERS' WORK to the BARRACKS and ORDNANCE BUILDINGS, in London, agreeably to a Schedule, which may be seen at the Royal Engineers' Office, 11, James street, Buckingham-gate

The person, whose tender may be accepted, will be required to enter into a bond with two eligible securities, jointly and separately, to be bound under a penalty of 200*l.* for the due performance of the contract

The Tenders to be addressed to "The Secretary to the Board of Ordnance," and endorsed "Tender for Contract for Slaters' Work in London." No Tender can be admitted after the 28th July.

TO ENGINEERS, IRON FOUNDERS, &c.

THE Directors of the London, Brighton, and South Coast Railway Company, are prepared to receive TENDERS for the supply of about Thirty Turn Tables, 12 feet in diameter, to be delivered at New Cross. Specifications and drawings may be seen at the Engineer's Office, Brighton, on and after Monday, the 24th inst.; and Tenders must be delivered under cover, addressed to the Secretary, London bridge Station, not later than Monday, the 7th of August next.—By order,

T. J. BUCKTON, Secretary.

London Terminus, July 18th, 1848.

HACKNEY UNION.—CONTRACT for OVENS.—To BRICKLAYERS and Others.—The Guardians of the Poor of this Union are ready to receive TENDERS for BUILDING OVENS, at the Hackney Union Workhouse. A specification of the work lies for inspection at the office of the Architects, Mr. ARTHUR ASHPITEL, at No. 6, Crown-court, Old Broad-street, from the 18th to the 26th instant, from Eleven to Three o'clock each day (Sunday excepted). Sealed Tenders to be sent to the Clerk, endorsed "Tender for Ovens, &c.," on or before Tuesday, the 25th day of July instant, which will be opened by the Board the next morning, at Eleven o'clock, when the persons tendering, or some competent person from them, must attend to answer when called for. The Board do not bind themselves to accept the lowest Tender. Dated the 17th day of July, 1848.—By order of the Board,

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STEAM-ENGINES FOR SALE.—One of 16-horse power, one of 13-horse power, one of 8-horse power, one of 6-horse power, and one of 4-horse power, with tubular boiler.—JAS. CURRIE, Engineer, 11, Savage-gardens, Tower-hill

HORSE-WHEEL FOR SALE.—An excellent HORSE-WHEEL, 12 feet diameter, with pan ins, riggers, pulleys, and shafting, to be disposed of. May be seen at Messrs. Baker and Co.'s Manure, Press, and Engine Manufactory, No. 65, Fore-street, Cripplegate, London.

TO CONTRACTORS, ROAD-MAKERS, AND OTHERS.

GOOD GRAVEL and HOGGIN for Sale, at STRATFORD NEW TOWN, Essex, close to the Railway Station, and within a short distance of water carriage on the river Lea.—Apply to Messrs. COBB, Surveyors and Land Agents, 18, Lincoln's-inn-fields.

CAST IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Patentee Works, Red Post Corner, Hackney Road, London. Manufacturer of Cast Iron Rain Pipes, Spouting, Gutters, &c. Price List and Prices for Water, Gas, Flanch Tubing, Soil Pipes, and other Castings, Iron Work for Bakers, Pastrycooks, Confectioners, Dyers, Brewers, Distillers, Sugar Refiners, Oilmen, Chemists, and others, sent free on application. Estimates given for any quantities. Orders executed with despatch. Patterns of every description fitted complete, to be had in sets or parts. Prices equal to any competitors. Estimates given for any extent.

TO ARCHITECTS, BUILDERS, AND BRICK MAKERS.

PUMPS of Superior CONSTRUCTION, more perfectly true by improved machinery, in various plain and ornamental patterns, for mercantile purposes, Market Places, Roads, Gardens, and for Liquid Manure. HYDRAULIC RAMS, PUMPS, and WATER-WORKS of Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.

BENJ. FOWLER, 57, Long-lane, Bermondsey, S.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, for Conveying Water, Steam, Beer, Gas, Air, &c., and for Suction Purposes, Hydraulic Presses, Garden Engines, &c., of any size or length required.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made in lengths of 50 feet, and are the most durable and economical pipes for the above purposes, as they will not require the expensive joints, &c., which are necessary with leather hose, and will adapt for Lowering the engines, fixing, &c., and will not require to be packed in engines, gardens, and all purposes where a perfect, durable, and cheap pipe is required. Manufactured only by the Patentees, JAMES LYNE HANCOCK and SON, Goswell-road, London.

N.B. Vulcanized India-rubber Valves, Clacks, Cocks, Joints, Rings, Washers, Buffers, Springs, Beds, Mouldings, Tubing, Sheeting, Cords, Bands, Straps, Shapes, Solution, &c., of every description, as manufactured by JAMES LYNE HANCOCK and SON, Goswell-road, London.

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TO BUILDERS and CARPENTERS.—Ellis's Stoves, double backs, 24 per inch. Registers, 9d., 7d., 8d. per inch.

Cottage Ranges, with Oven and Back Boiler, 2 ft., 33s.; 3 ft. 2 10s.; 4 ft., 4 ft. 6 in. 6l. 6s.

Self-setting Ranges, with Circular Oven and Back Boiler, and Best Wrought Bars and Bright Furniture.

3 ft. £3 3s.	3 ft. 6, £4 12s. 6d.	4 ft., £4.
Best Patent Oval Chap.		
5l. 6d.	6l. 10s.	7l. 10s. per 1,000
6l. 6l.	8l. 4l.	10l. 9l.

Best Sheet Floor Brads, 1s. per cwt.

Best Tower Glue 3s. Best Patent Sash Line 2s. per cut

2s. 3d.	3s.	6s. 4d.	7s. 4d.	12s. per gross.
1	2	3	4	5

At E. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 9, Lisle-st. street, F. Rathbone-place.

Lists of Prices (by post) upon application at the Warehouse, or by letter free of charge.

N.B. Warehouse closes at seven o'clock.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 186, Blackfriars-road, and 117, Union-street, Borough.

Self-setting Kitchen Ranges, with Oven and Back Boiler and Oven and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£4	£4 10s.	£5	£5 10s.	£6.

Henly's Patent Improved, with Hook Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5	£5 10s.	£6	£6 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.

Do. Elliptic do., at 9½d. and 4d. do.

Manufacturer of WOLFANSTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving of fuel. To secure orders, a remittance or reference, will meet with prompt attention.

OLD ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 15, Crescent, Wardwrith.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Hot and Cold Water Apparatus, Kitchen Ranges, &c.

Self-setting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 15s.	4l. 5s.

All articles made on the premises, and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of extra strong LAP WELDED WROUGHT IRON TUBES for Locomotive and Marine Steam Boilers, Gas Fitting, Hydraulic Purposes, &c. PATENT TUBE WORKS, OLD ST. STEPHEN'S, BIRMINGHAM.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his Premises, and PATTERNS of such goods as are required, can now supply Plain and Ornamental Iron Castings, Gates, Railings, Stoves, Grates, Boilers, Pumps, Water-Closet Work, Baths, Washing Machines, Mangles, Iron Bedsteads, Tables, Presses, Lamps, and other Brass Castings, Screws, Vices, Dies, Taps, Wheels, Pinions, Lamp and other Brass Cocks, Gas-fitters' Work, Bench Screws, Water-Closet Work, Area Gratings, Fly and other Wheels, Wheel or Cabinet Work.

BAKERS' OVEN WORK, Forge Backs and Troughs, Iron Work for Bakers and Pastrycooks, Pan Pieces, Bars, Screws, Rollers, &c., in stock.

IRON FOUNDRY,

163, DRURY LANE, and CHARLES-STREET, DRURY LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS of CASTINGS of EVERY DESCRIPTION, comprising nearly Fifteen Hundred Plain, Ornamental and Architectural Designs and Steam-Engine Patterns; Range Backs and Hobs, &c.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, &c.

A very superior description of Soot Door, particularly suitable for Warehouses, Public Offices, &c., and in general use for the Metropolis, Liverpool, Manchester, &c. Every attention to quality and finish.

GLOVER'S FOUNDRY,
163, DRURY LANE, and CHARLES-STREET.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they have COMPLETED ARRANGEMENTS for the Sole Manufacture, with patent rights, in certain districts, of large Numbers of their improved Kitchen Ranges, Loan Iron and which possess great economy and efficiency. Also their HOT WATER APPARATUS upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.

They fit up Lavatories with Hot Water Apparatus, for Drying Towels in a simple, expeditious, and safe manner. They also fit up in a neat, simple, and economical manner, Hot and Cold Water BATHS with elegant arrangements, with every modern and recent improvement. Also Apparatus for the plentiful supply of Hot Water for baths and general use of Mansions and large establishments.

WEBB and GREENWAY, Brass Founders, and Lock Manufacturers, York-street, Birmingham, beg to call the attention of Architects, Builders, and Cabinet-makers to their REGISTERED KNOB CUPBOARD TURN, having a strong and safe fastening and also washer post, it being a combination not to be found upon the ordinary article.

BRASS and GUN METAL CASTINGS.—Present price for Castings above 1 lb. weight each:—Brass, 9d. per lb.; Gun Metal, common, 10d. per lb.; fine Metal for Bearings, 1s. per lb.

J. F. Wolfe and Son, Grindstone Wharf, Newcastle-upon-Tyne.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balustres, Capitals, Trusted Mouldings, Consoles, Brackets, Trusses, Wreaths, Shells, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Sashes, Bed-mouldings, Patterns, &c., &c., 38-inch Centre-Flowers used complete, 24s. each, smaller in proportion. Also a sortment of Shop-front Trusses always ready for fixing.—JOHN HEDGERT and SON, Modeller, &c., 42, Parker-street, Drury-Lane.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT, Messrs. RUTH and VERLEY'S, 2, Church Wharf, Pudding-lane, Basin, Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cements, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Grey Stone Lime Depôt. Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT is the most extensively used indestructible Stucco, which may be prepared to imitate, and is manufactured in imitation of stone. It is a cheap and efficient substitute in place of wood for skirting, dado, and other mouldings. As a purifier and disinfectant for which purposes it checks the progress of Fire, and drives away Vermin. Offices and Works: Manufactories, J. B. WHITE and SONS, Millbank street, Westminster, and Neckinger, Bermondsey.

PORTLAND CEMENT.—J. B. WHITE and SONS, respectfully refer to the Build. Journal, 15th June, 1853, page 343, for a record of experiments on the strength of Portland Cement. These results show that for the practical purposes of building the concreting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to stone, brick, and timber, as well as to metal with which it comes in contact in pipes, adapt it for such purposes as the building of sewers, drains, and the lining of tanks, &c. Offices and Works, as above. Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its concentitious qualities, harder, and more durable than any other description of Cement, and is not affected by vegetable matter, frost, grease, nor is it affected by any atmospheric influence whatever, the climate resisting the same in every variety of temperature. Orders executed by Messrs. ROBINS, ASPDIN, and Co., at their Manufactory, Northfleet, near Gravesend, or at their Wharf, Great Scotland-yard, Whitehall.

PATENT PORTLAND CEMENT.—To ENGINEERS, ARCHITECTS, SURVEYORS, and BUILDERS. Messrs. ROBINS, ASPDIN, and Co. are preparing at their Wharf, Great Scotland-yard, Whitehall, a supply of Cement of the same quality and description as that used for the Thames Tunnel, as supplied with Contracts, every description manufactured by any other parties, and for the satisfaction of the building trade, they hereby invite intending Manufacturers to compete with them, either at their Wharf, or any other place to be agreed upon, pledging themselves to establish the great superiority of their cement over all others. R. and Co. will announce in "The Builder" and other papers, the time of trial to afford the opportunity of Engineers, Architects, Surveyors, and Builders being present thereat.

MARTIN'S PIRE-PROOF AND ORNAMENTAL CEMENT.

CAUTION.—Messrs. STEVENS and SON of Patents, Cabinet and other Furniture, and General Agents, 52 Ha. Lincoln's Inn Fields, London, are the only Agents for the Sale of the Genuine Cement, and Messrs. STEVENS and SON complete them with MARTIN'S PATENT PROTECTIVE COMPOSITION and manufacture from every other, and being a neutral non-poisonous fluid, it will not injure any of the most delicate fabrics with which it comes in contact, but completely resists the action of the strongest acids. They feel it a duty to direct attention to the following properties, which it exclusively possesses:—

1st. It is impervious to fire, and is capable of resisting the heat of the hottest furnace.

2nd. Cables, and all other metallic conductors, are rendered perfectly secure from the effects of lightning.

3rd. It is impervious to water, and is therefore invaluable for roofs, as it is preferable over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or where a change of air is ordered for invalids, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT.

A brilliant black paint, invisible by a coating for SHIP'S SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, &c. It can be used at once on fresh Roman cement or other, and being perfectly waterproof, will preserve their surfaces from decay. It requires no preparation, and will dry in a few hours.—Price, per gallon 4s.

PATENT ASPHALTIC FELTING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, Church court, Clement's-lane, Lombard-street.

TO SURVEYORS.

AGENTS are WANTED to the KENT MUTUAL FIRE INSURANCE SOCIETY, which is the oldest Mutual Fire Insurance Society for Great Britain, and has been very successful. It was originally confined to Kent, but is now rapidly extending to every town in England, Scotland, and Wales. Applications to be made to the Secretary, Mr. THOMAS BURR, Rochester.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

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TRUSTEES.

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The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either by yearly, half-yearly, or quarterly payments, or one half the annual premium may be left on credit for seven years, or one-third till the end of life. Thus large sums may be insured at the smallest possible cost.

Prospectuses, forms of proposal, &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.

AGENTS WANTED for those towns for which any appointments have not yet been made.

JOHN REDDISH, Manager.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.

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William Evans, Esq., Chesham-street, Belgrave square	James Lys-Seager, Esq., Millbank-street
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Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death IMMEDIATE ANNUITIES on OLD LIVES and for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one. Parties desirous of providing for their Renewal Fine in their Leases can do so with this Society in the most economical manner.

Liberal Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

Prospectuses and further information, free of expense, from

ARTHUR SCRATCHLEY, Actuary.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 1a, Waterloo-place, and 76 King William-street, City.

THE CHISHOLM, Kessock Castle, Inverness-shire, and Chapel-street, Grosvenor-place, London.—Chairman.

RICHARD HARTLEY KENNEDY, Esq., late Physician-General, Bombay), Deputy-Chairman of the Oriental Bank, Resington Lodge, Notting-hill, Deputy-Chairman

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

This Society is established upon the most approved principles of the mutual system, dividing the whole of the profits among the assured, who will receive for half the amount of the first five annual premiums.

The first division of profits will be in the year 1849.

Proposals of every description entertained, involving the contingency of human life.

INDIA AND LONDON LIFE ASSURANCE COMPANY.

CAPITAL 250,000*l.*, in 5,000 SHARES OF 50 EACH.

This Company assures the lives of healthy persons at any part of the world, at rates by which an assurance can be taken consistently with perfect security, whilst, for the accommodation of the assured, a half premium table (No. 2) has been constructed on a plan, peculiar to this office, and affording every Assurance it performs by securing for short periods, with the option of continuing on the remainder of life.

Also invalid lives, whether afflicted with mental or bodily infirmity.

And lives of naval and military officers and colonists in India, in any of the Colonies or other parts of the world.

Annuities granted, and endowments for widows and children.

London, 14, Waterloo-place. A. R. IRVINE, Manager.

The following examples show how small a weekly sum will secure the benefit of Life Assurance for 100*l.*:—

WITH PROFITS.		WITHOUT PROFIT.	
At age of 20 about 10d. per week.		At age of 20 about 8d. per week	
" 30 " 1s.		" 30 " 10d.	
" 40 " 1s. 4d.		" 40 " 1s. 1d.	

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.—Established 1806.

Invested Capital, 1,330,000*l.*

Annual Income, 160,000*l.* Bonuses declared, 710,000*l.*

Claims paid since the establishment of the Office, 1,078,000*l.*

PRESIDENT—The Right Honourable Earl Grey

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The rates of premium are those adopted by the principal Life Offices, but rate without bonus is lower than that of most other offices.

The bonuses are added to the policies, or applied to the reduction of the premiums.

Policies issued by this Office are purchased at their full value; or loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within twelve months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the Insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective bonus to policies bearing intermediate periods of division, in order that all the policy holders may participate equally in the profits of the society.

THE FOLLOWING TABLE SHOWS THE AMOUNT OF BONUSES ADDED TO POLICIES EXISTING AT THE PRESENT TIME.

Policy No.	Date of Policy.	Sum insured	Bonuses added	Increase on original insurance	Total sum payable, to which future bonuses will be added
		£.	£. s. d.	Per cent.	£. s. d.
21	1804	500	415 10 2	83 10	915 10 2
931	1807	900	932 12 1	103 17	1,832 12 1
1,171	1810	1,200	1,188 5 6	99 06	2,388 5 6
1,497	1811	1,500	1,338 8 6	89 05	2,838 8 6
3,286	1814	2,000	1,540 14 5	77 07	3,540 12 5
3,382	1820	5,000	3,538 17 8	71 17	8,538 17 8
4,546	1821	3,000	2,541 3 6	84 7	5,541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and at the head Office, No. 50, Regent-street.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH,

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



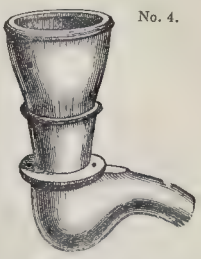
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleasing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—This application of the Vulcanized Caoutchouc (prepared expressly for these valves, with layers of canvas amalgamated therein), having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First.—The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or set fast, for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence.

THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAP

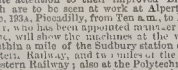
For Sewers and Drains of all kinds.

Registered January 9th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self-cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 28, Lombard street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

2 in.	3 in.	4 in.	6 in.	9 in.	12 in bore.
4d.	5d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

Bends and Junctions equally low.

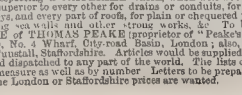
N.B Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Mill-bank street, Westminster; Kings-land Basin, Kingsland-road; and Limekiln, Limehouse.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193a, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Servenet, who has been appointed manager in the room of Mr John Ainslie, will shew the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and the roads out of the Paling station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193a, Piccadilly. March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Fenkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.



No A 6.



No. 7.

Wings, 6½ to 7 inches.

Rolled in London, 6½d., and at Tunstall, 5½d. per foot.

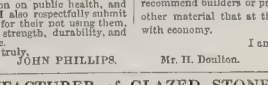
Rusted in ditto, 6d., and at ditto, 5d. ditto.

Plain in ditto, 5½d., and at ditto, 4d. ditto.

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits, for ridges, flip, valleys, and every part of roofs, for plain or chequered paving, for erecting sea walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE (proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.

2 in.	3 in.
4d.	5d.

In 2 feet lengths.

4 in.	6 in.	9 in	12 in	15 in.	18 in. bore.
6d.	8d.	1s. 1½d.	1s 10d.	2s.	4s. per foot

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

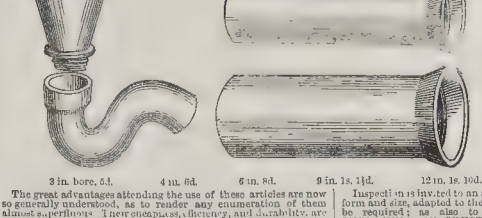
I am, Dear Sir, yours truly,

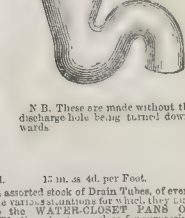
Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.





N B. These are made without the discharge hole being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. as 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin; Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware

---

MESSRS. WOOD & Co., DECORATIVE ARTISTES, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York road, Lambeth; and 28, Cross-street, Blackfriars-road.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion-place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

BRICKS.—TO BUILDERS AND OTHERS.

J. SMITH, of the Commercial-road Fields, Peckham, begs to call the attention of Builders and others, to his STOCK of very superior MALM BRICKS, comprising Seconds, Cutters, Paviours, and Pickings.

N.B. Several acres of very eligible BUILDING LAND to let, for a term of Ninety-nine years. Land-tax redeemed.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand red and white, River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c. Chimney pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with despatch. Country Builders will find this the cheapest market for he above.

THE PATENT OFFICE and DESIGNS REGISTRY, 210, Strand. The OFFICIAL CIRCULAR of INFORMATION, detailing the eligible course for the protection of inventions and designs, with Reduced Scale of Fees, may be had gratis at this office. Letters Patent and Registration of Designs secured at the smallest possible trouble and cost, by application, personally or by letter, to Messrs. F. W. CAMPIN and Co., the agents, 210, Strand, the corner of Essex-street.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2½-inch pipe,	4d. per foot run,	including fixing.	
3	ditto	4½d.	ditto ditto.
3	ditto	5d.	ditto ditto.
3-inch eaves gutter,		3½d.	ditto ditto.
4	ditto	4½d.	ditto ditto.
4½	ditto	5d.	ditto ditto

Flats covered and Cisterns lined from 4d. to 6d. per foot. Super Corner Gutters, 6d. to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City. Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance

TO BUILDERS AND OTHERS

WANTED, to purchase a SMALL CARCASE, by doing the joiners' work to others. For particulars, apply personally or by letter, post paid, to J. A., 3, York-road, City-road.

HOUSE WANTED.—WANTED to PURCHASE, a newly-built, detached or semi-detached COTTAGE, containing six parlours, breakfast room, and three or four bed rooms, with chaise house and garden. A healthy and cheerful situation and easy of access from London indispensable. Free from public dancing house and fish shop. Full particulars to R. S., Porter's Lodge, King's Arms buildings, 'Change Alley, London

WESTMORLAND SOCIETY.—The Committee are desirous of PURCHASING about an ACRE of LAND effectually built on, with a certain income from eligible and healthy situation, within five miles of London, accessible by omnibus or conveyance to a railway station, for the purpose of erecting a school thereon, or of purchasing a dwelling house well calculated for being converted into a school, with about an acre of ground attached. Plans which it is recommended for the sale of such premises will also be communicated with ROBERT ADDISON, Esq. the Treasurer, 210, Regent-street.

READ THIS!—Valuable Leasehold Investment. TO BE SOLD CHEAP, or LET, at moderate Ground rents, two substantially built CARCASES for SHOPS, situated in a rapidly increasing manufacturing district, where all parties are very much required. More than all capital will attend to this, as such an opportunity may never occur again. They will be sold a great bargain. Apply to Mr. SAUNDERS, Langton Arms, Wenlock-street, St. Luke's, back of the Church.

BUILDING LAND to LET, WEST HACKNEY.—A very excellent FRONTAGE, in the best part of this highly respectable neighbourhood. Also about 150 feet on the best part of STAMFORD HILL, the only frontage left. Also a very valuable PLOT, between HIGHBURY and NEWINGTON-GREEN. Inquire of Mr. ARTHUR ASHPITEL, Architect, 5, Crown-court, Old Broad-street.

ISLINGTON.—To be LET, on Building Leases for a long term, several very desirable PLOTS of GROUND. Respectable builders will be accommodated with money.—For plans and particulars apply to Mr. JAMES WAGSTAFF'S Offices, Highbury Lodge.

IN SOUTHWARK.—VERY CAPITAL FREEHOLD BUILDING LAND to be SOLD, containing about 1 acre, 2 roods, in one or several plots for public buildings, shops, dwelling houses, or affording two or three sites for schools, &c., situate adjacent to the Blind Asylum and Bethlehem Hospital, in the London and St George's-roads, Southwark, and with extensive frontages on a handsome new street connecting the said roads. The new street set out and first-class sewer built. Plans and Particulars may be seen at Messrs. GARLAND and CHRISTOPHER'S, Architects, 12, Buckingham-street, Adelphi.

MR. GRISSELL'S EXTENSIVE PREMISES, York-road, Lambeth, near the New Waterloo Station of the South Western Railway, are now cleared, and will be let on Leases, and divided into four parcels, to suit the convenience of Builders, Manufacturers, Livery-stable Keepers, or any other trade requiring roomy and convenient premises.—Printed plans, with these extensive Premises may be had on application to Messrs. EVELSFIELD and HORNE, Auctioneers and Estate Agents, 1, Little Smith-street, Westminster; or at the Coal Exchange.

TO BUILDERS, PUBLICANS, AND OTHERS.

ELIGIBLE INVESTMENT.—TO BE DISPOSED OF, on advantageous terms, a PLOT of GROUND, in the immediate vicinity of London, suitable for Twenty-five Houses. There is already one substantial third-rate House and corner Shop, having the high road; also four other houses in progress, one of which would be suitable as a Public house. Leases direct from the Freeholder; term 99 years. The corner house and shop will more than clear the ground-rent over the whole plot, leaving nearly 400 feet frontage at a peppercorn.—For further particulars, apply to Messrs. DEVONSHIRE and WILSON, Solicitors, 32, Austin Friars.

KENSINGTON GARDENS.—About ¼ mile from Hyde Park-corner, TO BE LET on LEASE, extensive BUILDINGS and LAND, having a frontage of 235 feet on Gloucester road, with a depth of nearly 400 feet; the main building, as subsequently enlarged, comprising a basement and three stories above, each containing nearly 5,500 feet superficial within the walls, and having a stone staircase at either end communicating with each floor. The ground and first floors are each 12 feet in height, and the second floor 8 feet. The building is peculiarly well adapted to be used for a sanatorium, public school, lunatic asylum, or other purpose requiring space, salubrity, and ventilation, or the whole would form desirable premises for an extensive manufactory. A proposal would be entertained for taking down the present buildings, and upon granting the land for long leases. A plan of the buildings and land may be inspected, and further particulars obtained, by application at Mr. GARRARD'S, 13, Suffolk-street, Pall Mall East; or Mr. HALL'S, Kensington-square

TO BUILDERS AND HOUSE-AGENTS

TO LET, a well-established BUSINESS, of upwards of twenty years, within six miles of town, in the above line. The owner is retiring, but will allow his name to remain till the present premises are established by an active, talented young man of small capital, to whom it would be most desirable. Coming in about 630l. Letters, prepaid, addressed to A. G., the Office of "The Builder," will be attended to, and full particulars given

TO BE LET, WATER-SIDE PREMISES. Comprising Warehouses, Stabling, &c., most conveniently situated on the wharf, 14, East street, Blackfriars, a cranage with houses, and a 10-ton landing crane on the wharf. Goods landed and stored.—Apply at the London Vulcan Iron Company's office, on wharf.

MANOR PARK ESTATE, STREATHAM, SURREY,

TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of FIFTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-grown timber, is of singular beauty. Private rides, walks, and drives are intended to be made within the Park. Facing bricks, both White and Red Stocks, and others of an excellent quality, and plain quantities, may be had on the estate, and as cheaply and well as in town, the price which used in the estate. Gravel of a superior description is found in abundance on the ground, and water is laid on. Advances will be made, and other accommodation afforded to responsible builders taking an adequate interest in the property, which is likely to be immediately commercially to them, from a great and increasing demand for houses existing in this neighbourhood.—For Lithographed Plans and Particulars apply to Messrs. RAWLINSON, DOBLE, and RAWLINSON, and VICKERMAN, No. 4, South-square, Gray's-inn; Messrs. GOUGH and QUILTER, Architects, No. 10, Lancaster-place, Strand; or Mr. WILKINS, at the Manor-park Office, Streatham.

TO BE DISPOSED OF, a highly lucrative and respectable MANUFACTURING BUSINESS connected with the BUILDING TRADE, now fully at work, and may be a first-rate concern. The Premises (which are water-side) are compact and in good repair, and but a moderate capital would be required. To save unnecessary inquiries, the amount required for Good will, Plant, and Lease, will be 2,500l.; and the Stock at a valuation.—For further particulars apply, stating real name and address, to Messrs. EVERSFIELD and HORNE, Auctioneers and Estate Agents, No. 1, Little Smith-street, Westminster.

VALUABLE INVESTMENT.—Partnership or Licences for Districts, or entire Counties. Under British and Foreign Letters Patent.—HUTCHISON and Co.'s Incrusted and Impervious Stucco Cloth, Sand, Plaster of Paris Works, Carton Roof-Sheeting, and Wood, &c. The produce supersedes all other building and decorative materials for richness of effect, cheapness, and perfect durability. Specimens to be seen at the Chief Offices, East Temple Chambers, 3, Whitefriars-street, Fleet-street, London; also at the Indurated Sandstone Works, Tonbridge Wells, Kent; or à la Maladrerie, near Caen, France. All particulars afforded at H. and Co.'s Offices; or of Mr. W. HUTCHISON, Castle Hotel, Tonbridge Wells, Kent.

SALES BY AUCTION.

5,500 PIECES PAPER-HANGINGS, DOVE AND VEIN MARBLE, AND STONE CHIMNEYPIECES

MR. BRAY, Jun., will SELL at his Rooms, 23a, High Holborn, on WEDNESDAY, July 26, at Twelve, upwards of 5,500 PIECES of PAPER-HANGINGS, comprising every variety of pattern. May be viewed the day prior and morning of Sale, and Catalogues had at the Rooms as above.

FREEHOLD LAND, adapted for a Public Institution, or any Building or retail business purposes to West of Metropolis

MR. BARNES will SELL by PUBLIC AUCTION, at the Mart, on THURSDAY, August 3, in various lots, FIFTY-FOUR ACRES OF VALUABLE FREEHOLD LAND, adjoining and overlooking Hanger wood, situate two miles from the Regent's-park and Maida-hill, fronting the high road therefrom to Hampstead, Hendon, and Finchley, and forming the crown of a public hill, with fine views, gardens, nursery ground, "Castle Inn, &c.—Particulars of Mr. BARNES, Land and Timber Agent, 33, Fenchurch-street.

TO STATUARIES, SCULPTORS, MASONS, BUILDERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, at the Marble Wharf, Belvidere-road, Lambeth, near Waterloo Bridge, on WEDNESDAY, 26th July, at Ten for Eleven o'Clock precisely, by order of the Proprietors, about 200 Tons of MARBLE, comprising Statuary, Vein Sicilian, Brocatilla, Ionic, Italian, and other Marble in Blocks of every three days previous to the sale, and catalogues had on the premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.—Approved bills at six months to purchasers of 20l.

WESTMINSTER IMPROVEMENTS.—SEVENTH SALE.—BUILDING MATERIALS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the premises, on THURSDAY, July 27, at Twelve, by order of the Westminster Improvement Commissioners, the excellent MATERIALS and FITTINGS of the School of Medicine, Dean-street, Westminster, and the extensive STABLING of Miller's Yard, Brewer's Green, comprising lead in gutters and pipes, slated and tiled roofs, sound timbers in roofs, joists, girders, and floor boards; sashes and frames, doors, entrance, and other doors; fixtures and iron fittings; the fittings-up of Lecture Theatre, seats, skylights, &c.; also the excellent sound brickwork; stone and pitch paving, and other effects.—May be viewed one day prior to the sale, and catalogues had at the architect's office, and of Mr. BILLINGS, Clerk to the Commissioners, 36, Great George-street, and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL BY AUCTION, on the Premises, Belvedere-road, Lambeth, and Saw-mills, Stangate, on MONDAY, July 24, and following day, at Eleven precisely each day, the FIFTH and LAST PORTION of the STOCK of Mr. GRISSELL, who has taken to shed the general Building Business, which will comprise a large quantity of well-seasoned yellow and white deals, planks, and battens, prepared flooring boards, 3in. and 4in. thick, scaffold planks, scaffold boards, 3in. by 9in., 50 dozen scaffold cords, 10 sets of blocks, chain and rope falls and slings, five screw-jacks, crow-bars, pickaxes, mills, sieves, saw benches, large baskets, four pumps and suction-pipe, a few lots of quartering boards, and numerous other effects.

The SECOND DAY will comprise a large quantity of well-seasoned yellow and white deals, planks, and battens, and about 300 loads of Dantzic fir timber. Approved bills at four months to buyers of 5l. May be viewed two days prior to the sale, and catalogues had on the premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS

MESSRS. EVERSFIELD and HORNE, beg to announce they will SELL by AUCTION, on the premises, Commercial Wharf, Commercial-road, Lambeth, on MONDAY, August 14th, 15th, and 16th, at Eleven precisely each day, by order of Mr. BROOKS, who is quitting the premises, in consequence of the expiration of his lease, the extensive STOCK of a TIMBER MERCHANT, comprising a large quantity of dry well seasoned Baltic, Norway, and American yellow and white deals, planks, and battens, prepared flooring boards, 4in. by 1½in., and 3in. by 1½in., mahogany, Honduras log and plank, Quebec oak timber, birch in timber and board, dry Riga and Dutch wainscot, and numerous other items. May be viewed two days prior to the sale, and Catalogues had on the premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

TO BUILDERS, MEMBERS OF BUILDING SOCIETIES, AND OTHERS

MESSRS. BROWN and ROBERTS will SELL by AUCTION, at the Mart, on WEDNESDAY, July 26, at Twelve, in One Lot, by order of the Mortgagee, Four unfinished Brick-Built DWELLING HOUSES, being No. 20 to 24, Claremont-grace, Prince of Wales road, Hamp-tead road. These houses have gardens in the rear, and are pleasantly situate in a very improving neighbourhood, and afford extensive views, and require a moderate outlay to render them fit for habitation; when finished, they will readily let at 35l. per annum each. Held for about 93 years unexpired, at a ground-rent of 30l. per annum for the whole. May be viewed, and printed particulars had on the premises; of ROBERT OLDENSHAW, Esq., Solicitor, 19, King's Arms-yard; and of Messrs. HENRY BROWN and T. A. ROBERTS, 22, Throgmorton street

FREEHOLD RESIDENCE, Kensington-square, with large Garden and detached Stabling, and a Cottage and Premises let at a Ground-rent

MESSRS. WINSTANLEY have received directions to SELL BY AUCTION, at the Mart, on WEDNESDAY, 2nd August, in two Lots, the FREEHOLD FAMILY RESIDENCE, No. 1, on the south side of Kensington-square, possessing a frontage of 45 feet, and containing accommodation for a large establishment, with a garden 82 feet in width; the whole depth of the property being 274 feet, it might be advantageously converted to building purposes. A cottage and garden adjoining, fronting James-street, let at a ground-rent of 4l. per annum, and a three-stall stable and coach-house, in Kensington-square Mews.—To be viewed, by applying at the Residence, where particulars may be obtained; particulars also at Messrs. GOULD'S, 5, Lothbury, Auction-court, Throgmorton-street; at the Coffee-house, High street, Kensington; at the Mart; and of Messrs. WINSTANLEY, Paternoster-row.

PENTONVILLE.—Valuable Leasehold Property, part let and part in hand, and a Reduced Land-Tax.

MESSRS. WINSTANLEY have received directions to SELL BY AUCTION, at the Mart, on WEDNESDAY, 2nd August, the following Eligible LEASEHOLD ESTATES, held for Terms varying from 23 to 32 Years, viz.:—A Capital FAMILY RESIDENCE, pleasantly situated on Hermes Hill, Pentonville, with coach-house, stabling, large garden, and carriage drive, formerly in the occupation of Mr. Bruin; also, the Adjoining House, with small garden, both of which are in hand; and the SUN BREWERY, and premises in John-street, with Manager's residence, stabling, and garden, at present in the occupation of Messrs. Keen and Co., but let on Lease for the whole term, with TWO COTTAGES, called North and South Pavilions, at a ground-rent of 12l. per annum. THREE CONVENIENT RESIDENCES, Nos. 20, 21, and 22, in John-street, let for the whole term at a reserved rent of 65l. per annum. A SMALL HOUSE, No. 14, in Hermes-street, let at 28l. per annum; and a Redeemed Land-Tax of 4l. 1s. per annum.—Printed particulars may be obtained of Messrs. BARRETT and EYSTONS, Solicitors, Gray's Inn-square; at the Angel, Islington; at the Place of Sale; and of Messrs. WINSTANLEY, Paternoster-row.

SALES BY AUCTION.

BAYSWATER.—TO CARPENTERS, BUILDERS, AND OTHERS.

LENGLAND will SELL by AUCTION, at the Pembridge Castle, Ledbury-road, Westbourne Grove, Bayswater, on WEDNESDAY, July 26th, (unless previously disposed of privately), THREE SUBSTANTIAL BUILT HOUSES, with commanding Shops, situate Nos. 7, 8, and 9, Ledbury-road, Bayswater, partly finished. The works already done are of a superior description, and well worthy the attention of any person wishing to realise a certain return for a small outlay. The vaults in front are completed, water closets erected, the premises are covered in with countess slates and lead gutters, sashes and frames in and glazed, posts erected, and the whole of the carpenters' work completed in a first-rate manner. The fronts are neatly painted. Bill compo cornice and architrave mouldings are now fixing, with cornish labels, brussels, &c. The situation is one of the best in this eligible locality, as it will form part of the main thoroughfare from the Bayswater-road to Kensall Green. Any person wishing to realise a certain return for a small outlay. The Premises may be inspected by cards to be had of Mr. RUTHERFORD, Solicitor, 58, Gracechurch-street; at the Pembridge Castle, near the above property; and at the offices of the Auctioneer, Shepperton-street, Caledonian-road, Islington.

TO CABINET-MAKERS, TIMBER MERCHANTS, BUILDERS, AND OTHERS.

FOR SALE, BY AUCTION, on the Premises, 107, Paul street, Finsbury, on TUESDAY, 25th, and WEDNESDAY, 26th, at Eleven o'Clock precisely, by direction of Messrs. MASON and MOORE, who are dissolving partnership—

12	Logs Honduras Mahogany		
50,000 feet	ditto	ditto	in planks and boards.
50	Logs St Domingo ditto		
30,000 feet	ditto	ditto	ditto.
100	Planks Rosewood.		
12,000 feet	Mahogany, Rosewood, Maple and Birch veneers		
4,000	Spruce and Yellow Pine Plank and Deals.		
400	Pipe Staves.		
200	Logs and Planks, Birch		

Maple planks, Birch boards, cut deals, dry wide Pine boards, dry waxmoid planks and boards and other goods.

Also the Pit Screws, Screw Jacks, Handspikes, Crowbars, Rollers, Saws, and various implements in trade.

To be viewed the day previous, and on the mornings of Sale. Catalogues may be had on the premises, and of JOSEPH EDWARDS, Mahogany Broker and Auctioneer, 4, Railway-place, Fenchurch street, London.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS, CABINET MAKERS, COACH-BUILDERS, AND OTHERS.—Extensive Stock in Trade of a Builder, by order of the Executrix.

MR. W. FIELD will SELL by AUCTION, on the premises, 40, Great Peter-street, and New-way, Westminster, on TUESDAY, August 1, and two following days, at 12 each day, the whole of the valuable and well-seasoned STOCK and other effects of the late Mr. Benjamin Hudson, a portion of which is lying at Messrs. Rigby's saw mills, Holywell street; comprising upwards of 200 feet of mahogany and wainscot in board, (various thicknesses), 15,000 feet oak and fir scantling and sash sills, 350 feet cube oak and fir timber, 710 feet Memel oak in board, 11,000 feet birch, elm, and beech, in board and quartering, 16,340 feet dry wide pine, (part in panel board), 940 square mill prepared yellow and white spruce flooring boards and battens, 78,500 feet of threeinch yellow and white spruce and pine in plank, deals, and battens, 65,000 feet yellow and white spruce and pine in plank, boards, and battens (various thicknesses), also 80 external and internal fourpanelled doors, eight fathoms of lathwood, 1,200 bundles of pantile, double and single lath, stock bricks, 3,500 fire bricks, lumps, and tiles, 1,600 paving bricks and tiles, 850 chimney pots and drain pipes, stakes, two tons of cow hair, scaffolding, and utensils, 14 work benches and tools, ladders, barrows, &c.; a timber carnage, four rubbish carts, two chaise carts, pair of new six-inch wheels, harness, and other effects. May be viewed Saturday and Monday preceding, and mornings of sale. Catalogues on the premises in Great Peter-street; and of the Auctioneer, corner of Osnaburgplace, New-road.

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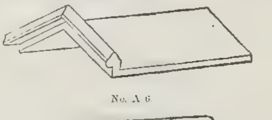
Cleanliness is necessarily at all times conducive to health, and this as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead,

STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT. For decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d and 1s. each and at 1[illegible] per gallon. The Oak Colour may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain. N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York street, Covent Garden, London; and by HOPKINS and PURVIS, 80, Greek-street, Soho.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 3d. per square foot; "Seconds," at 9½d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required. Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvedere-road, Waterloo bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY. James Smith, Esq., of Deanston, Chairman, invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m., to Five p.m. Mr. Robert Sellers, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at work in Scotland at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's, Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Limavady, County Derry.



No. A 6



No. 7.

Wings, 6½ to 7 inches.
Rolled in Lead [illegible] and at Tunstall, 5½d. per foot
Rebated in ditto, 6d., and at ditto, 5d. ditto.
Plain in ditto, 5½d. and [illegible] 4½d. ditto.

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is [illegible] for every thing for [illegible] or conduits, for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, [illegible] GENUINE of THOMAS PEAKE [illegible] "Peake's Terro-Metallic", No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any [illegible] Letters to be prepaid, and [illegible] Staffordshire [illegible] are wanted.

ARCHITECTURAL SUBJECTS (Outlines coloured for Competition or Exhibition, and embellished with Landscape, &c. Buildings, Portraits, and Views of every description, Lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell street, Pentonville.

TO ARCHITECTS, COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield street, Oxford-street.

JENNINGS, Patentee of the SHOP SHUTTER SHOE and FASTENER, which requires NO BAR; of the INDIA RUBBER TUBE COCK, PATENT JOINT, &c. &c. [illegible], Great Charlotte street, Blackfriars-road.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS. Manufactory, 95, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron. The Patentee having fixed up some hundreds, will feel pleased in forwarding the testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.

Beg respectfully to solicit a comparison with the Revolving Shutters (either iron or wood) of any other Makers, whatever their pretensions. The extraordinary demand [illegible] from the universal satisfaction given by BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS, of which some thousands have been fixed in all parts of the Kingdom, having induced other parties to attempt the introduction, [illegible] imitation [illegible] B. and C. [illegible] Architects and the Public that, during their most extensive [illegible] they have at [illegible] every really practical improvement that skill and experience could suggest. A great reduction has also been made in the price, and they are now much CHEAPER, as well as BETTER, than any others.

The prices of the Patent Metallic Sash Bars, &c. have been revised and reduced; Shop Fronts, &c., completely fitted and fixed in a superior style, either plain or ornamental. Strong drawn moulded stallboard plates handsomely engraved. Shop Fronts, &c., completely glazed with best plate glass.

SKYLIGHTS manufactured to any design or extent in Wrought or Cast-iron, Copper, or Zinc.

B. and C. are also sole licencees for MARVIN and MOORE'S PATENT DIAGONAL GRATINGS, for areas at shop fronts, for shop, warehouse, and balcony floors, &c., which does not obstruct the light, yet admits of Ladies walking over or standing on the same.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

Patentees of Self-Acting Effluvia Traps for Sewers, Drains, &c.

Manufacturers of Improved Steam Engines, Sawing and other machinery, especially adapted for builders' purposes, which may be seen in operation. Lifts at the Works, Deptford, Kent.

Estimates given, and Contracts taken, in town or country. Patterns, and every particular may be obtained, on application at the Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARCOURT QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the patent convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.

CLARK and Co. also invite attention to their greatly improved gearing for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw, worm and wheel, cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose, thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally, either above or below the window or door, or vertically, for which position, the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to a doorway, may be seen any day after Four o'clock at the Britannia Life Assurance Office, corner of Princes-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Engravings and Prospectuses forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRIGALS, MOULDINGS, STALL-BOARD PLATES, &c.

Steam Engines always on hand, Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate-street, City.

EMERSON'S PATENT LIQUID CEMENT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT PORTLAND OR OTHER STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost. Sold in casks of 1 and 2 cwt., at 8s. and 15s each.

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felt, leaky roofs, spouts, and gutters, boats, sheds, railing, and all kinds of out door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay, requires no preparation, and will dry in a few hours.—Prices per gallon.

PATENT ASPHALTE ROOFING AND SHEATHING FELT.

A large supply of the best quality, direct from the Manufactory, at low prices, for home use and exportation.

GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5 Church-court, Clement's-lane, Lombard street.

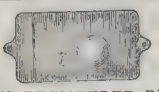
TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and different strengths fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS, WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Whitechapel; or from the sole agent, Mr. JOHN PAULKNER, Ironmonger, 69, St. Martin's-le-Grand, London, opposite the new Money-Order Office.



T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to these new Rim, Drawback, and Cabinet Locks and Latches, in either brass or iron, possessing great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles.—To be had only of T. PUGH and Co., 13, King street, Snow-hill, City, at their Manufactory, Warehouse, and Show Rooms, where they keep an extensive and most complete stock of hammered and cut nails, iron and brass bands, mortice locks and latches, plain, half rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

PATENT URINAL BASON, to be had only at W. DENT'S (late BURTON and DENT'S) Lead Merchant and Plumber. Old Lead exchanged, and Builders and the Trade supplied with Sheet Lead and Pipe at wholesale prices. Manufacturer of Cast Sheet Lead, Engine Pumps, and Water Closets.—21, Newcastle street, Strand.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—This application of the Vulcanized Caoutchouc (prepared expressly for these valves, with layers of canvas amalgamated therein), having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First,—The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the ease with which it is opened and closed; it never gets stiff or set fast for want of use, neither is it liable to injury by frost; they can be made to turn round, and at a less cost than any other taps, and are exceedingly well adapted for ball or cistern valves, and in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence

THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAP

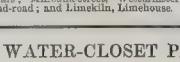
For Sewers and Drains of all kinds.

Registered January 5th, 1848.

A cheap, durable, and most effectual means of preventing the escape of noxious vapours, it is entirely self-acting and self cleansing, cannot get out of order, and may be readily applied in all situations without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, specimens of which may be seen, and also working models, at the office of Messrs. BUNNETT and CORFE, Engineers, 36, Lombard-street, London: and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
3-in.	4-in.	4-in.	6-in	9-in.	12 in. bore
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSKELL, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Milbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas and are never affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—26, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national shows it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples, with full directions as to its use, and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enquired to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited for their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW, LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 30, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

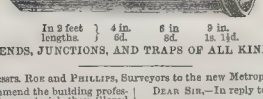
The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin; Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's road, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	3 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore. 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

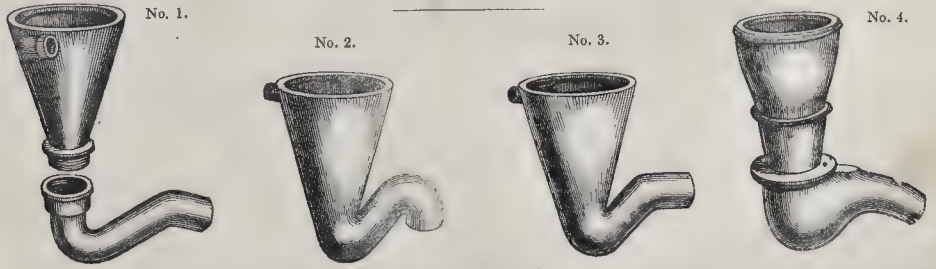
I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



The importance of a system of thorough cleasing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

BUILDING MATERIALS FOR SALE BY TENDER.—The good sound useful Building Materials of Four Tenements, known as POWELL'S PLACE, KINGSLAND-GREEN. Tenders to be sent on or before the 28th of July, 1848, to Mr. HENRY WILSON, Auctioneer and Surveyor, Royal Exchange Land and Estate Offices, 30, Royal Exchange. The ground must be cleared on or before 10th August next.

TO SCULPTORS, STATUARIES, AND MARBLE MASONS.

TO BE DISPOSED OF, the first Business in the above Line in Bath, established and successfully carried on by the Messrs. Reeves and their predecessor for upwards of fifty years. This offers a most desirable opportunity for investment rarely to be met with. The business may be entered on at Michaelmas next.—For further particulars, apply to Messrs. GUNNING and GILL, Solicitors, Bath.

TO BUILDERS AND OTHERS.

ADVANTAGEOUS INVESTMENT.—TO BE DISPOSED OF, by Private Contract, a valuable patented INVENTION for CARVING WOOD and STONE by machinery, which, during the term of the patent (fifteen years), steam-engines, plant, and Stock in Trade, and also the lease of the premises where the works are carried on. The above offers most important advantages by effecting an immense saving of labour and expense in building operations and other works. Satisfactory reasons can be given for the retirement of the present proprietor from the concern.—For particulars apply to Mr THORN, solicitor, 17, Berner-s-treet, Oxford street. Applications by principals only will be attended to.

SAW MILLS, OLD BROMPTON.

TO BE LET, STEAM SAW MILLS, with spacious premises attached, and well-arranged for carrying on a good business. The Mills are ready for work, and immediate possession may be had by at Mr. GEO. ROBINSON'S Offices, 53, Wigmore-street, Cavendish-square.

TO BUILDERS AND CAPITALISTS.

TO BE LET, on leases for 99 years, at low ground rents, THREE FIRST-RATE HOUSES, unfinished, on terms calculated to pay 15 per cent, on the amount required to finish for occupation. This valuable property being connected with central improvements, is free from risk. Apply to BOYLE, BRYDEN, and CO., 200, Regent-street, and 10, Albion-place, Hyde Park-square.

DELIGHTFUL COUNTRY RESIDENCE ON THE SOUTH COAST OF DEVON.

TO be LET, for a Term, from Midsummer next, TIDWELL HOUSE, with about Fourteen Acres of PASTURE and ARABLE LAND, of which about Two Acres are Pleasure Ground, Orchard, and Gardens. The HOUSE is calculated for a large and respectable family, and contains entrance hall, dining, drawing, and breakfast-rooms, numerous bedrooms and attics, and all necessary domestic offices, with a double coach-house, and stabling for six horses. The whole lies very compact, and is most delightfully situated in the parish of East Budleigh, within one mile of Budleigh Salterton, six of Sidmouth, and five of Exmouth, all admired watering places, and there is a pew in the parish church. A pack of hounds is kept almost in the immediate neighbourhood. May be viewed on Thursdays, between the hours of Twelve and Three, and any information had of Mr. COLDRIDGE, Budleigh Salterton, Near Sidmouth, Devon.—March 30, 1848.

BUILDING GROUND TO BE LET, on moderate terms to BUILDERS, CAPITALISTS, and BUILDING SOCIETIES, to erect Terrace, Crescent, Detached Villas, Shops, &c., of four, six, or eight rooms, which kind of property is much in request in the neighbourhood. Sand and gravel on the estate. Bricks may be had within a mile.—Letters addressed (post paid) to U., Rose Villa, Mill-street, Lambeth.

FREEHOLD BUILDING LAND.—FOR SALE, tithe free and land-tax redeemed, a large and most eligible piece in the best part of SOUTHWARK, containing upwards of an acre in area, in several plots, very suitable for public Asylum district, Hospital, with a frontage to the London road of St. George's-roads, and on a handsome new street connecting the said roads. The new street set out and sewer built. Plans and particulars may be seen at Messrs. Garland and Christopher's, Architects, 12, Buckingham-street, Adelphi.

TO BUILDERS

ELIGIBLE PLOTS of BUILDING LAND TO BE LET, upon favourable terms, at and near Kilburn, Fulham, West Ham, Brixton, Carshalton, Camberwell, Hammersmith (Surrey side), Southcliffe, Erith (Kent), Twickenham, Sydenham, Victoria Park, Putney, Notting Hill, and several other localities. We have also some very large Plots of Land to Let, in situations that must prove highly advantageous to those capable of taking such, as the terms would admit of their creating a large amount of improved ground rents.—BECKWITH and SALMON, Land and Estate Agents, 25, Buckleersbury.

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KENSINGTON GARDENS.—About 1½ mile from Hyde Park-corner, TO BE LET on LEASE, extensive BUILDINGS and LAND, having a frontage of 235 feet on Gloucester road, with a depth of nearly 400 feet; the main building is substantial and commodious, comprising a basement and three stories above, each containing nearly 5,500 feet superficial within the walls, and having a stone staircase at either end communicating with each floor. The ground and first floors are each 12 feet in height, and the second floor 8 feet. The building is peculiarly well adapted to be used for a sanatorium, public school, lunatic asylum, or other purpose requiring space, salubrity, and ventilation, or the whole would form desirable premises for an extensive manufactory. A proposal would be entertained for taking down the present buildings, and appropriating the land for building purposes. A plan of the buildings and land may be inspected, and further particulars obtained, by application at Mr. GARRARD'S, Suffolk-street, Pall Mall East, or Mr. HALL'S, Kensington square.

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MR. JOSEPH WARE will SELL by AUCTION, on the Premises, Belgrave-road, Pimlico, on TUESDAY, August 1, at One, the STOCK; comprising 30,000 feet of Welsh slate slabs of various thicknesses, 40,000 roofing slates, in princesses, duchesses, countesses, and viscountesses, doubles, &c.; 400 sets of chimney piece slips, and 50 enamelled chimney pieces of various forms and designs, sawing machine, truck, work benches, and the implements of the trade.—View day previous, and morning of sale. Catalogues had on the premises, of Mr. LONG, Estate Agent, 190, Shoreditch; and at the Auctioneer's Offices, opposite the Crescent, Kingsland. N.B. The Yard and Two Warehouses to be Let. Apply on the Premises, or to the Auctioneer

TO BUILDERS, TIMBER MERCHANTS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL BY AUCTION, on the premises, the Saw Mills, Stangate, on MONDAY, July 31, at Twelve o'clock in consequence of the unfavourable state of the weather at the former sale on the 25th, about 250 Loads of Dantzic Fir Timber, 500 Battens, 1,000 Christiana and Pine Deals, and about 600 yellow Pine Plank. May be viewed till the sale, and catalogues had on the premises and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE, beg to announce they will SELL by AUCTION, on the premises, Commercial Wharf, Commercial-road, Lambeth, on MONDAY, August 14th, and following days, at Eleven o'clock precisely each day, by order of Mr. BROOKS, who is quitting the premises, in consequence of the expiration of his lease, the extensive STOCK of a TIMBER MERCHANT, comprising a large quantity of dry well seasoned Baltic, Norway, and American yellow and white deals, planks, and battens, prepared flooring boards, sawn boards, Baltic and American timber, mahogany in log and plank, Quebec oak timber, birch in timber and board, dry Riga and Dutch wainscot, and numerous other items. May be viewed two days prior to the sale, and Catalogues had on the premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

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MESSRS. WINSTANLEY have received directions to SELL BY AUCTION, at the Mart, on THURSDAY, 27th August, in two Lots, the FREEHOLD FAMILY RESIDENCE, No. 13, on the south side of Kensington-square, possessing a frontage of 45 feet, and containing accommodation for a large establishment, with a garden 64 feet in depth; the whole depth of the property being 274 feet, it might be advantageously converted to building purposes. A cottage and garden adjoining, fronting James-street, let at a ground rent of £4 per annum, and a three-stall stable and coach-house, in Kensington-square Mews. To be viewed, by applying at the Residence, where particulars may be obtained; particulars also at Messrs. BAWES, Solicitors, Angel-court, Throgmorton-street; at the Coffee-house, High-street, Kensington; at the Mart; and of Messrs. WINSTANLEY, Paternoster-row.

PENTONVILLE.—Valuable Leasehold Property, part let and part in hand, and a Redeemed Land-Tax.

MESSRS. WINSTANLEY have received directions to SELL BY AUCTION, at the Mart, on TUESDAY, 15th August, the following Eligible LEASEHOLD ESTATES, held for Terms varying from 21 to 32 Years, viz.—A Capital FAMILY RESIDENCE, pleasantly situated on Hermes Hill, Pentonville, with coach-house, stabling, large garden, and carriage-drive, formerly in the occupation of Mr. Bruin; also, the Adjoining House, with small garden, both of which are in hand; and the SUN BREWERY, and premises in John-street, with Manager's residence, stabling, and garden, at present in the occupation of Messrs. Keen and Co., but let on Lease for the whole term, with TWO COTTAGES, called North and South Pavilions, at a ground-rent of 120l. per annum. THREE CONVENIENT RESIDENCES, Nos. 20, 21, and 22, in John-street, let for the whole term at a reserved rent of 65l. per annum. A SMALL HOUSE, No. 14 in Hermes-street, let at 32l. per annum; and a Redeemed Land-Tax of 4l. 3s. per annum.—Printed particulars may be obtained of Messrs. BARRETT and EYSTONS, Solicitors, Gray's Inn-square; at the Angel, Islington; at the Place of Sale; and of Messrs. WINSTANLEY, Paternoster-row.

TO TIMBER MERCHANTS, BUILDERS, CARPENTERS, CABINETMAKERS, COACH-BUILDERS, AND OTHERS.—Extensive Stock in Trade of a Builder, by order of the Executrix.

MR. W. FIELD will SELL by AUCTION, on the premises, 40, Great Peter-street, Westminster, on TUESDAY, August 1, and three following days, at Twelve each day, the first portion of the valuable and well-seasoned STOCK and other effects of the late Mr. Benjamin Hudson, in 1,000 lots, comprising upwards of 300,000 feet of fine timber remaining in board, (various thicknesses), 15,000 feet oak and fir scantling and sash sills, 550 feet cube oak and fir timber, 710 feet Memel oak in board, 11,000 feet birch, ash, and other hardwood, 20,000 feet (or 240 feet dry wide pine, (part in panel board), 78,000 feet of three-inch yellow and white spruce and pine in plank, deals, and battens, 65,000 feet yellow and white pine, and Lambert's deals, laps, and battens (various thicknesses), also 80 external and internal four-panelled doors, eight fathoms of lathwood, 1,250 bundles of pantile, double and single lath, sash bricks, 3,500 fire bricks, quarries, and tiles, 1,600 paving bricks and tiles, 800 chimney pots and drain pipes, slates, two tons of plasterers' hair, 14 work benches and tools, ladders, barrows, &c.; a timber carriage, four rubbish carts, two chaise carts, pair of new six-inch wheels, harness, and other effects.—May be viewed Saturday and Monday preceding and morning of sale. Catalogues had on the premises, and of the Auctioneer, corner of Osnaburg-place, New-road.

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FREEHOLD BUSINESS PREMISES, WHITEFRIARS' DOCK.—TO LET, on advantageous terms, a SPACIOUS YARD, with WORKSHOP, BUILDINGS, and TWO DWELLING HOUSES. The yard being capable of subdivision if required, having two distinct gateway entrances and possesses the immediate facility of wharfage by the Whitefriars free drawing dock. Also the important building frontage in the new projected street, from the Temple to Blackfriars-bridge, which offers an opportunity for the erection of three dwellings with shops, in a very increasing thoroughfare.—Apply for particulars to Messrs. NEWTON and EVANS, Solicitors, 1, Wardrobe-place; or to Mr. HUDSON, Architect and Surveyor, 19, Bennet's-hill, Doctor's Commons.

TO BUILDERS AND OTHERS.

ADVANTAGEOUS INVESTMENT.—TO BE DISPOSED OF, by Private Contract, a valuable patented INVENTION for CARVING WOOD and STONE by machinery, together with the whole of the patent machinery, steam engines, plant, and stock in trade, and also the lease of the premises where the works are carried on. The above offers most important advantages by effecting an immense saving of labour and expense in building operations and other works. Satisfactory reasons can be given for the retirement of the present proprietor from the concern. For particulars apply to Mr. THORN, solicitor, 17, Bernerś-street, Oxford-street. Applications by principals only will be attended to.

ARMS of the UNITED KINGDOM.—To be SOLD CHEAP, the Arms of the United Kingdom, beautifully modelled in Terra-cotta. The extreme dimensions, 8 ft. 6 in. long, 5 ft. high, 1 ft. 6 in. thick. Also the KEY STONE of the principal entrance of the late ROYAL EXCHANGE, ornamented with the finely and smuch admired sculpture grotesque head. And two tiers of 14 in. finely rubbed SLATE CIRCLES, rounded nosings, one 10 ft., the other 8 ft. diameter, suitable for either a hot or greenhouse.—Apply to J. SIM, Builder, Johnston's-place, Mile-end-road.

SMALL-POX and VACCINATION HOSPITAL.—NOTICE. The Referees having selected Five Designs, designated by the mottoes, "Venienti occurrite morbo," "Veritas and cagle," "Nec timide nec timore," "O," and "Nil sine labore," out of the Fifty-five Sets submitted, the Committee have awarded the Prize of 120*l.* to the author of the design "Venienti occurrite morbo;" 100*l.* to "Veritas and eagle;" and 50*l.* to "Nec timide nec timore." The other competitors are requested to send for their Designs on Friday, Saturday, or Monday next, between the hours of Nine and Eleven

J. CLIFT, Secretary, 30, Bloomsbury-square.

August 3, 1848.

CONTRACTS.

TO BUILDERS, &c.

PERSONS desirous of Tendering for the erection of a Manufactory, to be built for Mr. Benjamin Fowler, may see the plans and specifications from the 4th to the 10th instant, at No. 61, Dorset-street, Salisbury-square, Fleet-street, between the hours of 10 and 4.—Tenders delivered on or before the 14th instant will be opened in the presence of the parties at 12 o'clock in the forenoon.

NORTH STAFFORDSHIRE RAILWAY.—The Company is prepared to receive TENDERS for GAS WORKS and FITTINGS for the Station at Stoke upon Trent.—Specifications and all particulars may be had of H. A. HAYNE, Esq., 1, Parliament-street, Westminster. The Company will not bind themselves to accept the lowest tender. Tenders to be addressed to the Secretary, at the Company's offices, 28, Parliament-street, Westminster.—By order.

July 24, 1848. J. SAMUDA, Sec.

TO BUILDERS AND OTHERS.

THE Trustees of the Poor of the Parish of St. Leonard, Shoreditch, Middlesex, will meet in the Vestry-room, Shoreditch Church, on THURSDAY next, the 10th day of August, 1848, at Six o'clock in the Evening precisely, TENDERS and CONTRACT for the ERECTION and COMPLETION of certain BUILDINGS at the back of and a Detached from the WORK-HOUSE of that Parish. The particulars and quantities can be had on application to Mr. TRESS, Surveyor, Wilson-street, Finsbury, at whose Office the plans and specifications may be seen. The Tenders to be sealed, and delivered at the Office of the Workhouse, King-land road before Three o'clock in the Afternoon of the day of meeting. The Trustees do not pledge themselves to accept the lowest or any one of the Tenders. By order of the Board.

JOHN WARE, Clerk to the Trustees.

August, 1848.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, &c. Buildings, Portraits, and Views of every description. Lithographed in a superior manner, by GEORGE CHILDS, 13, Anwell-street, Pentonville.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Antwerp, &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to: drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.

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STEAM-ENGINES FOR SALE.—One of 16-horse power, one of 12-horse power, one of 5-horse power, one of 3-horse power, and one of 1-horse power, with tubular boiler.—JAS. CURRIE, Engineer, 11, Savage-gardens, Tower-hill

VENTILATION.—The attention of Architects, Builders, and the Public is solicited to GRANT'S PATENT SELF-ACTING VENTILATING APPARATUS, and also the ROTARY WIND GUARD, for the prevention of downward draft and cure of smoky chimneys.—Manufactured solely by the Patentees, LAMBERT and GRANT, 21, Elizabeth street, Eaton-square.—L. and G. warrant the above in all cases where they fix them.

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J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pieces, Garden and Pleasure Ground Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, at 8*d.* per inch. The usual prices.—Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

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PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos 284 and 285, pages 313 and 351 [illegible] that of Roman Cement in the proportion of four to one; thus making [illegible] bridges and other works of a critical nature [illegible] eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the [illegible] terns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

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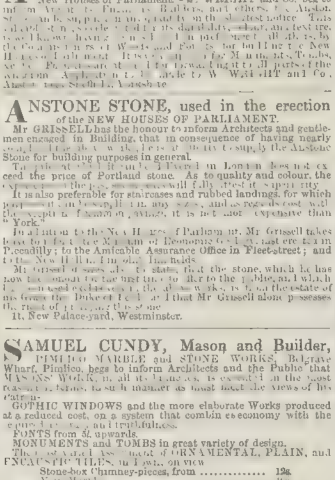
CAEN STONE.—Original Sufferance Depôt, Norway Wharf, Greenwich.—W. TUCKWELL, Caen Stone [illegible] Shipments made to any port direct from his quarries at Caen. N.B. Orders received at the Wharf, as above, also at the Offices of Mr. R. A. WITHALL, Surveyor, [illegible]

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects [illegible]

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[illegible] This Company assures the lives of healthy persons in any part of the world [illegible] with perfect security; whilst, for the accommodation of the [illegible] the remainder of life. Also invalid lives, whether afflicted with mental or bodily infirmities. And lives of naval and military officers and civilians in India, in any of the Colonies, or other parts of the world. [illegible]

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Policy No.	Date of Policy.	Sum insured.	Bonuses added.			Increase on original insurance.	Total sum payable, to which future bonuses will be added.		
		£.	£.	s.	d.	Per cent.	£.	s.	d.
21	1806	[illegible]	415	10	2	83 10	[illegible]	10	2
[illegible]	1807	[illegible]	982	12	1	[illegible]	[illegible]	12	[illegible]
1174	1810	[illegible]	1,160	5	6	[illegible]	[illegible]	[illegible]	6
[illegible]	1811	[illegible]	[illegible]	[illegible]	[illegible]	83 02	[illegible]	8	[illegible]
[illegible]	1820	[illegible]	[illegible]	[illegible]	5	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1820	[illegible]	[illegible]	[illegible]	8	71 17	[illegible]	[illegible]	8
[illegible]	1822	[illegible]	2,541	3	6	84 7	[illegible]	3	6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and at the head Office, No. 50, Regent-street.

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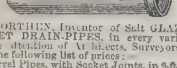
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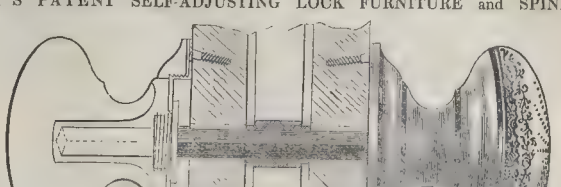
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By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.

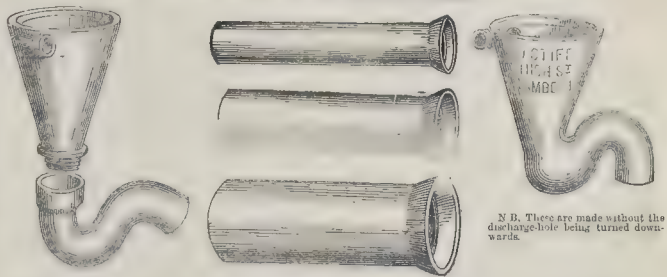


The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable sidescrew in the knobs of the knobs is not required. The mountings to which the knobs are secured to the door on a bearing for each knob, and consequently the knobs freely in and out as the follower, the action is more pleasant than with the ordinary mountings, as being fixed, it prevents the disagreeable motion of the knobs when the escutcheon or rose is used. The knobs are rendered both stronger and neater by the omission of the screw hole from the necks, and the liability of breakage in use.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., centre plates, Escutcheons, Roses, Finger plates, Bead plates, and Levers. May be obtained of all Ironmongers, Nos. 58, 59, Wych-street, Strand, London, or of the Patentees and Sole Manufacturers, HART and SONS, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only perfect one for preventing breakage in the neck of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an infringement of the Patent

JAMES STIFF, MANUFACTURER of GLAZED STONE DRAIN PIPES,
BENDS, JUNCTIONS, TRAPS, &c., 59, HIGH STREET, LAMBETH, LONDON Established 1751.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

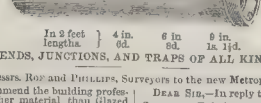
3 in. bore, 5d. 4 in. 6d. 6 in. 8d 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 2s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost useless in their present great efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; also of the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS, Pellatt's Acre, Westminster Bridge; City road Wharf, City Basin Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, Kingsland, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY
HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in 4d.	3 in 5d.	In 2 feet lengths.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 2s.	18 in. bore 4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there can not be a better article.

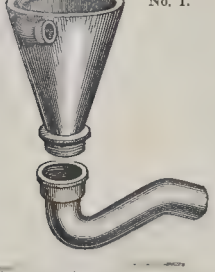
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1.



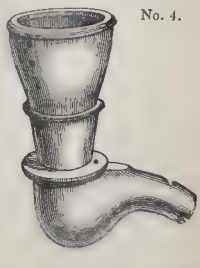
No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability to a general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

TO BUILDERS.

TO BE DISPOSED OF, at a very reduced price, a large quantity of BALCONY PANELS, NEWELL BARS, and RAILING BARS.—For particulars, apply to Mr. HENRY TAYLOR, Ironfounder, 26, Crown street, Finsbury.

TO BE DISPOSED OF, in one or separate Lots, about 600 PLASTER MODELS, consisting of Elizabethan Panelling, Mouldings, &c., and Gothic ornaments; also a quantity of French ornaments in *carton pierre*, and about 40 carved Oak Veneers, formerly the property of the Patent Wood-carving Company, Ranelagh-road. Apply to E. H. BALL, Architectural Carver, 9, Hollywell-street, Millbank.

TO SCULPTORS, STATUARIES, AND MARBLE MASONS.

TO BE DISPOSED OF, the first Business in the above Line in Bath, established and successfully carried on by the Misses Reeves and the predecessors for upwards of fifty years. This offers a most desirable opportunity for investment rarely to be met with. The business may be entered on at Michaelmas next.—For further particulars, apply to Messrs. GUNNING and GILL, Solicitors, Bath

SALES BY AUCTION.

FOR SALE by PUBLIC AUCTION, at Garraway's Coffee-house, Change-alley, Cornhill, on FRIDAY, 11th August, 1848, at Six o'clock precisely,
511 Wainscot Logs ex New York packet from New Orleans.
630 ditto ex Hugo from Riga.
48 half ditto
20,000 Baltic and Colonial Docks and Battens, with other goods.
E. D. WARRINGTON, Broker and Auctioneer, 15, New City Chambers, Bishopsgate street.

MR. HERNE will SELL by AUCTION, on TUESDAY, August 8, at Eleven, on the premises adjoining the Canal bridge, Ben Jonson-fields, near the New Globe, Mile-end, by direction of the proprietors, to clear the ground, a large quantity of useful BUILDING MATERIALS, comprising about 150,000 sound old stock bricks, 5,000 fire bricks, 200 tons pan and plain tiles, 60 Loads of new Memel timber, in 3- to 6- feet lengths; a large quantity of rafters, quartering, timber ends, stacks of firewood, Stanhope chaise, and a variety of other effects.—May be viewed on Monday preceding the sale; and catalogues had on the premises; at the Swan, Stratford; Mermaid, Hackney; Angel, Islington; and of the Auctioneer, 18, Change-alley, Cornhill, and Shadwell.

FREEHOLD BUILDING GROUND, EALING, MIDDLESEX

MESSRS. ROBERTS and ROBY will SELL, at the Mart, on WEDNESDAY next, August 9th, at Twelve, in lots, several plots of valuable FREEHOLD BUILDING LAND, most desirably situate on the high road, at Ealing, within a few minutes' walk of the Ealing station on the Great Western Railway, particularly adapted for the erection of villas and cottage residences. To be viewed, and particulars, with plans, had of JOHN MILLS, Esq., Solicitor, Brunswick-place, City-road; at the principal inns at Shepherd's-bush, Ealing, and Hanwell; Auction Mart; and of Messrs. ROBERTS and ROBY, Land Agents and Auctioneers, 24, Moorgate-street, Bank.

FREEHOLD LAND, EXONERATED FROM LAND-TAX, NORWOOD.

MESSRS. ROBERTS and ROBY are directed to SELL BY AUCTION, at the Mart, on WEDNESDAY next, August 9th, at Twelve, in 29 lots, several valuable PLOTS of FREEHOLD BUILDING GROUND, most delightfully situate on Central-hill, a much admired part of Norwood, Surrey, opposite Cornwall House Academy, and nearly adjoining the grounds of the Park Hotel and Essex Lodge, seated on an eminence and gravelly soil, close to the main turnpike road to Sydenham, commanding the most beautiful and diversified views, and within twenty minutes' walk of the Anerley station from London to Croydon, distance about 6 miles from the metropolis. Very eligible for the erection of villas and other residences, which are so much in request at this select locality—To be viewed, and particulars, with plans, had at the principal inns in the neighbourhood; of Mr. SCARBOROUGH, Peckenhouse-yard, Lothbury; Auction Mart; and of Messrs. ROBERTS and ROBY, Land Agents and Auctioneers, 24, Moorgate-street, Bank.

TO BUILDERS, SPECULATORS, AND OTHERS.

MR. CHAMBERS will SELL, at the Swan Inn, Stratford, on THURSDAY, 24th August, at Twelve for One, about THREE ACRES of VALUABLE FREEHOLD BUILDING LAND, fronting the high road, Bromley, Plaistow, Essex, in lots, available for the creation of ground rents, by the erection of cottage residences, part being already covered, being close adjoining Bridge Turnpike Gate.—May be viewed until sale; particulars at the Greyhound, Bolsam-street, opposite the pottery and the Abbey Arms, the Swan, Stratford, of Messrs. MADDISON, THOMAS, and HOLLAMS, Solicitors, Mincing-lane, and of Mr. CHAMBERS, Auctioneer, No. 7, Great Tower-street, City.

Brick lane, Spitalfields.—Extensive Sale of Building Materials of Forty Houses.

PULLEN and SON respectfully announce that they will SELL by AUCTION, on the Premises, on THURSDAY, August 10, at Twelve, in LOTS, by order of the Directors of the Eastern Counties Railway Company, all the valuable BUILDING MATERIALS of FORTY HOUSES in Fleet street hill, Stevens' buildings, Hare marsh, and Petley-street, St. John-street, Brick-lane, adjoining the Goods Station; comprising about 1,000,000 sound stock bricks, a vast quantity of oak and fir timber in roofs and floors, 30,000 pantiles, 250 pair sashes and frames, numerous doors, partitions and interior fittings, sound floor-boards, stone-paving, lead-gutters and pipes, stoves, and other useful fixtures and fittings. May be viewed, and catalogues had of PULLEN and SON, 30, Fore-street, Cripplegate.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce they will SELL by AUCTION, on the premises, Commercial Wharf, Commercial-road, Lambeth, on MONDAY, Aug. 14, and following days, at Eleven precisely each day, the seasoned and genuine STOCK of Mr. EDWARD Talbot, Timber Merchant (who is quitting the premises on account of the expiration of his Lease), comprising about 1,200 yellow and white Baltic planks; 1,000 ditto Christiana deals; 1,200 ditto Gefle and Swedish ditto; 2,000 ditto Norway and Gottenburg ditto; 1,300 ditto Norway battens; 3,500 Quebec pine planks, deals, and battens; 3,500 ditto Eprure ditto; Quebec red pine timber; building and board yellow pine ditto; Swedish ditto; fine Quebec oak ditto; American birch; mahogany; Riga and Dutch wainscot, in logs and board; and about 15,000 feet of yellow and white dry prepared deal and batten flooring.—May be viewed two days prior to the sale, and Catalogues had on the Premises; and of the Auctioneers, Coal-Exchange; or 3, Little South-street, Westminster.

The OLD GAOL and HOUSE of CORRECTION at CHELMSFORD, Essex, and first-rate BUILDING GROUND, abutting on the Friars-road, the whole occupying a Site of One Acre and Three Quarters, in the centre of the Town.

MESSRS. BEADEL, SON, and CHANCELLOR have been honoured with instructions from the Magistrates of the county of Essex, to SELL by AUCTION, in One Lot, at the Black Boy Hotel, Chelmsford, on FRIDAY, August 25th, at Three o'clock, that extensive and massive RANGE of BUILDINGS, known as the Old Chelmsford Gaol and House of Correction, including the SITE of the same, together with the valuable PLOT of GROUND adjoining. This Property is admirably adapted for the trade or manufacture requiring extensive premises. It adjoins the river Can, and has a considerable frontage in the town. To the speculator, or dealer in building materials a rare opportunity is offered; there are upwards of two millions of bricks, an enormous quantity of Portland stone, granite, paving, slates, copper, lead, and wrought iron; and the ground, if divided, which may be advised into numerous lots, is of a highly valuable character for building purposes. Particulars and views in one, with plan prints attached; may be had (without charge) three days prior to the sale, of WILLIAM GIBSON, Esq., Clerk of the Peace, Chelmsford, of Mr. BEADEL, 25, Gresham-street, London; and of Messrs. BEADEL, SON, and CHANCELLOR, Architects, Surveyors, and Auctioneers, Duke-street, Chelmsford.

EXTENSIVE PREMISES TO LET, consisting of light and capacious Warehouses, two Dwelling-houses, Stabling, Coach and Cart Houses, Cellaring, &c., all enclosed with a spacious Court-yard, in the neighbourhood of Bishopsgate, and contiguous to the Eastern Counties terminus. Particulars of FISHER and KING, Leather Factors, Leadenhall-place, City.

FREEHOLD BUILDING LAND.—FOR SALE, tithe free and land-tax redeemed, a large and most eligible piece in the best part of SOUTHWARK, being upwards of an acre in area, in several plots, very suitable for public buildings, shops, and dwelling-houses, &c., adjoining the Bland Asylum and Bethlem Hospital, with frontages on the London and St. George's roads, and on a handsome new street connecting the said roads. The new street set out and sewer built. Plans and particulars may be seen at Messrs. Garland and Christopher's, Architects, 12, Buckingham street, Adelphi.

TO BUILDERS

WEST DRAYTON STATION, County MIDDLESEX.—HIGHLY ELIGIBLE PLOTS OF GROUND TO BE LET for BUILDING, on favourable terms, situated close to the West Drayton Station on the Great Western Railway, 13 miles from London, 21 from the market town of Uxbridge, 17 from Windsor. Excellent fishing in the immediate neighbourhood. Lithographed plans may be had and every information given upon application to Mr. CORBETT, West Drayton; Mr. JOHN HARDY, Surveyor, Cowley; and Mr. WM. MUMFORD, Architect, 1, Adelaide-terrace, Westbourne-grove, Bayswater.

KENSINGTON GARDENS.—About 1½ mile from Hyde Park-corner, TO BE LET on LEASE, extensive BUILDINGS and LAND, having a frontage of 235 feet on Gloucester road, with a depth of nearly 400 feet; the main building is substantial and commodious, comprising a basement and three stories above, each containing nearly 5,500 feet superficial within the walls, and having a fine staircase at either end communicating with each floor. The ground and first floors are each 12 feet in height, and the second floor 8 feet. The building is peculiarly well adapted to be used for a sanatorium, public school, lunatic asylum, or other purpose requiring space, salubrity, and ventilation, or the whole would form desirable premises for an extensive manufactory. Offers would be entertained for taking down the present buildings, and appropriating the land for building purposes. A plan of the buildings and land may be inspected, and further particulars obtained, by application at Mr. GARRARD'S, 13, Suffolk-street, Pall Mall East; or Mr. HALL'S, Kensington-square.

TO CARPENTERS, BUILDERS, &c.

TO BE LET, an Excellent BUSINESS PREMISES, situate 42 & 43, Trafalgar-street, Walworth-road, containing two distinct Dwelling houses, large Yard, convenient for drawing in Timber, &c., two back entrances, two Work Shops, Shed, Sawpit, &c. The rent and land tax under 40*l.* per annum for the whole; a small sum will be required for fixtures, fittings, &c.; the present occupier removing to larger premises a considerable distance.—Apply as above.

DELIGHTFUL COUNTRY RESIDENCE ON THE SOUTH COAST OF DEVON

TO be LET, for a Term, from Midsummer next, TIDWELL HOUSE, with about Fourteen Acres of PASTURE and ARABLE LAND, of which about Two Acres are Pleasure Ground, Orchard, and Gardens. The HOUSE is calculated for a large and respectable family, and contains entrance hall, dining, drawing, and breakfast rooms, numerous bed-rooms and attics, and all necessary domestic offices, with a double coach-house, and stabling for six horses. The whole has very recently been repaired, and is most delightfully situated in the parish of East Budleigh, within one mile of Budleigh Salterton, six of Sidmouth, and five of Exmouth, all united watering places, and three from the sea, in the parish church. A pack of hounds is kept almost in the immediate neighbourhood. May be viewed on Thursdays, between the hours of Twelve and Three, and for information, had of Mr. COLDRIDGE, Budleigh Salterton, Near Sidmouth, Devon.—March 9, 1848.

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A JOURNAL FOR THE

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VOL. VI.—No. 288. AUGUST 12, 1848. PRICE FOURPENCE. *Stamped 5d.*

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August 8, 1848. Clerk to the Commissioners.

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1, Cahuone place, Kensington, Aug. 10, 1848.

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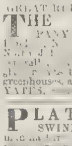
PLATE-GLASS DOMES.—R. W. SWINBURNE and CO. beg to inform the Public that they [illegible] light, [illegible] &c., and requiring no [illegible] also in plate glass pastry and butter slabs, in wooden frames; apothecaries' and colourmen's slabs, of all sizes; milk bowls and pantiles, very strong [illegible] Red Bull Wharf, Upper Thames-street.

STAINED GLASS.—To the Clergy and Architects.—Mr. WILMSHURST begs to inform the Clergy, Architects, &c., that he has opened a room containing a variety of specimens of PAINTED GLASS, suitable for Gothic Church decoration, viz., subjects, single figures of the Evangelists, and other [illegible] with numerous emblems; and examples of Windows, suitable for churches of various periods of architecture; also, specimens of Illuminated Tablets.

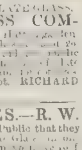
Mr. WILMSHURST solicits the inspection of the above by all interested in church embellishment at his residence, No. 13, Foley-place, Langham-place.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, [illegible] Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. [illegible] Mouldings in any quantity.—N.B. This [illegible]



J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace [illegible] Vases, Flower Pots, Fountains, &c. &c. Also Architects, Surveyors, and Builders to a great variety of Perforated Ornaments, for Parapets, Balconies, Terraces, and Garden Walls, Capitals, Trusses, Consoles, Chimney Shafts, and other Ornaments [illegible] Arms finished in a superior manner, all at half the usual price. 25, Providence-row, Finsbury-square. [illegible] Albion Wharf, Blackfriars-bridge.

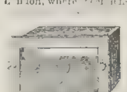
VENTILATION.—The attention of Architects, Builders, and the Public is solicited to GRANT'S PATENT SELF-ACTING VENTILATING APPARATUS, and also the ROTARY WINDGUARD, for the prevention of downward draft and cure of smoky chimneys. Manufactured solely by the Patentees, LAMBERT and GRANT, 2, [illegible]-street, Eaton-square. L. and G. warrant the above in all cases where they fix them.

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to Cure all Chimneys Smoking from Wind. They will not clog with soot—cannot be deranged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized, 25s. each; ditto, for kitchens, 40s. To slip on chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 51, Great Russell-street, Bloomsbury, where it may be seen and tested.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application [illegible] prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, [illegible] 12, Cumberland Market, Regent's park, London, where [illegible] are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, [illegible]-street, Oxford-street, begs to call the attention of Architects, Builders, [illegible] and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation [illegible]. Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

[illegible] smoky chimneys of [illegible] undertake the cure of smoky chimneys on the above equitable terms.

FIRE BRICKS.—WARD and HART, [illegible] Wharf, [illegible] respectfully solicit the attention of Gas Companies, builders, engineers, oven builders, ship[illegible] Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage [illegible] had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, [illegible] Bricks, Oven Tiles, Pan, Plain, Ridge, and [illegible] Moulding Sand, House Sand, [illegible] River [illegible] Lime, Cement, [illegible] Kiln Tiles, [illegible] Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

RICHARD A. C. LOADER, 24, Pavement, Finsbury, respectfully solicits all parties about to furnish, and requiring FURNITURE, to inspect his stock, which will be found to consist of the newest designs of Furniture of the best seasoned materials, at the lowest possible rates. An estimate given for any quantity of goods, from one room to an entire house. Books of prices may be had on application, and also books of designs lent. An early inspection is respectfully solicited, and your particular attention to the address is requested in full. RICHARD A. C. LOADER, 24, Pavement, Finsbury.

R. A. C. LOADER has just introduced a unique and beautiful article of Furniture, which he designates the SULTAN EASY CHAIR, made of fine [illegible] spring and hair stuffed, and covered with the finest quality of Morocco. The price, complete, 4½ guineas.—The GONDOLA EASY CHAIR, of the same quality, 3½ guineas.

Cleanliness is necessarily at all times conducive to health, and this as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead,

STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT. For decorating churches, large public rooms and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations [illegible] and, at the same time avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The Oak Colour may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain. N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent Garden, London; and by HOPKINS and PURVIS, 20, Greek-street, Soho.

PATENT TORRENT WATER-CLOSET.

AUSTIN'S PATENT.

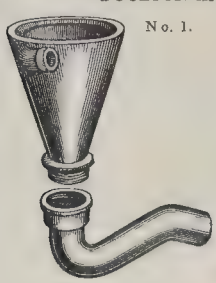
This much approved and admired Closet is strongly recommended to those Architects and Builders who have not yet tried it: it is SELF-ACTING, THOROUGHLY CLEANSES the basin, is always TRAPPED, and requires no CISTERN if it can be connected with the water-main.

MANUFACTURED ONLY BY MESSRS. DOWSON (LATE OF 69, WELBECK-STREET), STINGO IRON-WORKS, STINGO-LANE, LONDON.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



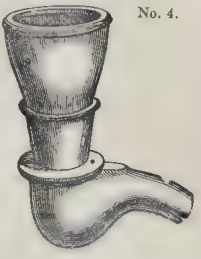
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

CHEAP SELF-ACTING WATER-CLOSET, in ENAMELLED IRON WARE.

—This durable, cleanly, and effective apparatus assures the use of a given quantity of water and the complete flushing of the trap at each action of the closet. It may be seen at the manufactory of THOMAS LAMBERT and SON, patentees of the Flexible Valve Cocks, Short street, New-cut, near Blackfriars-road, London.

SANITARY IMPROVEMENTS.

BUNNETT'S

PATENT SELFACTING EFFLUVIA TRAP

For Sewers and Drains of all kinds.

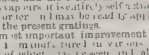
Registered January 9th, 1849.

A cheap, durable, and most effectual means of preventing the escape of noxious gases at the entrance of sewers, drains, &c. This trap is entirely self-acting, self-cleansing, cannot get out of order, and may be used by unskilled persons without altering the present gratings.

The above is a most important improvement on all contrivances of the kind, and is manufactured in various sizes to suit all purposes, and prices of which may be seen and also a specimen delivered at the office of Messrs. BUNNETT and CORP, Engineers, 29, Lombard-street, London; and at the works, Deptford, Kent.

UNION BROWN STONE POTTERY,

CHEMICAL APPARATUS and DRAIN PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patentees to Her Majesty's Commissioners of Woods and Forests, and to the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of SOCKET GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2 ft. Length

2 in.	3 in.	4 in.	6 in.	9 in.	12 in. Pipe
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d per foot

Ponds and Junctions equally low

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

ZINC! ZINC! ZINC!

TO BUILDERS and the Trade generally.

2-inch pipe,	4d. per foot run,	including fixing.
2½ ditto	4½d. ditto	ditto.
3 ditto	5d. ditto	ditto.
3 inch eaves gutter,	9d. ditto	ditto.
4 ditto	10d. ditto	ditto.
4½ ditto	9d. ditto	ditto.

Flats covered and Gutters from 12 to 21 per foot. Super Cornice Gutters, 8d to 8d.—Pipe and Gutter forwarded to any part of the country.—Messrs. F. and J. HARLAND, 3, Cumberland-place, Newington, opposite the Fishmongers' Almshouses.

NAILS and IRONMONGERY from BIRMINGHAM.

—To BUILDERS, ARCHITECTS, &c.—Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FRED. RICK BLATH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.

—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform Builders that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose either structural or ornamental.

Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and fitted quickly.

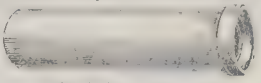
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,

168, DRURY-LANE, and CHARLES-STREET.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 2 feet lengths	2 in. 4d.	3 in. 6d.	In 2 feet lengths	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d	15 in. 3s.	18 in. bore. 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Roe and Phillips, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on the public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

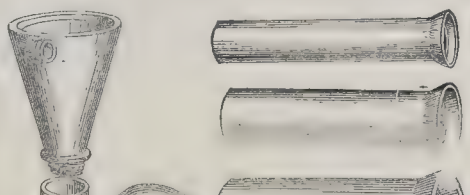
Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,

BENDS, JUNCTIONS, TRAPS, &c. 16, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.





N.B. These are made without the discharge-hole being turned downwards.

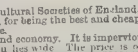
3 in. bore. 5d. 4 in. 6d 6 in. 8d. 9 in 1s 1½d. 12 in. 1s. 10d. 15 in. 3s 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability are universally admitted; while the rapidly increasing demand for them proves their unrivalled superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and to the glaze for surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS, Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 2 in. less wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full reasons as to its use, and the number of supplements, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry hair Felt, for warm Boilers, &c., is also manufactured, by which a saving of at least 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in full enjoyment of their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 23, Cross-street, Blackfriars-road.

VASES.—To Noblemen and Gentlemen
Ingrain VASES and GARDEN ORNAMENTS.
J. M. BLASHFIELD, Coleorton-road, Lambeth, begs to inform you these Vases, Pedestals, &c., &c., which are to be finished in a very fashionable glaze, they are manufactured in the best manner, and will stand abroad.

JENNINGS, Patentee of the SHOP SHUTTER SHOP and FASTENER, which requires NO BAR; of the INDIA RUBBER TUBE LOCK, PATENT JOINT, &c. &c. 29, Great Charlotte-street, Blackfriars-road.

IRON VERANDAHS, GATES, RAILING, STAIRCASES, &c., to any design. Hurdles, 4s. 3d. each; Strained Wire fence, 4d. per foot. Area Gratings, Pumps, Ties, Bolts and Nuts, with all Ironwork for buildings at the lowest prices for cash. Estimates by return of post. Cash discount 5 per cent. GALVANIZED and ANNEALED IRON ROOFING. Uprights, &c. JOHN BLUNDELL and Co., Hope Ironworks, Primrose-street, Bishopsgate.

BUILDERS AND CONTRACTORS
TARPAULINS for COVERING ROOFS during Repairs, SCAFFOLD CORD and every description of ROPE made to Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention. WILLIAM HOWARD, 2, Fore-street, Cripplegate, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

TO SHIP AND BOAT BUILDERS, TIMBER MERCHANTS, AND OTHERS
OAK TREES and PLANK TO BE SOLD.
A large quantity of Oak Planking, of wide dimensions, and Oak Trees, of superior quality and size, lying contiguous to a railway 40 miles from town, and will be sold by private contract, to suit purchasers, on reasonable terms, for cash only. The timber and planking are partly of this year's and partly of last year's felling. Apply, by letter or personally, to the office of the Railway Works, Tonbridge Wells, Kent.

TO BUILDERS AND OTHERS.
A LARGE UNFINISHED HOUSE TO LET, in the neighbourhood of Hyde-park, with money advanced to finish.—Apply to FRANCIS E. H. FOWLER, Architect, 21, Saville-row, Burlington-gardens.

STAMFORD HILL.—Building Ground TO BE LET in the best part of this first-rate neighbourhood. For plans, &c., apply to Mr. ARTHUR ASHFITEL, architect, 5, Crown-court, Old Broad-street, City.

WEST HACKNEY.—Near the New Church. TO BE LET, a very large plot of Building Ground, suitable for two Villas. For plans, &c., apply to Mr. ARTHUR ASHFITEL, architect, 5, Crown-court, Old Broad-street, City.

FREEHOLD LAND.—Votes for Middlesex.
TO BE LET, with an option of purchase, the Freehold, some excellent Plots of Building Land, two to be sold forth with, of ARTHUR ASHFITEL, architect, 5, Crown-court, Old Broad-street, City.

FREEHOLD LAND.—Votes for Surrey.—
TO BE LET, with the option of purchasing the Freehold, some excellent plots of Building Land, in the best and most picturesque spots at Norwood.—For plans, &c., apply to Mr ARTHUR ASHFITEL, architect, 5, Crown-court, Old Broad-street, City.

BUILDING GROUND TO BE LET.—
A most desirable opportunity for small capitalists, situate in the populous neighbourhood of Pentonville, for SIX or EIGHT FIRST-RATE HOUSES, which are in great demand in this locality. Three minutes' walk from the Angel at Islington. Lease and title unobjectionable. Apply for the lease. Apply Mr. MUNDAY, 6, Wardour-street, Pentonville.

CAPITAL FREEHOLD GROUND to be Sold or LET on BUILDING LEASES, suitable, more particularly for Shopkeepers' Residences, with the best part of Southville, which is the most public, thriving, and fashionable locality in Lambeth, situate in the Kennington-road, Lambeth, between New-street commencing the Lower Marsh and the Obelisk, and the street called Upper Belvidere-place, Waterloo-road, Lambeth. Apply at Messrs. ARNOLD and CHRISTOPHERS's Offices, 2, Bucklersbury, City, Ashpit.

TO BUILDERS AND OTHERS
ST. JOHN'S WOOD.—Several very eligible PLOTS of GROUND, upon a freehold tenure, to be disposed of in part of the large TO BE LET, pleasantly situated in Lisson-grove, close to the Yorkshire Stingo, and within a few minutes' walk of the Regent's-park. The terms will be very moderate, and every facility will be given to the respectable and substantial builder. Plans and particulars may be had of Mr. HENRY HAMPTON, Architect, 3, Bedford-row, Holborn.

FREEHOLD BUSINESS PREMISES, WHITEFRIARS' DOCK.—To LET, on moderate terms, a SPACIOUS YARD, with WORKSHOPS, TIMBER-SHED, TWO DWELLING-HOUSES, &c. The yard has a frontage of 84 feet, and extends to the depth of 100 feet, and is well adapted for the carrying on of a timber, stone, or coal business. The premises are situate in the most IMPORTANT BUILDING FRONTAGE in the new approaches from the Temple to Blackfriars-bridge, which is now in progress, and will be opened for public traffic in the course of the present autumn. Apply, if by letter, post paid, to Messrs. NEWBON and LAMB, Solicitors, Wimbledon; or to Mr. HUDSON, Architect, Surveyor, &c., 19, Bedford-hill, Balham.

TO BUILDERS
TO LET, some BUILDING GROUND in short lengths, in Peckham-rye, where there is a great demand for houses. For plans and particulars apply to Messrs. BILDOME and WELLS, 27, Nicholas-lane, Lombard-street.

TO CARVERS, MAKERS, UPHOLSTERERS, FURNITURE BROKERS, SALESMEN, DECORATORS, AND GENERAL DEALERS.
TO BE LET, on advantageous terms, in the populous neighbourhood of the Lisson-grove, PREMISES, many years occupied in the above line, and well adapted for any business requiring extensive showrooms, commanding shop, large warerooms, offices, double tier of light workshops, capital family dwelling-house, and garden. Apply to Messrs. JAMES and JOHN TURNER, 49, Great Portland-street, Portman-square.

MANOR FARM, SOUTH STREATHAM, SURREY
TO BE LET, on Building Leases, in the whole or in Parts, as may be required, that valuable and well-known Farm and Premises, called the MANOR FARM, containing about 100 acres of Land, and situate on the Common, adjoining the Church, and within a few minutes' walk of the Railway Station at Streatham, and about 7 miles from London Bridge. The Farm is well adapted for Building Purposes, and will be let in Lots, as may be required, with the Farm-house, Barns, Stables, and Buildings, or the whole will be let together, as may be desired. Possession may be had at Michaelmas next. Plans of the Estate may be seen, and further particulars obtained, on application to Mr. WILKINS, at the Manor Farm Office, Streatham.

SALES BY AUCTION.

IRONMONGERS' STOCK, BRENTWOOD, ESSEX
MR. JAMES HUGH PERRY will SELL BY PUBLIC AUCTION (by Order of Sale), without the least reserve, on the Premises of Mr. John Castle, Furnishing Ironmonger, Brentwood, on MONDAY, Aug. 21, and four following days, the whole of his extensive STOCK of IRONMONGERY, which consists of fine metal fenders and fire-irons in sets of 1, 2, 3, and 4 lots, copper kettles, saucepans, and stewpans, tin ware, &c., &c., in lots, are ready, and may be had, by inclosing two postage stamps, to Mr. PERRY, Auctioneer and Printer, Brentwood, Essex.—The HOUSE, TO BE LET, with an excellent business to the business, forty years established, on moderate terms.

TO MEMBERS OF BUILDING SOCIETIES, BUILDERS, AND OTHERS.
MR. CHAMBERS will SELL at the Swan, Stratford, on THURSDAY, 24th August, 1848, at Twelve for One, several PLOTS of valuable FREEHOLD BUILDING GROUND, pleasantly situated, with cottage residences, situate Hyde-road, Hyde-terrace, Preston-lane, Waingate, and other parts of the district. Also several capital Building Plots, fronting the Great Eastern Railway, and adjoining the Stratford Station. Particulars of Messrs. WRIGHTS, THOMAS, and HOLLAMS, Solicitors, Mincing-lane, and of Mr. CHAMBERS, Auctioneer, &c., No. 7, Great Tower-street, City.

FREEHOLD RESIDENCE, KENSINGTON-SQUARE, with large Coach-house and detached Stabling, and a Cottage and Premises, let on repairing lease
MESSRS. WINSTANLEY have received directions to SELL BY AUCTION, at the Mart, on TUESDAY, 15th of August, in Two Lots, the FREEHOLD FAMILY RESIDENCE, No. 13, on the south side of Kensington-square, possessing a frontage of 45 feet, and containing every accommodation for a large establishment, with a garden 82 feet in width, the whole depth of the property being 274 feet: it might be advantageously converted to building purposes. A cottage and part adjoining, fronting James-street, let at a ground-rent of 4l. per annum, and a three-stall stable and coach-house, in Kensington-square-mews. To be viewed by applying at the residence, where particulars may be obtained. Particulars also of Messrs. DAVIES, Solicitors, Angel-court, Throgmorton-street; at the Coffee-house, High-street, Kensington; at the Mart, and of Messrs. WINSTANLEY, Pulteney-street.

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS
MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the premises, Commercial Wharf, Commercial-road, Lambeth, on MONDAY, August 14th, and following days, at Eleven precisely each day, by order of Mr. Brooks, who is quitting the premises in consequence of the expiration of the lease, the FIRST PORTION of the EXTENSIVE STOCK of TIMBER MERCHANT, comprising about 1,200 well-seasoned White Baltic planks, Christiania, Gefle, Swedish, Norway, and Archangel, deals and battens, Quebec pine and spruce planks, deals, and battens; a large quantity of Riga waney-cut, American, and Honduras mahogany, in plank and board, also, about 15,000 feet of yellow and white dry prepared deal and batten flooring. The second portion will consist of a large quantity of deals, planks, and battens, Quebec and Swedish pine timber; Quebec oak, Mahogany, Riga and Dutch waney-cut, in logs and plank, also a quantity of white lining, and will be sold in a short time.—May be viewed two days prior to the Sale, and Catalogues had of the Premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith street, Westminster.

NEW ROAD, ROCHESTER Valuable and highly desirable Building Land
MESSRS. BURR and SON are directed to offer for SALE BY AUCTION, at the King's Head Inn, Rochester, on WEDNESDAY, August 23rd, 1848, at Two for Three o'clock, TWENTY-TWO PLOTS of BUILDING LAND, near to Watt-street, New-road, Frindsbury, with rights of way by Nag's Head-lane, to St. Margaret's Banks, and by the carriage-road to Stan-hill. The situation is most unexceptionable; a more delightful spot for building cannot be found in the neighborhood: the views are unsurpassed in Rochester, for their beauty and extent, and command a perfect panorama of the River Medway, the Royal Dock Yard at Chatham, the fortifications, Upnor Castle, and the entrance to the Medway. The Land is divided into lots to suit every purchaser, and the Plots are numbered on a plan which may be had of the Auctioneers, Coal Exchange, or 1, Little Smith street, Westminster.

The FIRST PORTION of the MUSLEY PARK ESTATE, close to the Great Western Railway.—To Builders, Building Speculators, Small Capitalists, and Others.—Valuable FREEHOLD BUILDING LAND, Lordship-road, Stoke Newington, Middlesex, and one minute's walk of the railway station, which will be sold by auction, by
MR. H. REE, on TUESDAY, August 22, 1848, at Two o'Clock, at the Saracen's Head Inn, Ware. The above property is very eligible for a state, being dry, and healthy, and will be sold in suitable lots for the erection of Villa Residences; the views are most extensive and varied, offering great advantages for villas, shops, cows, and dairy, as the site is for pasturage. It is intended to make the same liberal purchasers, if desired, to ten years. There is a very great demand for houses in Ware. The distance is but an hour's ride from London by the Eastern Counties Railway. Parties may be taken by a train which will proceed to the sale at the Saracen's Head Inn, Ware; Salisbury Arms, Hertford; and at the Offices of the Auctioneer, and Mr. PALMER, solicitor, Ware, Herts. (Letters paid.)

The OLD GAOL and HOUSE of CORRECTION at CHELMSFORD, Essex, and first-rate BUILDING GROUND, abutting on the Friars-road, the whole occupying a Site of One Acre and Two Quarters, in the centre of the Town
MESSRS. BEADEL, SON, and CHANCELLOR have been favoured with instructions from the Magistrates of the county of Essex, to SELL BY PUBLIC AUCTION, on the Premises, on TUESDAY, August 29, and following days, the valuable THREE-STORY BRICK and STONE MASSIVE GAOL of BUILDINGS, known as the Old Chelmsford Gaol, with the Governor's House adjoining the SITE of the same, together with the valuable PLOT of GROUND adjoining. The Property is adapted for many uses for any trade or manufacture requiring extensive premises. It adjoins the river Can, and has a considerable frontage to the Friars-road, and is well worthy the attention of any capitalist, builder, or dealer in building land. The property is offered in Lots, comprising about 18, as may be required, and will be sold subject to conditions of sale to be then produced, and which will, however, be made very favourable to the purchasers. The Gaol is built of Portland stone, and contains upwards of 100 rooms. Particulars and conditions of sale will be ready in a few days; and may be had of WILLIAM GIBSON, Esq., Clerk of the Peace, Chelmsford; of Messrs. BEADEL, 25, Gresham-street, London; and of Messrs. BEADEL, SON, and CHANCELLOR, Architects, Surveyors, and Auctioneers, Dukestreet, Chelmsford.

TO GAS COMPANIES, Gas Fitters, and Others
Gas Consumers.—NEEDLES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Bishopsgate-street, Within, having proved by eight years' experience his DRY METER to be unrivalled, begs to say that nearly 20,000 are now in use, defying fraud on Gas and are never affected by frost. Price 5l. 5s. They may be obtained on Hire of all the Gas Companies who supply altered Meters. Testimonials of great value may be obtained at either Factory.

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by Her Majesty, the Honourable Commissioners of Board of Works, by the Architect of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Club, Grocers' Hall, & also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling, or windows. A volume of engravings, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price 21.—Works, 15, Wellington-street North, Strand.

PUBLICATIONS.

MANSIONS and CHURCHES of GREAT BRITAIN. Plates 12 by 8 inches, upon stout double elephant. Eligible subjects prepared in first-rate tinted lithography, and 100 impressions supplied (without extra charges), for 4 guineas.—Specimens of the plans and elevations of first-rate architects, to be seen at 38, Robert-street, Hampstead road.

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VALUABLE INVESTMENT.—Partnership or Licences for Districts, or entire Counties.—HUTCHISON and Co.'s Indurated and Impervious Stone, Chalk, Sand, Plaster of Paris Cement, Roof Sheeting, Wood, &c.—Established Works, Calverley Quarry, Tonbridge Wells, Kent; and 4 la Malmaison, near Caen, France; where orders are executed, to any extent, much cheaper than in any other Stone, &c. Inspection of the above will confirm the exclusive advantages of the Investment.—Offices, Post Temple Chambers, 2, Whitefriars-street, Fleet-street, London; and Castle Hotel, Tonbridge Wells.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 98, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hanging and Shutting the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of Large Establishments, and others, having them now in use, which fully guarantees the Patentee that they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
Beg respectfully to solicit a comparison with the Revolving Shutters (either iron or wood) of any other Makers, whatever their pretensions. The extraordinary advantages arising from the universal satisfaction given, for BUNNETT and CORPE'S PATENT REVOLVING SHUTTERS (of which some thousands have been fixed in all parts of the Kingdom) having induced other parties to attempt the introduction, by the most absurd representations, of mushy old and obsolete inventions as Improvements, B. and C. assure their Friends and the Public that, having their most extensive use, they have adopted every really practical improvement that skill and experience could suggest. A great reduction has also been made in the price, and they can now, as cheaply, as much CHEAPER, as well as BETTER, than any others.
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IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS,
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Estimates given, and Contracts taken, in town or country. Patterns and every particular may be obtained, on application at the Office of the Patentees, 36, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HARCOURT, Oldstreet.
HARCOURT QUINCEY, Patentee.
CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and the Public to the IMPORTANT IMPROVEMENTS in the above Shutters, and inspection invited at their Manufactory, 238, Wapping, or at their Agents, 456, New Oxford-street. The great importance of strength and stiffness in the laths of REVOLVING IRON SHUTTERS, in affording increased security, is obvious, and it is only necessary to point out the fact, that the convex laths are twelve times stronger than the ordinary flat laths, to insure their general adoption.
CLARK and Co. also invite attention to their greatly improved gearing for raising and lowering the patent Shutters, which, possessing all the advantages of the endless screw (worm and wheel), cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet wheel, and is at once simple and thoroughly effective, and is SAFER and MORE DURABLE than any plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally either above or below the window or door, or vertically, for which position the greatly increased strength of the convex laths renders them peculiarly suitable; and one, as applied to the folding Shop Shutter, may be seen any day after four o'clock at the Britannia Life Assurance Office, corner of Princes-street, Bank.
CLARK and Co are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX IRON LATHS. Testimonials and references forwarded on application. IMPROVED DRAWN METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL-BOARD PLATES, &c.
Sawing and Planing Machinery of every description made to order. Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c. CLARK and Co., Engineers, 238, Wapping, or at 456, New Oxford-street, and 4, Moorgate street, City.

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The Builder.

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ADVERTISEMENTS.

MONEY.—BEDFORD PAVING ACT, 59 and 60 Geo III.—The Commissioners under the above Act require the LOAN of 1,000*l.*, in one or more sums not less than 200*l.* on security of the rates raised by virtue of the said Act at the interest payable half yearly), and request persons who are disposed to advance the same to send proposals, stating the rate of interest required, on or before FRIDAY, the 1st day of September next, to JOHN WOOD, Clerk to the Commissioners, 20, Gordon-street, Gordon-square. August 16, 1848.

WANTED, a Young Man, of industrious habits, as FOREMAN at the Lime and Chalk Works, Grays, Essex. One well acquainted with measuring earthwork would be preferred.—Apply, for particulars as to salary, &c., by letter, to Mr. ASH, Grays, Essex.

WANTED, in a Builder's Office, an Experienced Person thoroughly acquainted with estimating, measuring, taking out quantities, and conversant with the routine of a builder's office.—Apply, by letter prepaid, to W. B. office of "The Builder," York-street, Covent Garden.

TO ARCHITECTS AND BUILDERS.

WANTED, by a Young Man, a SITUATION in either of the above Offices. The Advertiser having had nine years' experience in an Architect's office, is competent to prepare finished and working drawings, take out quantities, measure work, and prepare specifications and estimates. Good references can be given as to character and ability. Salary no derate.—Address to A. B., 18, Commercial-road, Southampton.

TO ARCHITECTS, BUILDERS, AND SURVEYORS.

A YOUNG MAN, aged 23, accustomed to making out fair and working drawings, draughting specifications, &c., and possesses a practical knowledge of Building, desires a SITUATION. Salary no object. Address, A. B. C., No. 1, Paris-street, Lambeth.

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AN experienced Clerk of Works, who has been accustomed to works of magnitude, is desirous of meeting with another APPOINTMENT. He can have the highest testimonials from his present employer, also several other Architects, for whom he has been employed.—Address, A. Z., Office of "The Builder," 3, York-street, Covent Garden.

A RESPECTABLE YOUNG MAN, having a good practical knowledge of building, is a good draughtsman, and understands the usual routine of an architectural and surveyor's office, is desirous of meeting with a SITUATION. Would have no objection to a builder's office. Most respectable reference can be given.—Address to A. B. C., at the office of "The Builder," 3, York-street, Covent Garden.

TO ARCHITECTS, &c.

A DRAUGHTSMAN wishes for an ENGAGEMENT; he is well acquainted with Gothic and Elizabethan architecture, and also accustomed to competition, having conducted the business of a successful architect for some period. Salary required, moderate.—Address, A. B., Mardon's, 13, Great Portland-street.

AN ARCHITECT and SURVEYOR, with a good and increasing Practice, two and a half hours' ride from the metropolis, is desirous of meeting with a PARTNER, who can command 200*l.*, the moiety of which may remain till the first year's emoluments are balanced. None need apply who are not perfectly cognizant of measuring, estimating, details and perspective.—Address, by letter, to D., "Builder Office," 2, York-street, Covent Garden. The highest references will be given and required.

STIRLING'S BELVEDERE SLATE WORKS, Belvedere-road, Lambeth. A reduced list of prices of the best WELCH SLATE SLABS, planed both faces, will be sent on application (post paid) being made, and inclosing a three stamp. The prices are under those advertised for inferior slates.

TO YOUNG ARCHITECTS AND ARCHITECTURAL STUDENTS.

A GENTLEMAN can be accommodated with BOARD and RESIDENCE in the house of an experienced architectural artist on moderate terms. Any gentleman desirous for perfecting himself in geometry, perspective, and colouring, including landscape painting, will find this opportunity peculiarly advantageous, as instruction will be afforded free of charge. Private lessons given, and drawings prepared for Architects in the first style.—Address, H. W., office of "The Builder," 2, York-street, Covent Garden.

BUILDERS' BENEVOLENT INSTITUTION.

A GENERAL MEETING of the patrons and subscribers of the above Institution will take place at the FREEMASON'S TAVERN, on TUESDAY, the 22nd inst., for receiving the report, electing officers for the ensuing year, and other business connected with the Institution.—WM. GRUBB, Sec.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English Decorations, 2½ per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years. W. CROSBY, 22, Leather Arcade, Charing Cross.

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E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

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SOCIETY for ENCOURAGEMENT of ARTS and MANUFACTURES, John-street, Adelphi.—The NEW PRIZE LIST has just been issued, and may be had on application to the Secretary. In that list are comprised the following subjects:—

1. A Gold Medal, offered by H.R.H. the Prince Albert, for the best account of any new and improved machinery or processes employed in the cultivation or preparation of sugar in the British colonies, designed to economise labour and increase production.
2. A Gold Medal, offered by H.R.H. the Prince Albert, for the best cement for uniting glass.
3. Prize of 50 Guineas, offered by T. Twining, Jun., Esq., for the best series of experimental researches on, and specimens of, the application of slag or other allied products to new purposes.
4. A Gold Medal, or 25*l.*, for the best working model of an original design for a silver goblet, suitable to be awarded as a prize value 100*l.*, in conformity with the bequest of the late Dr. George Swiney.
5. A Gold Medal for the most elegant design for a vase in red earthenware, to be ornamented with designs taken from English history or literature, in the manner of Etruscan vases.
6. Gold and Silver Medals for the best and second best specimens of chasing of the human figure in silver.
7. A Gold Medal, or 20 Guineas, for the best design for a labourer's cottage in the country.
8. Gold Medal for the best essay on the mode of arranging and construction of a Farmstead, and the complete requirements of an agricultural establishment for 300 acres.
9. Gold Medal for the discovery of a new substance capable of receiving the calotype image.
10. The Acton Gold Medallion, value 20*l.*, for the plan of a roof, composed of wood and iron.

Full explanations of terms, and other information, will be found in the printed prize list.

The Annual Exhibition of Select Specimens of British Manufacture, for 1849, will take place in March. Manufacturers are requested to have their specimens forwarded to the Society's house on or before the first Monday or Tuesday in February.

COMPETITIONS.

BOROUGH of LEICESTER.—LEICESTER CEMETERY.—COMPETITION.—T Architects and Artists.—The Committee appointed by the Town Council of the borough of Leicester to take the necessary steps for the formation and e instruction of a PUBLIC CEMETERY, under the powers of an Act passed in the 11th Vict., entitled, "An Act for enabling the Mayor, All men, and Burgesses, of the borough of Leicester, to establish a general Cemetery for such borough," are desirous of receiving PLANS and DESIGNS, with general specifications and estimates, for the inclosure of the ground, the laying out the same with all the necessary roads, the erection of two chapels, and an entrance lodge sufficient for the residence of the registrar, on the following terms, viz.:—

A PREMIUM of ONE HUNDRED GUINEAS to be awarded to the architect or artist whose design shall be considered by the Committee to be most eligible, it he shall not be appointed to superintend the execution of the works: but if so appointed, the premium to merge into a commission of five per cent upon the outlay. The Committee to have the option of purchasing any other of the designs which may be submitted for their approval, for any of which they shall not be required to pay more than Twenty Guineas; and the plans for which the premium shall be awarded are to become the property of the council.—All designs to be sent in under a motto, accompanied by a sealed letter by which the author may be identified with his designs, but which letter will not be opened unless the design is approved by the Council. A lithographed plan of the site, with such other information as may be required, may be had at any time after the 8th of August, upon application to SAMUEL STONE, Esq., Town Clerk, Leicester, to whom all plans are to be forwarded on or before the 18th day of September next.

CONTRACTS.

TO BUILDERS AND OTHERS.

THE Commissioners of Sewers will be ready at the Court House, No. 1, Greek street, Soho-square, on THURSDAY, the 7th of September, 1848, to receive TENDERS for the FOLLOWING WORKS, in the parish of St. Mary, Islington, viz.:—1,445 feet of sewer in the Holloway-road; 1,800 feet of sewer in the Seven Sisters'-road: total, 3,245 feet.

Plans and specifications of the above works may be inspected, and forms of tender and other particulars obtained, at this office, daily, between the hours of Nine and Four.—Parties offering must be in attendance, at Ten o'Clock precisely, on the 7th of September, with separate written tenders, marked on the outside, "Tender for Works." Each tender must be strictly in the printed form prescribed. The Commissioners do not bind themselves to accept the lowest tender. LEWIS HERTSLET, Order Clerk.

Sewers' Office, No. 1, Greek street, Soho-square, August 16, 1848.

TO CONTRACTORS AND BUILDERS OF SEWERS.

THE Commissioners for Lighting, Cleansing, and Paving the University and City of Oxford are desirous of receiving TENDERS, on or before the 26th of August instant, for laying about 1,470 feet of 15-inch Tubular earthenware glazed PIPES through Merton Grove and Field. The excavations will consist of about 486 cubic yards, through a stratum of fine gravel. The plan and section, with specifications, can be seen at my office, Town Hall-yard, Oxford, where all particulars may be obtained. The Pipes will be provided by the Commissioners, and the Tenders are to be sent to Messrs. BAKER, MORRELL, and SON, Solicitors, Oxford, 17th August, 1848. R. S. HOGGAR, C.E.

ROAD CONTRACTORS AND OTHERS.

WANTED, a ROAD MADE, 1,200 feet in length and 30 feet in width (which is already formed), on a level piece of ground, on the London side of Norwood Cemetery. Thickness of road to be 4 inches of hard rubbish and 4 inches of stones. Tenders to be sent to Mr. BLAKE, 88, London Wall, on or before the 30th day of August, 1848.

TO BUILDERS.

PARTIES desirous of CONTRACTING for the ERECTION of the NEW MUNICIPAL HALL, Chesterfield, are informed that the drawings and specifications may be seen at the office of Mr. T. CHINE, architect, Nottingham, on the 28th inst.—Tenders to be delivered at the office of WM. WALLER, Esq., Chesterfield, on or before Monday, the 4th of September.—The lowest tender will not necessarily be accepted.

TO BUILDERS, BRICKLAYERS, MASONS, &c.

YALDING-BRIDGE, KENT.—Persons willing to CONTRACT for REPAIRING WIDENING, and IMPROVING the COUNTY BRIDGE, at YALDING TOWN, according to the plans and specifications thereof, to be seen at the office of Mr. WILLIAM HOOPER, the county surveyor, in Maidstone, are requested to transmit tenders for the same to the said county surveyor, sealed and marked, "Tender for Yalding Bridge," before Eleven o'clock in the forenoon of TUESDAY, the 29th day of August inst., and to attend personally at the General Session, to be holden on that day at the Courts of Justice at Maidstone, at One o'clock in the afternoon. The Court will not accept the lowest, or any tender, unless approved of in all respects. Security will be required for the performance of the contract, and the sureties' names must be named in the tender.

H. A. WILDES, Deputy Clerk of the Peace for Kent.

Maidstone, August 7, 1848.

Cleanliness is necessarily at all times conducive to health, and this as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead,

STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT. For decorating churches, large public rooms, and cheaply as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to the woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 7a, Staunton-street, Blackfriars-road, London, in bottles of 6*d.* and 1*s.* each, and at 10*s.* per gallon. The Oak Colour may be obtained in powder at 8*s.* per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain. N.B. The trade supplied.—S. H. also at the Office of "The Builder," 2, York-street, Covent Garden, London; at both which places may be had the proper Varnish Size, with directions for their use

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above price, and the work guaranteed. Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 15, WHARF-ROAD, CITY-ROAD. N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CAEN STONE, from the first Quarries of Allemagne. Depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.
P. FOUCARD, quai des Abattoirs, Caen (propriétaire des Carrières à Allemagne), begs leave to inform Builders, Architects, and others, that he has, at the above-mentioned wharf, 30,000 feet of the best [illegible] to meet the demands [illegible]. Contracts taken for [illegible] quantities.
Orders [illegible] Mr. GA[illegible] HET [illegible] Market. Cargoes shipped [illegible] from Caen to any port.

CAEN STONE.—Original Sufferance Depôt, [illegible] W. TUCKWELL, Caen Stone Quarry Proprietor and Importer, begs to invite the attention of Architects, Surveyors, Builders, and others to the Stock of CAEN STONE on his Wharf [illegible] to execute [illegible] to any extent [illegible] advantages [illegible]. Shipments [illegible].
N.B. Orders received at the W[illegible] of Mr. R. A. WITHALL, Sur[illegible], where further information and samples may be obtained.

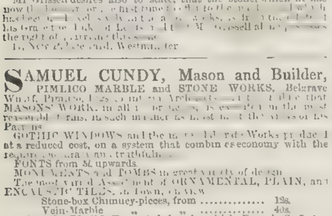
CAEN and AUBIGNY STONE.— LUARD, BELDHAM, and Co., Proprietors of extensive Quarries of best Caen Stone at [illegible] and Aubigny Quarries, near Falaise, Normandy, beg respectfully to call the attention of Architects, Engineers, Surveyors, Builders, and others to [illegible] Caen Stone [illegible] Aubigny Stone, from its [illegible] texture, beauty of colour, [illegible] durability [illegible] purposes, hall paving, staircases, [illegible] and general [illegible]. L. B. and Co. have [illegible] various parts of the continent [illegible] under the patronage of the [illegible]. Orders executed to all parts of the United Kingdom [illegible] direct from the quarries. A large stock of seasoned Caen and Aubigny Stone always on hand at Caen Sufferance Wharf, [illegible] where samples and information may be obtained. Office, 18, Southwark-square, Southwark [illegible] Southwark.

ANSTON STONE, used for Building the New Houses of Parliament.—W. WRIGHT and Co. beg to inform Architects, Engineers, Builders, and others, the Anston Stone can be supplied in any quantity on the shortest notice. This valuable stone, celebrated for its durability, colour, and texture, is well known, having been selected in preference to all others by the Commissioners of Woods and Forests, to be used in the New Houses of Parliament. It is very suitable for Monuments, [illegible], &c. &c. Facilities are at hand for forwarding it to all parts of the Kingdom.—Application to be made to W. WRIGHT and Co., Anston, near Sheffield, Yorkshire.

ANSTONE STONE, used in the erection of the NEW HOUSES OF PARLIAMENT.
Mr. GRISSELL has the honour to inform Architects and Gentlemen engaged in Building that [illegible] of having [illegible] completed the above works, he is at liberty to supply the Anstone Stone for building purposes in general.
The price at which it can be delivered in London does not exceed the price of [illegible] and the experience of the past seven years will fully attest its superiority.
It is also preferable for [illegible] and [illegible], for which purposes it can be supplied in any sizes; and as regards cost (with the exception of common paving), it is not more expensive than "York."
In addition to the New Houses of Parliament, Mr. [illegible] leave to refer to the Museum of Economic Geology [illegible], Piccadilly; to the Amicable Assurance Office in Fleet-street; and to the New Hall in Lincoln's-Inn-fields.
Mr. Grissell desires also to state, that the stone, which he has now [illegible] for the first time [illegible] to the public [illegible] has been [illegible] Mr. Grissell alone possesses the right of [illegible].
1, New Palace-yard, Westminster.

SAMUEL CUNDY, Mason and Builder, PIMLICO MARBLE and STONE WORKS, Belgrave Wharf, Pimlico, begs to inform Architects [illegible] that MASONS' WORK, in all its branches, is executed in the most reasonable terms, in such manner as best to [illegible] of his Patrons.
GOTHIC WINDOWS and the more elaborate Works produced at a reduced cost, on a system that combines economy with the [illegible] truthfulness.
FONTS from 5*l*. upwards.
MONUMENTS and TOMBS in great variety of design.
The most varied Assortment of ORNAMENTAL, PLAIN, and ENCAUSTIC TILES in Town, on view.
Stone-box Chimney-pieces, from .... 12s.
Vein-Marble „ „ .... 40s.
RESTORATIONS Estimated for (in which Branch S. C. has had [illegible] Drawings [illegible], &c.
Goods Landed [illegible] and Delivered.

BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, [illegible] improvements [illegible] Sawing Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade from the great variety of Chimney pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.
Westminster Marble Company, [illegible] Millbank.

TERRA-COTTA, OR VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.

M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material which [illegible] others [illegible] of those times now exhibiting all their primitive sharpness.
[illegible]
[illegible] "The Builder," [illegible]

SLATE SLABS.—The Finest Slabs pro- duced in WALES, of amazing strength, pure in texture, and free from spots, may be had of Mr. MAGNUS, at the PIMLICO SLATE WORKS, [illegible], planed both faces, at the price that inferior Slabs in the rough, self-faced, are currently selling. These reduced prices are also subject to a very large trade discount. The slabs have been extensively used at Buckingham Palace, Strathfieldsaye, the Royal Naval and Military Schools, Deptford, the [illegible], Pentonville, the Goulston-square Baths and Washhouses, on most of the Railways, and are specified for by the most eminent architects. Whole cargoes supplied direct from Mr. Magnus's Works in Wales, [illegible] at very low rates; Slate [illegible], Fittings for [illegible] and Wine Cellars, Landings, [illegible] Chimney Pieces, &c. &c.

TO BRICKMAKERS, POTTERS, AND LIMEBURNERS

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the [illegible], consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in a [illegible] from the great saving of both Fuel and Labour, to supply to the Consumer at a [illegible] Profit [illegible] to Mr. CHARLES J. BAYLE[illegible] W. SWAIN, [illegible] kilns can be seen in operation.

POLISHED SLATE FRONTED STOVES with TERRA COTTA BODIES, 3*l*. 3s. each.—MOSER and [illegible] alterations [illegible] inspection of their stock of the above named stoves, which for great heat, cleanliness, [illegible] ensure a bath at all hours of the night without lighting a fire. [illegible] apparatus of every kind at their Manufactory, 5, Frith-street, Soho-square.

BURBIDGE and HEALY, 130, FLEET- STREET, LONDON, beg respectfully to inform the Builders [illegible] COOKING ARRANGEMENTS [illegible] principles, [illegible] HOT WATER APPARATUS [illegible] safety for the Warming of Mansions, &c.
They keep Laundries with [illegible] Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS [illegible] with every modern scientific improvement [illegible] plentiful supply of Hot Water [illegible] Baths and general use of Mansions and [illegible] establishments.

J. and J. HARTILL'S STOVE, FENDER, FIRE-IRON, and GENERAL FURNISHING IRON MONGERY WAREHOUSE, 89, WEST SMITHFIELD.
Register Stoves, 6d. per inch.
[illegible]
Cottage Range, with Oven and Boiler, 3 ft., 35s.
Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., [illegible]
[illegible] each, usually sold [illegible]
All Goods Warranted.
J. and J. Hartill are Ironfounders, Fender and Fire-iron Manufacturers [illegible] Established 18[illegible].

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen range, and stove grate Manufactory [illegible] Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his [illegible] Kitchen Ranges, &c., &c.
[illegible]
[illegible] and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, [illegible]

3 ft.	3 ft. 6 in.	4 ft.
[illegible]	3*l*. 14s.	4*l*. [illegible] s.

All articles [illegible] warranted [illegible] delivered free [illegible] miles of London. [illegible]

TO BUILDERS and CARPENTERS.— Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d. [illegible]
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.
Self-acting [illegible] with [illegible] Oven and Back Boiler, [illegible] Wrought Bars and [illegible] Fittings,
3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.
Best Patent Cut Clasp
4½d. 5d. 7d. 10d. 1s. 2d. 1s. 8d. per 1,000
[illegible]
B[illegible] per cwt.
Best Town [illegible] per cwt.
Best Patent Sash Line
4s. [illegible] 5s. 6s. [illegible] 12s. per gross
1 2 3 4 5
At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, [illegible] Chiswell-street, Finsbury-square.
[illegible] or by letter [illegible]
N.B. Warehouse closes at Seven o'clock.

[illegible] BUILDERS [illegible]

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c. [illegible]
[illegible] Kitchen Ranges, with Back Boiler and Oven, [illegible]

3 ft.	3 ft. 4 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Henly's Patent Improved, with Back Boiler and Wrought Iron Oven.

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	[illegible]	[illegible]	[illegible]	£7.

Best Register Stoves, at 7d., 8d., and [illegible]d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or [illegible] will meet with [illegible] attention.

LONDON and METROPOLITAN COUNTIES' BENEFIT BUILDING and INVESTMENT SOCIETY. (Established pursuant to Act of Parliament.
The [illegible] which have been [illegible] Act, remove entirely the serious errors which exist in building societies on the old system, since persons becoming investing or [illegible]
[illegible] at any time without paying up arrears.
The shares of investing members are 100*l*. each, for which the subscription is 13s. a month for ten years. Half shares of 50*l*., or [illegible] will be returned, with 5 per cent. compound interest.
[illegible] property [illegible]
Example of repayment for a loan of 100*l*.

		Monthly	Quarterly
If taken for a term of	[illegible] years	[illegible]	[illegible]
	[illegible] years	1 11 0	4 15 4
	10 years	1 3 [illegible]	3 1[illegible] 1
	[illegible] years	[illegible] 1 0	[illegible]
	[illegible] years	0 1[illegible] 1	2 18 9

The First [illegible]
[illegible] Abingdon street, Westminster. Solicitors to the Society; or from Mr. WM. SWINEY, the Manager, 3, St. Michael's-terrace, Eccleston-square.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.
CHAIRMAN. SYDNEY SMIRKE, Esq., A.R.A.
TRUSTEES.

Thos. Leverton Donaldson, Esq.	Anthony Salvin, Esq., F.S.A.
Samuel Grimsdell, Esq.	George Smith, Esq., F.S.A.

The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one-third till the end of life. Thus large sums may be insured at the smallest present outlay.
Prospectuses, forms of proposal, &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.
AGENTS WANTED for those towns for which appointments have not yet been made. JOHN REDDISH, Manager.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.
DIRECTORS.

Henry E. Bicknell, Esq., 28, Upper Bedford-place	Jos. Henry Goodhart, Esq., Upper Tooting.
William Cabell, Esq., Newington-place	Thomas Grissell, Esq., York-road, Lambeth
T[illegible], Esq., M.P., Charing-cross.	James Hunt, Esq., 31, Parliament-street, Westminster
George [illegible], Esq., Abingdon-street.	John Arscott Lethbridge, Esq., Greenwich Hospital
William Evans, Esq., Chesham-street, Belgrave-square	Edmund Lucas, Esq., Millbank-street
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Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death, IMMEDIATE ANNUITIES on OLD LIVES and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.
Parties desirous of providing for the Renewal Fine in their Leases can do so with facility in this Society.
Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.
Prospectuses and further information, free of expense, from ARTHUR SCRATCHLEY, Actuary.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79, King William-street, City.
The CHISHOLM, Erchless Castle, Inverness-shire, and Chapel-street, Grosvenor-place, London, Chairman.
RICHARD HARTLEY KENNEDY, Esq., late Physician General, Bombay, Deputy Chairman of the Oriental Bank, Kensington Lodge, Notting-hill, Deputy-Chairman.
GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.
This Society is based upon the most approved principles of the mutual system, dividing the whole of the profits among the members; and allows credit for half the amount of the first five annual premiums.
The first division of profits will be in the year 1849.
Proposals for every description entertained, involving the contingency of human life.
INDIA AND LONDON LIFE ASSURANCE COMPANY.
CAPITAL, [illegible], IN [illegible] SHARES OF 50*l*. EACH.
This Company assures the lives of healthy persons in any part of the world, at as low rates of premium as can be taken consistently with perfect security; whilst, for the accommodation of the assured, a half premium table (No. 2) has been constructed on a plan peculiar to this office, and affording great advantages to parties assuring for short periods, with the option of continuing for the remainder of life.
Also invalid lives, whether afflicted with mental or bodily infirmities.
And lives of naval and military officers and civilians in India, in any of the Colonies, or other parts of the world.
Annuities granted, and endowments for widows and children.
London, 14, Waterloo-place. A. R. IRVINE, Manager.
The following examples show how small a weekly sum will secure the benefits of Life Assurance for 100*l*.:

WITH PROFITS.		WITHOUT PROFITS.	
At age of 2[illegible] about [illegible] per week.		At age of 2[illegible] about [illegible] per week.	
„ 3[illegible] „ 1s. „		„ 3[illegible] „ 10d. „	
„ 40 „ 1s. 4d. „		„ 40 „ 1s. 1d. „	

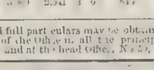
PROVIDENT LIFE OFFICE, 50, Regent- street, and 2, Royal Exchange-buildings, London.—Established 1806.
Invested Capital, 1,230,000*l*.
Annual Income 1[illegible]. Bonuses declared, 7[illegible]*l*.
Claims paid since the establishment of the Office, 1,378,000*l*.
PRESIDENT. The Right Honourable Earl Grey.
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The rates of premium [illegible] adopted by the principal Life Offices [illegible] lower than that of most other offices.
The bonuses are added to the policies, or applied to the reduction of the premiums.
Policies issued by this Office are purchased at their full value; or loans may be obtained upon them after they have been in existence for five years.
If a party neglect to pay for the renewal of his Policy, he may repair the omission at any time within twelve months, upon proof of good health.
The profits (subject to a trifling deduction) are divided among the Insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the premiums he has contributed.
In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective bonus to policies lapsing between the septennial periods of division, in order that all the policy-holders may participate equally in the profits of the society.
THE FOLLOWING TABLE SHOWS THE AMOUNT OF BONUSSES ADDED TO POLICIES EXISTING AT THE PRESENT TIME.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original insurance.	Total sum payable, to which future bonuses will be added.
		£	£ s. d.	Per cent.	£ s. d.
21	180[illegible]	[illegible]	415 1[illegible] 2	[illegible]	915 1[illegible] 2
5[illegible]	180[illegible]	900	98[illegible] 12 1	10[illegible] 17	1,8[illegible] 12 1
1,174	1810	1,2[illegible]	1,160 5 6	96 68	2,[illegible] 5 6
1,39[illegible]	1811	1,[illegible]	1,328 8 6	8[illegible] 02	2,9[illegible] 8 6
[illegible]	18[illegible]	2,[illegible]	1,[illegible] 13 5	9[illegible]	3,9[illegible] 1[illegible] 5
[illegible]	18[illegible]	[illegible]	3,558 17 8	71 17	8,558 17 8
[illegible]	18[illegible]	[illegible]	2,541 3 6	84 7	5,541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom, and at the head Office, No. 50, Regent-street.

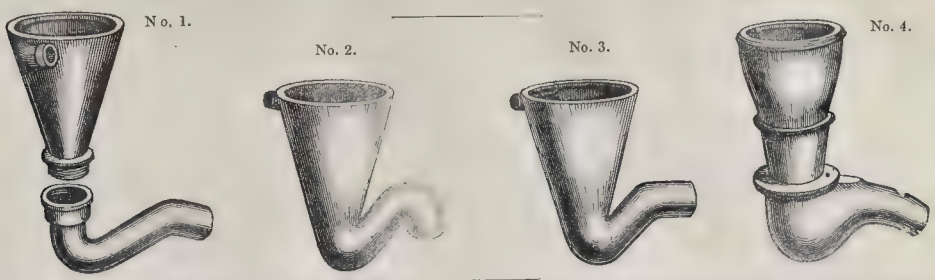


PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Museums, Halls, Vestibules, Conservatories, &c. &c.; BROWN, for Foot Pavement, Flooring, covering Railway Arches, Terraces, Roofs, &c. &c. Manufactured only by Messrs. ORSI and ARMANI. Specimens and list of prices can be obtained at the offices, 6, Guildhall Chambers, Basinghall street, City.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.



The importance of a system of thorough cleaning and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH PRESSURE WATER-TAPS

This application of the Vulcanized Caoutchouc prepared expressly for these valves, with layers of canvas and cement therein, leaving now steel the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First. The security from leakage; let the pressure be ever so great. Its extreme duty; hitherto, the parts in contact with the water being fixed in friction; the case with which it is opened and closed; it never gets stiff or set fast for want of use, and if it is liable to injury by frost, they can be made warm, and at less cost than any other taps, and are exceedingly well adapted for all circumstances, and in localities have they been known to fail, many hundreds have been fixed, to which reference can be given with the greatest confidence.

THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars Road, London.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS,

Adapted for streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large premises, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and COMPE, ENGINEERS, 26, Lombard street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING

HOT BIBA TRAPLD

PAN AND VALVE WATER-CLOSETS;

A most successful imitation of the above principle, with other patented improvements.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 9-ft. Length					
2 in.	3 in.	4 in.	6 in.	9 in.	12 in. bore
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Milbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York road, Lambeth; and 28, Cross-street, Blackfriars-road.

TO GAS COMPANIES, Gas Fitters, and Gas Consumers.—N. DEFRIES, 10, Hampstead-road, 67, St. Martin's-lane, and 118, Argyle-street, Glasgow, having proved by eight years' experience his DRY METER to be unrivalled, begs to say, that nearly 20,000 are now in use, defying injurious Gas and are never at all affected by Heat, Damp, or Frost. They may be obtained on Hire of all the Gas Companies who supply Meters to their Customers.—Testimonials of great value may be obtained at either Factory.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

HEAL AND SON'S LIST OF BEDDING,

Containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court road.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 148, Fleet street, London.

These Pencils are prepared in various degrees of hardness and shades:

H H H H for drawing on wood.	F F bold and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
	B B B B ditto ditto.
M medium.	

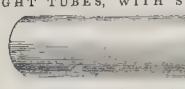
Sold by all the principal Stationers in town or country.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dalkeith Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, which it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in.	3 in.	1½ 2 feet lengths.	4 in. 6d.	6 in. 9d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 2s.	18 in. bore. 4s. per foot.
	4d.	5d.							

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession, generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure, when so done, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for there not being them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

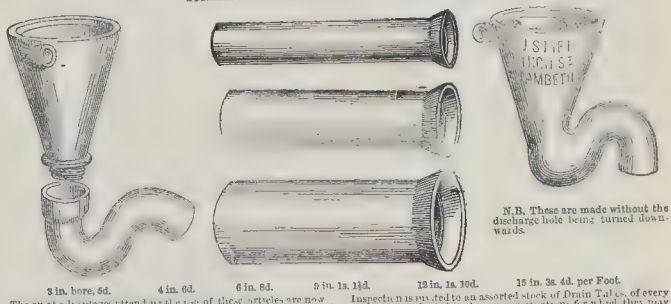
I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge hole being turned downwards.

3 in. bore, 6d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

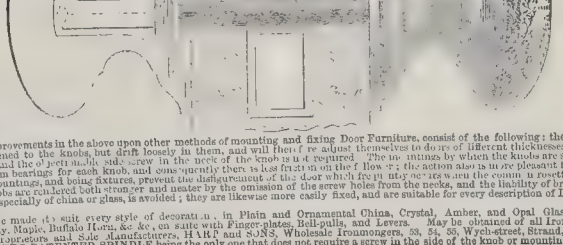
The great advantages attending the use of these articles are now so generally manifested as to render any enumeration of them almost superfluous. Their cheapness, strength, and durability are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various circumstances in which they may be required, as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and stone glaze far surpassing any other manufactured of Brown Stone Ware

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's road, Camden New Town.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the object is made square in the neck of the knob to suit required. The mountings by which the knobs are secured to the door form bearings for each knob, and consequently there is less friction on the Pivots; the action also is more pleasant than with ordinary mountings, and being fixtures, prevent the disfigurement of the door which frequently occurs when the common rosette is used. The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in spindling, especially of china or glass, is avoided; they are likewise more easily fixed, and are suitable for every description of Door Lock now in use.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger-plates, Bell-pulls, and Levers. May be obtained of all Ironmongers Locksmiths, or of the Proprietors and Sole Manufacturers, HARP and SONS, Wholesale Ironmongers, 53, 54, 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

TURRET CLOCKS TO BE SOLD, GREAT BARGAINS, greatly under their value, to effect a ready sale, in consequence of the owner relinquishing the business.—To treat for, address Mr. WALKER, Stove Manufacturer, 302, Oxford-street, London; or 38, Oxford-street, Birmingham.

COAL WHARF and DRAW DOCK, Pimlico.—TO BE LET, RANELAGH WHARF, Commercial-road, Pimlico, with frontage to the Thames, small dwelling-house, stabling for ten horses, and other conveniences.—For particulars apply to Messrs. EVERSFIELD and HORNE, Auctioneers and Estate Agents, Coal Exchange; or 1, Little Smith-street, Westminster.

SPACIOUS WATERSIDE PREMISES, with LOFTY VAULTS under Waterloo-bridge, in the immediate neighbourhood of the new South-Western Railway Terminus.—TO BE LET on Lease CANTERBURY WHARF, Belvidere-road, possessing 226 feet frontage to the Thames, by 98 feet deep, partly covered, and the use of a powerful crane included. The arches would be invaluable as dry stores, and render the premises peculiarly adapted for railway carriers or timber merchants. Also, a Landing Wharf and Dock, with Travelling Crane and Store, which may be had together or separate.—For further particulars apply to Messrs. EVERSFIELD and HORNE, Auctioneers and Estate Agents, Coal Exchange; or 1, Little Smith-street, Westminster.

TO BE DISPOSED OF, a highly lucrative and respectable MANUFACTURING BUSINESS connected with the building trade, now fully at work, and among a first-rate connection. The premises which are water-side, are compact and in good repair, and but a moderate capital would be required. To save unnecessary inquiries, the amount required for good-will, plant, and lease, will be 2,500*l.*, and the stock at a valuation. For further particulars apply, stating real name and address, to Messrs EVERSFIELD and HORNE, Auctioneers and Estate Agents, No. 1, Little Smith-street, Westminster.

TO PLUMBERS, GLAZIERS, AND PAINTERS.

TO BE DISPOSED OF immediately, an old established BUSINESS, with good connection, and in full trade, the entrance upon which will not exceed 150*l.* Satisfactory reasons will be assigned for its disposal. Application to be made to Mr. MACKANESS, of St. Neots, Hunts.

TO BE SOLD or LET.—A Commodious FREEHOLD DWELLING HOUSE, lately rebuilt, with Workshops attached, every convenience for a ferry, rendered desirable situated at the Shoreditch end of Kingsland-road (No. 30.—Apply on the premises, or at 126, Bunhill-row, Finsbury.

N.B. Suffice out for a house for a handsome shop and private entrance.

TO BE LET, WATER-SIDE PREMISES, comprising Warehouses, Stabling, &c., most conveniently situated on the Wharf, 14, Earl street, Blackfriars; cranes in warehouses, and a 10 ton landing crane on the wharf. Goods landed and stored.—Apply at the London Vulcan Iron Company's Office, on wharf

TO BUILDERS, MANUFACTURERS, AND OTHERS.

TO BE LET (or the Lease to be disposed of for the unexpired term of nineteen years), the valuable and extensive premises, 6, Kingsland road, near Shoreditch Church; comprising dwelling-house, large yard, counting-house, sheds, lofts, smith, stable, &c.—Apply on the premises, or at 126, Bunhill-row, Finsbury.

BUILDING LAND, near the FOREST HILL STATION, London and Brighton Railway, six miles from Town.

TO BE LET, FREEHOLD LAND at moderate ground rents. A considerable extent of valuable park like Land, tastefully undulating, finely timbered, and interspersed with Woodland and thriving ornamental plantations. The roads have been laid out as an entire design for building detached villas, and is intended to be kept as such, and a covenant to preserve its present park-like appearance. Each Villa may, if required, have Meadow Land, in addition to its pleasure grounds.—For further particulars apply to Mr. MOFFATT, Architect, 9, Spring Gardens. N.B. Trains run to and from London Bridge every hour, in 50 minutes.

BAYSWATER.—SPELLER and TRIGGS BANKRUPTCY. TO BE SOLD at a great sacrifice, a Lease, Plot of BUILDING GROUND, with excellent Stabling, Coach-house, TWO large CARCASES, and four compact Villas, including Drainage to Sewer, in the Great Western Railway Terminus and Westbourne-terrace. For plans, particulars, &c., apply to Mr. J. BOWEN MAY, Solicitor to the Assignees, 14, Queen's-square, Bloomsbury.

CAPITAL FREEHOLD GROUND to be SOLD or LET on BUILDING LEASES, in plots, being part of the Philpot-lane Estate, situate in the best part of Southwark, adjoining an extensive institution. Land-tax redeemed, tithe free. Frontages on the London-road and on a handsome new street connecting the London and St. George's roads. The streets are laid out and sewers built.—Apply at Messrs. GRAINDAN and CHRISTOPHER'S offices, 12, Buckingham-street, Adelphi.

VALUABLE GROUND for THIRD and FOURTH RATE HOUSES, within five minutes' walk of a station on the Eastern Counties Railway and only five miles from London. A very large quantity of LAND TO BE LET on Building Leases, upon very favourable terms, presenting a fine opportunity of creating improved ground-rents. Lease for 99 years. Apply to the freeholder. If required sub-leases will be made.—Apply to Messrs. BECKWITH and SALMON, land-agents, 25, Pall-mall.

TO BUILDERS

WEST DRAYTON STATION, County MIDDLESEX HIGHLY ELIGIBLE PLOTS OF GROUND TO BE LET for BUILDING, on favourable terms, situated close to the West Drayton Station on the Great Western Railway, 13 miles from London, 24 from the city, 6 from Eastern Uxbridge, 17 from Windsor. Excellent Baths in the immediate neighbourhood. Lithographed plans may be had on every information given upon application to Mr. CORBETT, West Drayton; Mr. JOHN HARDY, surveyor, Loseley, and Mr. WM. MUMFORD, Architect, 1, Adelaide-terrace, Westbourne-grove, Bayswater.

FREEHOLD BUILDING LAND.—TO BE SOLD, FOUR valuable PLOTS of FREEHOLD LAND, situate on the Hollow-road and Kentish Town-road, particularly adapted for the erection of villas and other residences. Title fresh and unquestionable. For particulars apply to J. HALL, Esq., solicitor, 15, Moorgate-street, Bank.

BUILDING LAND, Soho-park, Handsworth, Staffordshire, out of the borough of Birmingham. The Advertisers, having a very eligible piece of LAND TO LET, and about erecting buildings are desirous of obtaining the action co-operate with them; and doing a very considerable saving would be effected by the operation. Particulars, apply, by letter, to Messrs. Hardman and Co., or Mr. HAMMOND, surveyor, Waterloo-street, Birmingham. Plans &c., may be seen at Mr. NEWEY'S, Architect, New-street, Birmingham.

ISLE OF WIGHT.—SANDOWN BAY. —FREEHOLD BUILDING LAND for SALE, commanding the entire first marine and inland views. The shore affords safe and excellent bathing, a pier for part, and other part is inland lanes, easily throughout the year, from which place Sandown is in the immediate neighbourhood. The above or parts may be had in small plots, or as a whole, at the option of the purchaser. To parties of moderate capital this will be found an eligible opportunity for investment or speculation, as detached residences of each description are much in request. Good brick earth can be dug on the premises. Plans and particulars may be seen at Messrs. BRADFIELD and BROWNE'S, Solicitors, Winchester; Mr. WOODMAN, Architect and surveyor, Winchester, or Shanklin, Isle of Wight; and Mr. CARRUTHERS'S, Sandown. The cottage referred to and the head of "Nooks and Corners of Old England," in the "Illustrated London News" of October 26, 1844.

SALES BY AUCTION.

TO BRICK AND WHITEWING MAKERS, AND DEALERS IN BUILDING MATERIALS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the premises, 16, Millbank-street, Westminster, on WEDNESDAY, August 23rd, at Twelve o'clock, by order of the Chancery Company, the excellent materials of a WHITENING MANUFACTORY, comprising a large quantity of timber in roof, joists, and weather boarding, tiles, lead, iron and slating, cast and wood cranes, horse-mill, and gear, brickwork, &c.; about 100 tons of chalk and whitening, and office fittings; also a quantity of loose sashes, doors, &c.; stone and pebble paving.—May be viewed one day prior to the sale; and catalogues had on the premises; and of the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

WESTMINSTER IMPROVEMENTS. TO PUBLICANS, FIXTURE DEALERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, Coach and House, Broad-street, Westminster, on THURSDAY, August 24th, at Twelve o'Clock, by order of the Dean and Chapter of Westminster, the excellent FIXTURES and FITTINGS, comprising good beds and bedding, tables and chairs, a five-motion beer engine, spirit fountain, counters, and drainers; bar, parlour and up-room fittings, mahogany, cut glass, glasses, crockery, &c., mahogany bagatelle board, stoves, gas fittings, and other effects. May be viewed one day prior to the sale, and catalogues had on the Premises, and of the Auctioneers, Coal Exchange; or 1, Little Smith street, Westminster

WESTMINSTER IMPROVEMENTS.—EIGHTH SALE.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the premises, on FRIDAY, August 25th, at Twelve o'Clock, by order of the Westminster Improvement Commissioners, the MATERIALS and FITTINGS of TWELVE HOUSES, in Duck-lane, Westminster, comprising tiles, sound timber in roofs, joists, girders, and floor-boards, sashes and frames, doors and fittings, stone paving, sound brickwork, &c.—May be viewed one day prior to the sale. Catalogues had at the architect's office; and of Mr. BILLINGS, clerk to the Commissioners, 36, Great George-street; and of the auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

OAK TIMBER, BARGES, BOATS, TARPAULINS, &c.—LAMBETH.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the Premises, Fore-street, Lambeth, on TUESDAY, August 29, at Twelve, by order of the trustees of James and Benjamin Shearim, the Stock of Boats, consisting of Cutters, Wherries, Skiffs, and Wager-boats—the erection of platform, fittings of dressing rooms, dog-sheds, &c.; also a quantity of Oak Planks, Barges, Tarpaulins, &c.—May be viewed the day previous, and Catalogues had on the Premises, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster

TO MASONS, BUILDERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the Premises, Quicksett's, Newroad, St. Pancras, on THURSDAY, August 31st, at Twelve, by order of the Assignees of Wm. Chidlaw, the STOCK IN TRADE, comprising statuary and black and gold marble chimneypieces, monumental tablets, table tops, and slabs; Portland stone monument, and a quantity of useful pieces of marble and stone, various; also the benches, implements, and other effects. May be viewed one day previous, and Catalogues had on the premises; also of Mr. GREEN, Official Assignee, 13, Aldermanbury; and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster

TO BUILDERS, SPECULATORS, AND OTHERS.

MR. CHAMBERS will SELL, at the Swan Inn, Stratford, on THURSDAY, 24th August, at Twelve for One, about THREE ACRES of VALUABLE FREEHOLD BUILDING GROUND, in Howard's road, Balsam-street, Plaistow, Essex, also available for the creation of ground rents, by the erection of cottage residences, now being largely erected, being the second portion of this desirable property.—May be viewed until sale; particulars at the Greyhound, Balsam-street, opposite the property; and at the Auction Mart; of Messrs. MARTEN, THOMAS, and HOLLAMS, Solicitors, Mincing-lane; and of Mr CHAMBERS, Auctioneer, No. 7, Great Tower street, City

MISCELLANEOUS EFFECTS.—WHITTON, NEAR HOUNSLOW

MR. M. ADAMS will SELL BY AUCTION, on the Premises, near Kneller Hall, Whitton, on THURSDAY, August 31, 1848, and following day, at One o'Clock, a large quantity of valuable MISCELLANEOUS PROPERTY —comprising Building Materials; upwards of 600 feet of stained and plate glass; many tons of wrought-iron fencing; beautiful marble slabs of large dimensions; a large and handsome marquee; a great quantity of stone; several thousand bricks; and a quantity of lead, copper, and iron. Also, Farming Stock; comprising —a rick of well-got meadow hay; three rick-cloth and tarpaulin; three handsome heifers in calf; a buffalo; an excellent iron horse roller; a strong shoe and timber carriage; and various effects.—May be viewed two days prior to the sale, and catalogues had at the White Hart and Red Lion Inns, Whitton, and of the Auctioneer, Mr M. ADAMS, Isleworth

TO THE NOBILITY, GENTRY, BUILDERS, CABINET MAKERS, AND OTHERS.

MR. GEORGE ROBINSON is instructed to SELL, on the premises, Adam-wharf, Salisbury-street, Strand, on WEDNESDAY, August 23, at Twelve o'clock, the Stock of about SIXTY HANDSOME CHIMNEY PIECES, composed of various rare and valuable Marbles, Statuary, Amaranth, African breccio, Werd Antique, Sienna, Mexican, Compan Grotto, Medaza Arade, Dove Vein, and several table tops, washhand stand tops, and moveable tops, a Luna shella font, suited to a church or chapel, a carved statuary monument; also, the unmanufactured stock of slabs in great variety, forming the remaining stock of the late French Company, known under the name of Messrs. Soller and Company, of the Strand.—May be viewed two days prior, and Catalogues had on the premises, and at Mr. GEO. ROBINSON'S offices, 53, Wigmore-street, Cavendish-square.

FREEHOLD BUILDING GROUND, EALING and HANWELL, MIDDLESEX.

MESSRS. ROBERTS and ROBY will SELL BY AUCTION, at the Mart, on WEDNESDAY, August 23, at Twelve, several Plots of valuable FREEHOLD BUILDING LAND, most desirably situate in the high road at Ealing, and in Grosvenor-road, opposite to Mountjoy and Son's Nursery-grounds, near the Ealing Inn, within a few minutes' walk of the Ealing and Hanwell Stations on the Great Western Railway, and about a quarter of an hour's ride of London, suitable for the erection of villa and cottage residences, which are much in demand in this rural and highly respectable neighbourhood.—Particulars, with plans, are now ready for delivery, and may be had of JOHN MILLS, Esq., Solicitor, Brunswick-place, City-road; at the principal Inns at Ealing, Hanwell, and Shepherd's-bush; Auction Mart; and of Messrs. ROBERTS and ROBY, Land Agents and Surveyors, 24, Throgmorton-street, Bank.

The OLD GAOL and HOUSE of CORRECTION at CHELMSFORD, Essex, and first-rate BUILDING GROUND, situated on the Friars road, the whole occupying a Site of One Acre and Three Quarters, in the centre of the Town.

MESSRS. BEADEL, SON, and CHANCELLOR have been honoured with instructions from the Magistrates of the county of Essex, to SELL BY AUCTION, on One Lot, at the Buck Beg Hotel, Chelmsford, on FRIDAY, August 25th, at three o'clock, the extensive and massive PILE of BUILDINGS, known as the Old Chelmsford Gaol and House of Correction, including the SITE of the same, together with the valuable FREEHOLD GROUND adjoining. This Property is adapted for carrying on any trade or manufactory to any extensive premises. It adjoins the river Can, and has a considerable frontage thereto, and will suit a timber, or dealer in building materials, a rare opportunity is offered; there are upwards of two millions of bricks, an enormous quantity of Portland stone, granite, coping, paving, slates, copper, lead, and wrought iron; and the ground included, which may be divided into numerous lots, is of a highly valuable character for building purposes. Particulars and conditions, with lithographic plans attached, may be obtained fourteen days prior to the sale, of WILLIAM GIBSON, Esq., Clerk of the Peace, Chelmsford; of Mr. BEADEL, 25, Gresham-street, London; and of Messrs. BEADEL, SON, and CHANCELLOR, Architects, Surveyors, and Auctioneers, Rake-street, Chelmsford.

An entire NEW STOCK of PAPERHANGINGS, STATUARY and VERY MARBLE CHIMNEY PIECES, and about 10 SETS of BLOCKS, removed for convenience of Sale.

MR. BRAY, Jun., will SELL, at his Rooms, 259, High Holborn, on THURSDAY, 24th August, and following days, at Twelve o'Clock each day. The STOCK comprises about 5,000 pieces of paperhangings, in including some elegant satin and decorative paper, &c. &c. Also, about 200 sets of blocks, 12 gallons gold size, colour mill, cutting press, tressels, &c. May be viewed one day prior to the sale, and catalogues had at the Rooms, as above.

The FIRST PORTION of the MUSLEY PARK ESTATE, close to the town of WARE, HERTS. To Builders, Building Societies, Speculators, and Others.—About two acres of valuable Freehold Building Ground, fronting to and situate at Musley, close to the town of Ware, and only five minutes' walk to the railway station, which will be sold by auction, by

MR. H. REE, on TUESDAY, August 22, 1848, at Two o'Clock, at the Saracen's Head Inn, Ware. The above property is very pleasantly situate, in the road to Hertford, and will be sold in suitable lots for the erection of Villa Residences; the views are most extensive and varied, offering great advantages to builders, speculators, and others, as terms for payment will be made to meet the accommodation of purchasers, extending, if desired, to ten years. There is a very great demand for houses in Ware. The distance is about an hour's ride from London, and trains running almost every hour. Fare 4s. Plans may be had fourteen days prior to the sale, at the Saracen's Head Inn, Ware; Salisbury Arms, Hertford; and at the offices of the Auctioneer, and Mr PALMER, solicitor, Ware, Herts. (Letters paid.)

VENTILATION. —The attention of Architects, Builders, and the Public is solicited to GRANT'S PATENT SELF-ACTING VENTILATING APPARATUS, and also the ROTARY WINDGUARD, for the prevention of down draft and cure of smoky chimneys. Manufactured only by the Patentee, LAMBERT GRANT, 21, Elizabeth-street, Eaton's-square.—L and G warrant the above in all cases where they fix them

DAY'S NEW PATENT UNIVERSAL SIMPLEX WINDGUARDS and VENTILATORS, guaranteed to cure all chimneys smoking from Wind. They will not clog with soot, cannot be damaged by the sweeping machine, and from their producing a spontaneous current, are admirably adapted for ventilating apartments. Price, in galvanized iron, 12s. each; ditto, for factories, 40s. To stop down chimney-pots at 10s. 6d. and 12s. 6d.—WM. JEAKES, Proprietor and Manufacturer, 69, Great Russell-street, Bloomsbury, where it may be seen and tested

By Her Majesty's | Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bedrooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



DR. ARNOTT'S CHIMNEY VENTILATOR.

F. EDWARDS, Stove Maker to her Majesty, 29, Poland-street, 056 rd street, begs to call the attention of Architects, Builders, Gas fitters and the Public, to the truly invaluable advantages to be derived from the use of the Patent Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE. NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.



WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the CURE of SMOKY CHIMNEYS, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.

The Patent Pots cannot corrode or get out of order, and can be effectually swept by the ordinary machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cements, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

VASES.—To Noblemen and Gentlemen requiring VASES and GARDEN ORNAMENTS.—J. M. BLASHFIELD, Commercial-road, Lambeth, has a few fine Vases, Pedestals, &c., which are to be disposed of at a very moderate price; they are manufactured in the best manner, and will stand frost.

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UNDER BRITISH AND FOREIGN LETTERS PATENT.

VALUABLE INVESTMENT.—Partnership or Licences for Districts, or entire Counties.—HUTCHISON and Co.'s Indurated and Improved Stone, Chalk, Sand, Lincoln-s-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the County of Middlesex; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York-street, Covent-Garden, in the Parish of Saint Paul, Covent-Garden, in the said County.—Saturday, August 19, 1848.

The Builder.

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ADVERTISEMENTS.

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WANTED, a person well acquainted with the above branches of business, to Conduct the OUT-DOOR DEPARTMENT of a respectable firm. He must be of active business habits, and have a general knowledge of building and persons connected therewith.—Applications, stating full particulars, to be made by letter, post-paid, addressed to A. B., 133, Union-street, Borough.

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COMPETITIONS.

LEICESTER CEMETERY.—COMPETITION.—NOTICE IS HEREBY GIVEN, that the time for sending in the plans and designs for this Cemetery has been extended by the committee of the Leicester Town Council from the 18th September to the 2nd October next. The price to be paid for any designs purchased by the council has been increased from 20*l.* to 30*l.*, and as perspective interiors are required, it is to be optional whether architects send in longitudinal and transverse sections of the chapels.

SAMUEL STONE, Town Clerk, Leicester

Leicester, 22 August, 1848.

CONTRACTS.

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WANTED, a ROAD MADE, 1,200 feet in length and 30 feet in width (which is already formed), on a level piece of ground, on the London side of Norwood Cemetery. Thickness of road to be 18 inches of hard rubbish and 4 inches of stone.—Tenders to be sent to Mr BLAKE, 8s, London Wall, on or before the 30th day of August, 1848.

TO BUILDERS.

PERSONS willing to Contract for making various Alterations and Additions to a House at Paddington, may see the drawings and specification, and obtain further particulars, on application to Mr. G. L. ABBOTT, Park Cottage, Paddington, on and after the 24th inst., between the hours of Ten and Four o'clock. The tenders to be delivered on MONDAY, the 4th day of September.

TO BUILDERS

PARTIES desirous of CONTRACTING for the ERECTION of the new MUNICIPAL HALL, CHESTERFIELD, are informed that the drawings and specifications may be seen on and after the 28th instant at the Borough Court-house, Chesterfield, or at the office of Mr. T. C. HINE, Architect, Nottingham. Tenders to be delivered at the office of WM. WALLER, Esq., Chesterfield, on or before Monday, the 4th of September. The lowest tender will not necessarily be accepted.

HOLBORN UNION.—BUILDERS desirous of CONTRACTING for the several WORKS to be executed in PARTIES and ADDITIONS to the WORKHOUSE in Gray's-Inn-lane, may inspect the plans and specifications, by applying, between the hours of Ten and Five, at the Office of the architect, Mr COOPER, Verulam buildings, Gray's-Inn. The tenders to be delivered at the clerk's office of the said workhouse, on or before Four o'clock of the 5th September next, and to be considered by the Guardians on the 6th, at Seven in the evening, when the parties tendering are requested to be present with the names of two sufficient sureties. The Guardians do not pledge themselves to accept the lowest tender.

21st August, 1848. W. R. JAMES, Clerk to the Board.

1, Canning-place, Kensington, 23th August, 1848.

TO IRON-FOUNDERS, IRONMONGERS, AND SMITHS.

NOTICE IS HEREBY GIVEN, that the Board of Guardians of the parish of Kensington will meet at the Board-room, Kensington Workhouse, on Tuesday, the 5th day of September next, at Ten o'clock in the forenoon, to receive TENDERS from persons who may be willing to contract to make and fix an IRON FENCE RAILING for inclosing the new Workhouse Ground on the west, and part of the north sides thereof. The railings are to be made of cast-iron, 7 feet 3 inches high, including a curb of 6 inches, with wrought dog irons between each railing.—The plan and specifications may be seen at the office of Mr. ALLOM, architect, Hart-street, Bloomsbury-square, where further particulars, if required, can be obtained. S. CORNELL, Clerk to Guardians.

GUILDHALL, London, 23th August, 1848.

THE Committee for letting the Bridge House Estates will meet at GUILDHALL on FRIDAY, the 8th day of September, 1848, at One o'Clock precisely, to receive PROPOSALS for BUILDING LEASES, for the term of Eighty years, of several PLOTS of GROUND, situate on the west side of a new road adjoining the Lord Nelson Tavern, in the Kent-road, in the county of Surrey. Plans of the ground, and conditions for letting, may be seen at the Office of Works, Guildhall.—FERDINAND BRAND, Comptroller of the Bridge House Estates.

THE Governors of CHRIST'S HOSPITAL, London, give notice, that a COMMITTEE will sit in the Counting-house of the said Hospital, on TUESDAY, the 5th day of September, 1848, at Eleven o'Clock in the forenoon precisely, to receive proposals for taking, on repairing leases, for twenty-one years, from Michaelmas Day, 1848, the following premises, viz.:—A House, No. 18, Park-street, Westminster, late in the occupation of John Frederick Archbold, Esq.; and a House, No. 3, Panorama-lane, Queen-street, Cheapside, at present in the occupation of Mr Stannard and Mrs Monkhouse. Particulars of the repairs that will be required to be done by the incoming tenants may be seen, and any further information obtained, at the Surveyor's office, in Christ's Hospital. Tenders to be endorsed, "Tender for Lease," must be left at the counting-house aforesaid, on or before Monday, the 4th day of September next, and all persons desirous of treating for the said premises, are requested to attend the meeting of the Committee on the following day, to answer to their proposals. GEORGE TROLLOPE.

Christ's Hospital, August 21, 1848.

N B The Governors do not pledge themselves to take the highest Tender.

CONTRACTS.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public as many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 156, Drury-lane, London.

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It is a cheap and efficient substitute in place of wood for skirting, architrave and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin

Patentees and Sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

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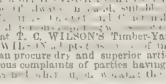
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1 inch ditto	18s.	" "
1 inch yellow	23s.	" "
1 inch yellow	24s.	" "

Also a good stock of Pine Deals, kept in stock and dry ready for immediate use. Bare's steam-power planing and moulding mills, Commercial-road, the Builders' Fire Office, 69, Lombard-street, or at Mr. Newson's Office, 304, Wentworth-street, also at his Timber Yard, Grove-street, Poplar.

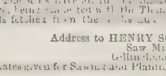
MAHOGANY.—Twenty Thousand Pounds' worth of dry HONDURAS and SPANISH MAHOGANY and WAINSCOT planks, boards, and logs, Baltic Pine and Mahogany mouldings, veneers, Honduras Rosewood, Cuba logs, and Pine deals, suitable for Builders and Cabinet-makers, at moderate prices, at T. C. WILSON'S Timber-Yard, 13, Greek-street, Soho. T. WILSON begs to call the attention of the Trade to where they can procure dry and superior articles, in consequence of the numerous complaints of parties having bought wood elsewhere as seasoned, which upon working the same it has proved otherwise



SAW MILLS, GILLINGHAM STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, sawn on the most approved principle, Boards, &c., Planed, Matched, and Grooved, by Muir's Patent Machine, at the Saw Mills, Gillingham-street, Pimlico. Timber intended for the Thames will be delivered by the Grosvenor Canal. Goods fetched from the wharves and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills,
Gillingham-street, Pimlico.
N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENT PROCESS, and GUARANTEED Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Canterbury and New Cross Gates Stations on the Brighton Railway. The process ensures the entire removal of moisture, hardens the gums, prevents further change, and protects the pores of wood from vermin, or decay to its roots, and is peculiarly adapted for Joinery, Cabinet purposes, &c. Apply for further information, address, post-paid, or apply to W. H. TANQUERAY, Secretary.

The Grand Surrey Mills are now REMOVED from 25, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

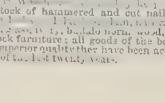
PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 30,000 Pieces of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard. Books of Patterns sent to any part of the Town or Country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oaks remarkably cheap. Terms, cash. Established twenty years.—W. CROSBY, 100, Bishopsgate Within, Corner of Cross.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT

E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up expressly for that purpose, in the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible prices, and of the newest designs, in English and French Designs, by the best Artists; and where may be had a large assortment of Plain and Fancy Colours, and all other articles always on hand. E. T. ARCHER respectfully invites a visit to the above, 451, Oxford-street.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE- PROOF DOORS and FRAMES, for strong Rooms. A large assortment of these, and all other kinds of Doors, always on hand. Improved night latch and CHUBB'S PATENT DETECTOR LOCKS, throwing from one to twenty bolts, constantly on sale, at CHUBB'S FIRE PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.



T. PUGH'S REGISTERED RIM LOCK. —T. PUGH and Co. beg to invite the attention of Architects, Builders, and others to their new Rim Locks and Dead Locks and Latches, in either brass or iron, possessing great strength and quality, and produced at very moderate prices; each lock is guaranteed with patent double security springs.—To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where may be seen the most complete stock of hammered and cut nails, iron and brass fronted mortice locks, iron and brass rim locks, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality that have been accustomed to be sent from the establishment for the last twenty years.

BRITISH MUTUAL LIFE OFFICE.— The Public are invited to examine for themselves the advantages granted by Annuities by low rates on moderate policies granted by this Office. Apply to CHARLES JAMES THICKE, Secretary, 11, New Bridge-street, Blackfriars.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

CHAIRMAN—SYDNEY SMIRKE, Esq., R.A.

TRUSTEES.

Thos. Leverton Donaldson, Esq.	Anthony Salvin, Esq., F.S.A.
Samuel Hunsdell, Esq.	George Smith, Esq., F.S.A.

The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly—one-half only the annual premium may be required to remain a debt on the policy till the end of Life. Thus large sums may be insured at the smallest present outlay.

Prospectuses, forms of proposal, &c., may be had at the Offices, 69, Lombard-street, or of any of the Agents.

AGENTS WANTED for those towns in which appointments have not yet been made.

JOHN REDDISH, Manager.

UNION ASSURANCE SOCIETY.

FIRE. LIFE. ANNUITIES.

Cornhill and Baker-street, London; College-green, Dublin; and Edinburgh.

INSTITUTED A.D. 1714.

WILLIAM NORTHEY, Esq., CHAIRMAN.
NICHOLAS HARDINGE, Esq., DEPUTY-CHAIRMAN.

LIFE.—By the Life Tables of this Society, the profits are distributed on the most equitable principles, the amount of profits thus giving a most important advantage to young and middle ages; and for advanced lives the tables of the Union offer the most favourable rates of insurance and annuities. All assurances participate. The premiums are also much reduced on assurances effected with all profits.

Detailed prospectuses of the extended system of Life insurance in use here together with the tables of the premium may be had on application.

Loans granted on the policies of this office.

THOMAS LEWIS, Secretary.

The system of returning profits on Fire Insurances was adopted at the foundation of the Union Society in the year 1714.

Agents desirous of joining this well-established Institution are requested to apply to the Secretary.

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY.—Incorporated by Act of Parliament. Established 1831.

PRESIDENT.

His Grace the Duke of BUCCLEUCH and QUEENSBERRY, K.G.

MANAGING DIRECTOR.

JOSH. LAURIE, Esq., M.D., LL.D., Lower Berkeley-street.

Views of the principles and practice of the Society may be had on application.

	Amount Assured	Annual Revenue	Accumulated Funds
At 1st March, 1836....	£642,871	£21,956	£49,964
Ditto 1842....	1,848,257	70,941	150,486
Ditto 1845....	3,328,578	119,011	267,753

The SCOTTISH EQUITABLE is a MUTUAL ASSURANCE SOCIETY, the profits all and each belonging exclusively to the parties assured. Specimens of the principles and the desired The WHOLE belong to the policy holder.

A POLICY for 1,000l. effected on the 1st March, 1832, is now increased to 1,402l.

The SEVENTEENTH Annual Report, Tables of Premiums, and all other information, may be had on application at the Society's office, 64a, Moorgate-street, London. WM. COOK, Agent.

TO ARCHITECTS AND BUILDERS.

G. JENNINGS,

No. 29, GREAT CHARLOTTE-STREET, BLACKFRIARS-ROAD, LONDON,

PATENTEE OF

THE INDIA-RUBBER TUBE COCK-

THE SHOP SHUTTER SHOE AND FASTENER,

WITHOUT HOLES IN THE SILL,

THE IMPROVED WATER CLOSET,

WITHOUT VALVES OR METAL PARTS,

THE PATENT JOINT, WHICH REQUIRES NO SOLDER, THE IMPROVED KITCHEN RANGES, &c. &c.

Reference can be had to the Gentlemen and other Works, sent in application

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, KING'S-STREET, and 12, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Shutters for Shops, Warehouses, Banks, &c. Messrs. SNOXELL and DAVIES have much pleasure in calling the attention of Noblemen, Gentlemen, Architects, Builders, and the Public generally, to their Patent Revolving Shutters, which have given such general satisfaction wherever they have been fixed, that they are pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentees in stating their system beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, with the additional advantage of their occupying no more room when open than the width of the pilaster or pier, or any other projection of the shop front.

BUNNETT and CORPE, ENGINEERS, Patentees of

REVOLVING IRON AND WOOD SAFETY SHUTTERS,

ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS OR COPPER, ZINC, FOR SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental. To shut with best locks and bolts. Strong wood shutters and bars. Gas-fitting in all its branches. Steam and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

Any Gas Engineering connection to be either quality or price. Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

SOLE LICENCEES OF LEVIS and MOORE'S PATENT DIAGONAL GRATINGS.

Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

PATENT CONVEX REVOLVING IRON SHUTTERS, recently manufactured, under license, by the late firm of R. HOWARD and Co., Old-street.

HARDWICK QUINCEY, Patentee.

CLARK and Co., Manufacturers, beg to call the attention of Architects, Builders, and others, to the INVENTANT IMPROVEMENTS in the CONSTRUCTION of REVOLVING SHUTTERS, made at their Manufactory, 238, Wapping, or at their Agents, 436, New Oxford-street. The great importance of strength and stiffness in the Iron of REVOLVING SHUTTERS, and the necessity of an increased security to property, and to all persons residing in or passing through streets where they are fixed, must be apparent to all; but the fact, that the patent convex bar is twice as much stronger than the ordinary flat bar, is beyond question.

CLARK and Co also invite attention to their greatly improved gearing, for raising and lowering the patent Shutters, which, possessing the advantage of a double purchase, cannot, when fixed, be cannot, even by wear, be liable to run down, and entirely avoids the necessity of using the ratchet-wheel, and is at once simple and effective, and is now in use in many of the most extensive and important establishments in the Metropolis, and is allowed by all to be far superior to any other plan yet adopted for that purpose; thus rendering the Patent Revolving Shutters the SAFEST and MOST EFFECTIVE in use. These Shutters are fixed horizontally (either above or below the window or door), or vertically, for which position they are greatly improved in both the above particulars, and can be easily and quickly raised to any height, and closed or opened any part of the day after Four o'clock at the Britannia Life Assurance Office, corner of Prince's-street, Bank.

CLARK and Co. are the SOLE MANUFACTURERS of REVOLVING SHUTTERS, WITH CONVEX BARS AND LATCHES, for which they have obtained Prize Medals from the London Exhibition, 1851, and from the Great Exhibition of Paris, 1855.

CLARK and Co. are also sole Manufacturers of PERFORATED ZINC, for BOARDS, ALL BOARD FLAT, and CONVEX BARS, for Ventilating Purposes, in Painting, Painting, Painting, &c.

CLARK and Co. are also sole Manufacturers of Wrought-iron Box, and Cast-iron Girders for bridges, buildings, &c.—CLARK and Co., Engineers, 238, Wapping, or at 436, New Oxford-street, and 1, Moorgate-street, City.

PAPIER MACHE AND CARTON PIERRE ENRICHMENTS MANUFACTORY.

49 & 50, RATHBONE-PLACE.

GEORGE JACKSON and SONS beg the attention of Architects, Builders, Decorators, and others, to their large assortment of ENRICHMENTS in every style, executed in the highest class of art.—Enrichments for ceilings of every period, elaborate or simple, Gothic, Elizabethan, pendentive or flat, Louis XIV. in much variety, and to any degree of richness; Italian and Greek, Renaissance, and many modified characters, executed for the first houses, from designs of architects of the highest eminence; wall dressings, rich panels of every period, both Elizabethan and Gothic Dados, in many designs. Door-cases, mouldings, and dressings.

A large assortment of Gothic Bosses to many varied intersections of all sizes, tracery and panel headings for church works, organ dressings, of most periods, and faithfully executed to the traits of each.

The general decorations of Drawing and Dining Rooms, Libraries, &c., of very considerable extent, as furniture, glass frames, tables, window cornices, screens, candelabra, and the whole range of accompaniments to Reception Rooms of the first class, as well as more subdued.

The facilities and repeated enlargement of means enable GEORGE JACKSON and SONS to announce the execution of works of the above descriptions in these advantageous materials at a cost considerably below any known method, while for quality, relief, and finish, they flatter themselves they stand unrivalled.

DESIGNS MADE FOR ANY WORKS.

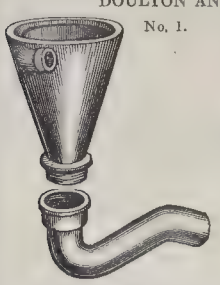
PAPIER MACHE AND CARTON PIERRE WORKS, 49 & 50, RATHBONE-PLACE, LONDON.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH,

MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1.



No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleasing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and unpurchasable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

CHEAP SELF-ACTING WATER-CLOSET, in ENAMELLED IRON-WARE.—This durable, cleanly, and effective apparatus, ensures the use of a given quantity of water, and the complete flushing of the trap at each action of the lever. It may be seen at the manufactory of THOMAS AMBERY and SON, pat. lessees of the Excelsior Valve Cocks, Short-street, New-cut, near Blackfriars-road, London.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

BUNNETT'S

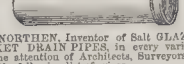
PATENT SELF-ACTING EFFLUVIA TRAPS,

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively applied in the City, and many large provincial towns, with perfect success. They are simple, durable, perfectly SELF-ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, 26, Lombard-street, London (where specimens may be seen, in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING DOUBLE TRAPPED PAN AND VALVE WATER-CLOSETS; (A most successful combination of the above principle, with other patented improvements.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2 ft. length

2-in.	3-in.	4-in.	6-in	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lower Wharf, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Lucknin, Limehouse.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 9d. per square foot; "Seconds," 1s. 3d.—N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others now made; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere-road, Waterloo-bridge; and in the country, at the Works, Pulley, near Worcester.

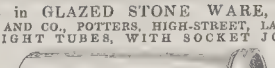
TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Albert-mews, Company's office, 139A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 139A, Piccadilly, March 1, 1847. These machines may also be seen at Mr. Shiells, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Millhill, Leeds; Messrs. Penny and Finch's Tenkeridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

J. MASON begs to call the attention of the Nobility and Gentry to his superior Collection of Terrace Pots, Garden and Flower Vases, Flower Pots, Fountains, &c. &c. Also Works in Compressed and Butter-brought Stone, Variety of Coloured Ornaments, for Pinnacles, Balconies, Terraces, and Garden Walls. Capitals, Trusses, Consols, Chimney Shafts, and other Ornaments, &c. Coats of Arms finished in a superior manner, all at half the usual price.—25, Providence-row, Finsbury-square, from Albion Wharf, Blackfriars-bridge.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in.	3 in.	In 2 feet lengths.	4 in.	6 in	9 in	12 in.	15 in.	18 in. base
	4d.	5d.		6d.	8d.	1s. 1d.	1s. 9d.	3s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Rendel, Phillips, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the tubular drains, such as I have used in Pipes for house drains, and I am quite satisfied that in so doing they will be conferring a great boon on public health, and that to an extent that but imperfectly suited that there is now a reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are the one which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

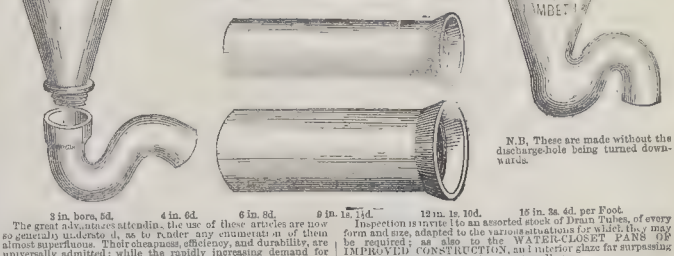
I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., at HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 3 feet lengths.



3 in. bore, 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1d.	12 in. 1s. 10d.	15 in. 2s. 4d. per Foot.

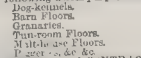
The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

N.B. These are made without the discharge-hole being turned downwards.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Dauvet's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, Kings-road, Camden New Town.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Rhone.

Principal Depôts, ROUEN, MARSEILLES, and ST. ANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.	Dog-kennels.	Covering of Railroad and other Arches.
Kitchen Floors (particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tun-room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Paper-rooms, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangement of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to the Company, and the Asphalte Rock in question has been selected by the Company since its establishment in 1838, which will CATE from the Company, that the original description of material has not varied.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

I. FARRELL, Secretary.

Seyssel Asphalte Company, Stangate, London.

NEUBER'S WASHABLE WATER VARNISH REQUIRES NO PREPARATION OF SIZE. Sold wholesale by W. H. NEUBER and CO., 2, Burton-street, Pimlico; G. WATKINS, 36, Dudley-grove, Paddington-green; and at the manufactory, 4, Euston-street, Broad-street, Bloomsbury.

RIDER'S RAILWAY BRIDGE. — To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr MOULTON, Bradford, Wilts.

PLASTER or GYPSUM QUARRIES. —BROWN and RAGSDALE, Newark-upon-Trent, in addition to their old, have just opened some new Quarries of Plaster, the quality of which is excellent, and have now on hand for sale a large stock of Best White Rock, Second White, Best Grey Rock, and Second Grey.—Freights to Gainsborough, 3s.; Hull, 4s. per ton. An order is solicited from those who have not yet purchased at first hand.—Newark, August, 1848.

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Aug. 30, 1848. WILLIAM GRUBB, Secretary.

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M. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be intrusted with will be promptly attended to. He answers admirably for multiplying Tracings.—Lithographic Printing Office, 15, Cheapside, London.

PROFESSOR WILSON'S BUST.—In answer to numerous inquiries, Mr. FILLANS begs to state that he is now prepared to throw off COPIES in PLASTER, from the BUST of PROFESSOR WILSON.

Gentlemen desirous of having Casts will please forward their orders to Mr. FILLYNS, 89, Baker-street, Portman-square, London; or JOHN DUNN, Esq., Writer, Paisley. The Casts will all be retouched by Mr. F.—Price delivered, Three Guineas each.

London, August 23, 1848.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

WM. LAWRENCE and SONS, Builders, Pitfield-street, Hoxton, 30, Bread-street, Cheapside, and Pitfield Wharf, Waterloo bridge, beg to inform their friends and connections that they have REMOVED their Manufactory and Counting-house to the Wharf.—All communications are requested to be addressed, Pitfield Wharf, Waterloo-bridge.

RIDER'S RAILWAY BRIDGE.—To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr MOULTON, Bradford, Wilts.

UNDER an Assignment from the Sheriff of Middlesex.—To BUILDERS and PLUMBERS.

PLUMBERS' BRASSWORK of every Description:—¾ Cocks, 26s. per dozen; ½ Ditto, 17s.; Pan Closets, complete, 27s.; 2½ Pumps, 3l. 12s.; 3 in., 4l. 1s. 6d.; Best Spring Valve Closet, blue basen, 3l. 10s. Every article warranted best London manufacture.—Apply, Mr. J. READ, 30, Brownlow-street, Drury-lane.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

HEAL AND SON'S LIST OF BEDDING.

Containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

UNDER BRITISH AND FOREIGN LETTERS PATENT.

VALUABLE INVESTMENT, by Partnership or otherwise. Absorbent and soft Stone indurated, rendered impervious to wet, frost, vermin, &c., and polished as high as Marble, for all purposes. Chalk, Sand, Plaster, Wood, Carton-Roof Sheeting, &c., treated equally as successful.—Established Works, à la Maladrerie, near Caen, and at Tonbridge Wells; where orders are executed much cheaper than other Stone, &c.—HUTCHISON and Co.'s Offices, East Temple Chambers, 12, Whitefriars-street, Fleet-street, London.

N.B. Licences granted.

ART-UNION of LONDON.—EVENING EXHIBITION.—The WORKS of ART selected by the Prizeholders of the year 1848, now EXHIBITING at the GALLERY of the SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall mall East, will be OPEN from Seven till Ten o'Clock on the Evenings of the 29th, 30th, and 31st of August, and 1st, 5th, 6th, 7th, and 8th of September. Admission by tickets only.

August 28, 1848. GEORGE GODWIN, } Honorary
LEWIS POCOCK, } Secretaries.

CONTRACTS.

TO BUILDERS.

THE Committee of the Lock Hospital and Asylum are desirous of obtaining TENDERS for the Erection of the NEW ASYLUM WING to the Hospital, at Westbourne Green. The Plans and Specifications may be seen at the Office of the Architect, L. VULLIAMY, Esq., 13, Saville row, Burlington-gardens, until the 18th instant; on or before which day the Tenders are to be sent in, addressed "Tenders New Asylum Wing," to W. IRVING HARE, Esq., Secretary Lock Asylum, Westbourne Green, Harrow-road. The Committee do not bind themselves to accept the lowest tender, and approved securities will be required.

HOLBORN UNION.—BUILDERS desirous of CONTRACTING for the several WORKS to be executed in BUILDING an ADDITION to the WORKHOUSE in Gray's-Inn lane, may inspect the plans and specifications, by applying between the hours of Ten and Five, at the office of the architect, Mr COOPER, Verulam-buildings, Gray's-Inn. The tenders to be delivered at the clerk's office of the said workhouse, on or before Four o'clock of the 5th September next, and to be considered by the Guardians on the 6th, at Seven in the evening, when the parties tendering are requested to be present with the names of two sufficient sureties. The Guardians do not pledge themselves to accept the lowest tender.

21st August, 1848. W. R. JAMES, Clerk to the Board.

1, Canning-place, Kensington, August 25, 1848.

SALE of BROKEN GRANITE STONE. NOTICE IS HEREBY GIVEN, that the Guardians of the Poor of the Parish of Kensington will meet in the Board-room, at the Workhouse, on TUESDAY, the 5th day of September next, at Ten o'Clock in the Forenoon, to receive TENDERS from persons who may be willing to purchase a Stock of broken Granite Stone, at per ton. The stone may be seen on application at the Workhouse, and is to be removed at the cost of the purchaser.

S. CORNELL, Clerk to the Guardians.

GUILDHALL, London, 23th August, 1848.

THE Committee for letting the Bridge House Estates will meet at GUILDHALL, on FRIDAY, the 8th day of September, 1848, at One o'Clock precisely, to receive PROPOSALS for BUILDING LEASES, for the term of Eighty years, of several PLOTS of GROUND, situate on the west side of a new road adjoining the Lord Nelson Tavern, in the Kent-road, in the county of Surrey. Plans of the ground, and conditions for letting, may be seen at the Office of Works, Guildhall.—FERDINAND BRAND, Comptroller of the Bridge House Estates.

GUILDHALL, 30th August, 1848.

THE Committee for letting the City's Lands will meet at GUILDHALL on WEDNESDAY, the 13th day of September next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE, for 21 years from Michaelmas next, a House, No. 11, on the north side of Broad-street Buildings; a House, No. 14, on the north side of Broad-street Buildings; a House, No 28, on the south side of Broad-street Buildings; and a House, No. 38, on the south side of Upper Thames-street. Also to receive TENDERS for Letting on a Building Lease for 80 years, from Michaelmas next, a large Plot of Ground on the east side of Puddle Dock, on the south side of Upper Thames-street, and on the north side of the River Thames.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOS. SAUNDERS, Comptroller.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water-Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the brass and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight.—To be had of G. HOWE, Portable Steam-Engine Maker, 119, Great Guildford-street, Borough; also of Messrs. FROST, NOAKES, and VINCENT, Brassfounders, 196, Brick-lane, Whitechapel; price 2l. 10s. each.

TO ENGINEERS, SURVEYORS, SOLICITORS, AND PROFESSIONAL GENTLEMEN.

ALL Persons desirous of taking exact Copies of letters, plans, or other documents, are recommended to use the PORTABLE COPYING MACHINE, by which *fac similes* may be readily taken in one minute. The machine may be carried in the coat pocket, without inconvenience, and in case of need may be used as a life protector or special constable's staff. Price 10s. 6d. Sold only at WELLS and HAVERSON'S, Stationers, &c., 41, Gresham-street; and 41, Aldermanbury.

"The necessity of keeping copies of all letters of business is too obvious to be disputed. The copying machines hitherto used have been both cumbrous and costly, and even persons who could afford to purchase them were obliged to submit to the inconvenience of keeping them in one room, although they might have occasion to copy letters in different places. This difficulty is removed by the article advertised. The machine can be put into the pocket, and now there is no excuse for any person to omit to preserve a copy of every document of importance, for he has but to lay it upon the leather and wrap it round a stick, and the pressure of the hand performs the work of a clerk in a moment, and without expense. It will prove a very useful addition to the furniture of an office."—*Law Times.*

PERSONS desirous of obtaining LOANS from 50*l.* to 250*l.* upon approved personal or other security, are invited to examine the principles of the BRITISH MUTUAL SUBSCRIPTION LOAN ASSURANCE COMPANY. Prospectuses and every information may be obtained on application at the British Mutual Life Office, 17, New Bridge-street, Blackfriars.
Rules, 6*d.* each copy.
CHARLES JAMES THICKE, Resident Sec

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.
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TRUSTEES.
Thos. Leverton Donaldson, Esq. | Anthony Salvin, Esq., F.S.A.
Samuel Grimsdell, Esq. | George Smith, Esq., F.S.A.
The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years or one-third till the end of life. Thus large sums may be insured at the small annual outlay
Prospectuses, form of proposal &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.
AGENTS WANTED for those towns for which appointments have not yet been made.
JOHN REDDISH, Manager.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.
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Francis Fuller, Esq., Abingdon-street, Westminster, and Croydon.
Jos. Henry Goodhart, Esq. Upper Tooting.
Thomas Grissell, Esq., Yorkroad, Lambeth.
James Hunt, Esq., 31, Parliament street, Westminster.
John Arnott Lethbridge, Esq., Greenwich Hospital.
Edmund Lucas, Esq., Millbank-street, and Clay Seager, Esq., Millbank street.
John B. White, Esq., Millbank-street, and Swansea.
Joseph Carter Wood, Esq., Artillery-place, Westminster.
Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death. IMMEDIATE ANNUITIES on OLD LIVES and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.
Parties desirous of providing for the Renewal Fine in their Leases can do so with facility in this Society
Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.
Prospectuses and further information free of expense, from
ARTHUR SCRATCHLEY, Actuary.

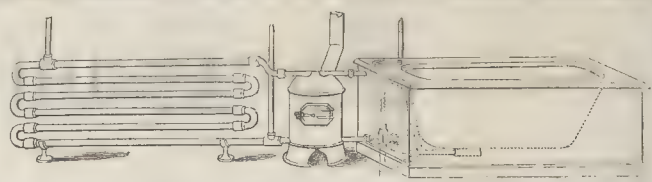
GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79 King William-street, City.
The CHISHOLM, Erchless Castle, Inverness-shire, and Chapel-street, Grosvenor-place, London, Chairman.
RICHARD HARTLEY KENNEDY, Esq. late Physician-General, Bombay), Deputy-Chairman of the Oriental Bank, Resington Lodge, Notting-hill, Deputy-Chairman.
GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.
This Society is established upon the most approved principles of the mutual system, dividing the whole of the profits among the members; and allows credit for half the amount of the first five annual premiums
The first division of profits will be in the year 1849.
Proposals of every description entertained, involving the contingency of human life
INDIA AND LONDON LIFE ASSURANCE COMPANY.
CAPITAL, 250,000*l.*, IN 5,000 SHARES OF 50*l.* EACH.
This Company assures the lives of healthy persons in any part of the world, at such rates of premium as shall be found consistent with perfect security; whilst, for the accommodation of the assured, a half premium table (No. 2) has been constructed on a plan peculiar to this office, and affording great advantages to parties assuring for short periods, with the option of continuing for their remainder of life.
Also Invalid lives, whether afflicted with mental or bodily infirmities.
And lives of naval and military officers and civilians in India, on the usual terms, or with a participation of profits.
Annuities granted, and endowments for widows and children.
London, 14, Waterloo-place. A. R IRVINE, Manager.
The following examples show how small a weekly sum will secure the benefit of Life Assurance for 100*l.*:—

WITH PROFITS.		WITHOUT PROFITS.	
At age of 20 about 10*d.* per week.		At age of 20, about 8*d.* per week	
,, 30 ,, 1*s.* ,,		,, 30 ,, 10*d.* ,,	
,, 40 ,, 1*s.* 8*d.* ,,		,, 40 ,, 1*s.* 1*d.* ,,	

SCOTTISH PROVIDENT INSTITU- TION, for MUTUAL LIFE ASSURANCE by MODERATE PREMIUMS. Incorporated by Special Act of Parliament. Established in 1837.
Edinburgh: 14, St. Andrew's-square.
London: 12, Moorgate-street, Bank.
The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. The Premiums are, at early and middle ages, about 20, and in some instances 25 per cent below those of most other Mutual offices.
This Society being Mutual, is free from the necessity of a nominal or the burden of a real capital. Thus dividends and similar charges on the funds are avoided.
The peculiar and leading advantages of this Office may be thus briefly stated:—
PREMIUMS 20 or 25 per cent LOWER than in most other similar Offices, at early and middle ages. Thus, the premium of the Equitable, at age 25, for 1,000*l.* would, at once, in this Office, assure 1,287*l.*; which is obviously equivalent to a present and certain bonus of 287*l.*, exclusive of prospective profits.
Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.
The 21 years' scale little exceeds that of most Offices for the whole of life. Second scale below.
Exemption from entry charges, &c.
The entry is 1*s.* and 6*d.* instead of constituting it to make liberal provision to members ceasing to discontinue their payments.
The whole profits are divided among the assured exclusively, on a principle peculiar to this office, and which is at once equitable, secure, and especially beneficial to good lives, being entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured; it is evident that much larger profits may thus accrue to the participators than by the usual system of other offices, even though their premiums are considerably higher
More detailed illustrations of the effects of this principle may be obtained at the office.
Specimen of Premiums for 100*l.* for whole Life and for Twenty-one Years. (These rates include a prospective share in the whole profits of the institution.)

Age	Payable for whole of Life.	Payable for 21 years only.	Age	Payable for whole of Life.	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 18 0	3 10 8	36	3 8 5	5 0 11
26	1 18 6	3 11 3	37	3 9 8	5 2 2
27	1 19 2	3 11 11	38	3 11 3	5 3 6
28	1 19 11	3 12 10	39	3 12 11	5 4 10
29	2 0 8	3 13 8	40	3 14 2	5 6 4
30	2 1 6	3 14 6	41	3 15 8	5 7 10
31	2 2 6	3 15 6	42	3 17 3	5 9 5
32	2 3 7	3 16 4	43	3 18 11	5 11 1
33	2 4 8	3 17 5	44	4 0 11	5 12 10
34	2 5 7	3 18 6	45	4 3 3	5 14 9
35	2 6 10	3 19 8	46	4 5 8	5 16 9

All necessary information and forms may be obtained on application at the Principal Offices in Edinburgh, London, Glasgow, Manchester, or from any of the provincial agents.
WILMER OWEN HARRIS, Secretary for London.
Office, No. 12, Moorgate-street, September, 1848.



J. TYLOR and SON'S IMPROVED COPPER CIRCULATING BATH and CONSERVATORY APPARATUS.—The copper boiler is double cased, and answers for the two purposes of BATH and CONSERVATORY, and does not require attendance. is ECONOMICAL in FUEL and TIME (heating a bath in twenty-five minutes can be easily detached, and is less in original cost than any other boiler The bath can be filled with Tylor's three way cock, with only ONE level and no lead pipe, instead of the usual plan of fixing THREE stop cocks and levers for the HOT COLD and WASTE water.
MANUFACTURERS of COPPER and GALVANIZED IRON BATHS, ENAMELLED WHITE MARBLE INSIDE.
Apply to the Ironmongers or Plumbers in town and country —Warwick-lane, Newgate-street.

LONDON AND METROPOLITAN COUNTIES' BENEFIT BUILDING AND INVESTMENT SOCIETY (established pursuant to Act of Parliament).
TRUSTEES.
Thomas Somers Cocks, Esq., M.P., Charing-cross.
Henry Coe Coape, Esq., Wimbledon-house, Putney.
Edmund Lucas, Esq., Millbank-street, Westminster.
The principle of permanent existence, and fixed tables, as adopted by this society, remove entirely the most serious objections to the errors and delusive statements of Building Societies on the old system, since persons becoming investing or borrowing members will not be required to continue with their payments beyond a fixed period.
Non-members, including females and minors residing in any part of the kingdom, can enter at any time without paying up arrears.
The shares of investing members are 10*l.* each, for which the subscription is 1*s.* a month for seven years only. Half shares of 5*l.* or quarter shares of 2*l.* 10*s.* may also be taken. Investing members can withdraw at any time from the society, after the first year, when their subscriptions will be returned with 5 per cent. compound interest.
Advances will be made to members for terms of five, seven, ten, twelve, or fourteen years repayable by fixed monthly or quarterly instalments.
The first meeting for issuing shares and receiving subscriptions will be held on Monday, the 4th of September, 1848, at Seven o'clock in the evening, at the British Hotel, Cockspur-street, Charing Cross.
Prospectuses, with form of application for shares, &c., may be obtained from Messrs. LETHBRIDGE and MACKRELL, 25, Abingdon-street, Westminster, Solicitors to the Society, or from Mr WM SWINEY, Manager, 8, St Michael's-terrace, Pimlico.
Applications for agencies in London and the country, to be addressed to the Manager

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The price is now from ONE SHILLING PER SQUARE FOOT, and borders from SIXPENCE PER FOOT RUN. A large quantity of the newest patterns always in stock Embossing and painted work on the most moderate terms.—CHARLES LONG, No 1, King-street, Baker-street, Portman-square. Cash only

E. & W. H. JACKSON beg to call the attention of builders to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding Crown in all localities in Kingdom. BRITISH and ROUGH PLATE, CROWN, SHEET, and ORNAMENTAL GLASS supplied at the lowest terms. Lists of prices, and every information, can be had on application at their warehouse, 115, Oxford-street

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large lot of sheet Glass in hand, which he will supply in 200-feet cases, delivered free in London for 48*s.* 6*d.* per case, or cut size 21 per foot. Address, 87, Bishopsgate-street without

WINDOW-GLASS, VARNISH- COLOURS, and PLUMBERS' BRASS WORK.
THOS MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade and consumers generally, that he is supplying the above articles of the best materials and upon the lowest terms for cash.
CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10*s.*; Carriage, 12*s.* per gallon; White Lead, 27*s.*, and Colours and Brushes; Water Closets complete, 30*s.*; Lifting Pumps and every description.
Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper hangings from 1*s.* per piece upwards, of very superior description.

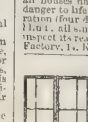
SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:—

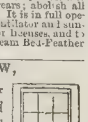
Thirds Crown, per crate 18 tables			£3 8 6
Fourths	,,	,,	2 17 10
CC	,,	,,	2 1 0
CCC	,,	,,	1 18 0
Horticultural, 13 oz. sheet, per crate 24*d.* per foot.			
Fifths	ditto	ditto	24*d.* ,,
Horticultural, 16 oz. ditto,	ditto	ditto	24*d.* ,,
Fourths	ditto	ditto	2*d.* ,,
Horticultural, 21 oz. ditto,	ditto	ditto	4*d.* ,,
Doubles,	ditto	ditto	5*d.* ,,
Duty	26 oz. ditto,	ditto	6*d.* ,,
Duty	32 oz. ditto,	ditto	8*d.* ,,

Ornamental Glass of very superior patterns, from 1*s.* 2*d.* per square foot, cut to order; or 1*s.* in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.
Plate Glass, for glazing purposes, at very reduced prices. Rough Plate 1/4, 5/16, and 3/8 inch thick

HERRING'S PATENT SAFETY WINDOW No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator at a small cost, all simple, sure, and effective. Apply for houses, and to inspect its several merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, King-gate-street, London

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MANUFACTURER
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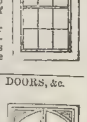




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JOHNSON and PASK,
1, Anwell-street, Clerkenwell, near the New River Head.
Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices



rwarded by return of post, to any part of the country.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern. Apply to M. BENJAMIN GOUGH, 37, Newington-crescent, Newington-butts.
N.B. Cowley and Kent Bricks of every description, and Keutish Rag Stone direct from the Quarries.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shipowners and others to the fact that they have now completed their Stock of Scotch Arbroath, Welsh and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river or upon rebuilt. Fire Clay, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand, red and white, River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch Country Builders will find this the cheapest market for the above

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c. Cisterns and Water Pipes from 14 inch to 18 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Bankside, Southwark

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories Squares Market Places, Roads Gardens, &c. for Liquid Manure BRICKMAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
BENJ. FOWLER, 63, Dorset-street, Fleet-street.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes
PATENT TUBE WORKS, DARLESTON, STAFFORDSHIRE

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's. J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders Railings, Gates, Iron Copings, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Railings, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
BAKER'S WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.
Wheel Pinion and Steam Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly neat, and not unsightly.
ESTIMATES given for IRON ROOFING, and every description of ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET.

TO ARCHITECTS, BUILDERS, &c
COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hot houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is first made of wire of the size of the hempen cord, and is strongly recommended to all builders and other parties connected with the above The Wire Cord may be had wholesale, and specimens seen at the office of the Patentee, No 163, Fenchurch-street. W. T. ALLEN, Agent; or retail of G. and J. DEANE, 46, King William street, E. PARKS, 140, Fleet-street; T. JONES, 62, Charing Cross, and GIBBONS and CO., 345, Oxford-street; also of all respectable Ironmongers.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE is being daily employed for the protection of CHURCHES and other buildings from the effects of thunder-storms. It possesses important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c &c. Its general adoption in the Naval and Mercantile Marine of this and other countries is the strongest possible EVIDENCE of its EFFICIENCY, &c
SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS —Also, the Patent Weather-tight Fastening and Bolt Bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their
Patent Double and Single Action Door Springs,
Improved Flooring Cramps,
Patent Wire Sash Lines, &c. &c.,
little need be said, as they are pretty generally known and appreciated.
Manufactory for Iron Suspension, Sliding, and other Doors, Strong Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop-fronts, Stall board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.
Estimates given for every description of Metal-work.
SMITH and ENGLISH 60, Princes-street, Leicester-square, London.

RICHARD A. C. LOADER respectfully
s he begs to call the attention of Architects, Surveyors, Builders, and others to the following list of prices:—

	£ s. d.
...ch will be found to consist of the newest designs of furniture, ...the best seasoned materials.	
...ished mahogany easy chairs, in real morocco leather, ...spring seats, with continuation mahogany mouldings to ...the backs	2 12 0
...hogany sweep-back chairs, with Trafalgar seats, stuffed ...with all best horse-hair	0 14 6
...h of six and two elbow mahogany roll-over top Trafal... ...gar chairs, in hair-setting	5 5 0
...lid rosewood cabriole drawing-room chairs, all hair ...stuffing	0 18 6
...sewood couch to match, with cabriole front, spring ...stuffing	4 17 6
...d rosewood chairs, stuffed, and covered in damask	0 13 6
...ur-foot solid mahogany loo table, French polished	2 12 0
...ur-foot fine mahogany loo table, with star top, very ...elegant	4 14 6
...ve-foot lath or sacking bottom four-post bedstead, with ...eight-foot mahogany pillars and cornices, or poles	4 14 6
...ur-post mahogany bedstead, without cornices	2 12 6
...panned French bedsteads, all sizes and colours	1 3 6
...perior ditto	1 9 0
...hogany half-tester bedstead, with cornices	3 10 0

RICHARD A. C. LOADER,
24 PAVEMENT, FINSBURY, LONDON.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN,
Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, ...s a l ...pe stock of Rain Pipes, Heads, Shoes, Elbows, &c., half ...nd an inch in diameter, Socket Pipes for Water or Gas, Flanch ...es, Sash Weights, and other Castings in Iron Work for Baker's ...ses of every description, fitted complete, to be had in sets or in ...ts.—Prices equal to all competition. Contracts taken to any ...tent.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING,
...r Railway Companies, Brewers, Distillers, Fire Engines, Gas ...Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-...RUBBER HOSE-PIPES are made to stand hot liquor, ...ds without injury—do not become hard or stiff in any tem...rature but are also perfectly flexible, and as they require no ...chment of any kind, are particularly well adapted for ...motive engines, railway cranes, fire engines, pumps, gas, beer ...gines, gardens, and all purposes where a perfectly flexible pipe is ...uired. Made all sizes, from 1 inch bore upwards, and of any ...gth to order. Vulcanized India rubber garden hose fitted with ...ss-taps, copper unions and hose couplets, ready for instant attached ...pumps, water butts, or cisterns. Sole manufacturer JAMES ...NE HANCOCK, Goswell road, London. ...B Vulcanized India rubber washers of all sizes for joints or ...water or steam pipes, and vulcanized sheet rubber any thick...e for all kinds of joints, and other purposes.

LAMBERT'S PATENT FLEXIBLE
DIAPHRAGM HIGH-PRESSURE WATER-TAPS.—...is application of the Vulcanized Caoutchouc (prepared expressly ...these valves, with layers of canvas amalgamated therewith), having ...w stood the test of two years' trial with perfect success, the ...entees beg to point out some of its many important advantages ...r the old plug and other taps and valves. First,—The security ...n leakage, let the pressure be ever so great. Its extreme dura...ty, the parts in contact with the water being free from friction; ...ease with which it is opened and closed, it never gets stiff or ...fast for want of use, neither is it liable to injury by frost; they ...be made in iron, and at a less cost than any other taps, and are ...ecially well suited for boiler mountains, and in distance ...e they been known to fail; many hundreds have been fixed, to ...ch reference can be given with the greatest confidence. ...HOMAS LAMBERT and SON, Patentees and Sole Manufac...rers, 30, New Cut, near the Blackfriars-road, London.

SANITARY IMPROVEMENT. — Perfect ...freedom from Stench, or Noxious Vapours arising from Sewers, ...ins, &c., is insured by the use of
BUNNETT'S
PATENT SELF ACTING EFFLUVIA TRAPS, ...dapted for Streets, Public Buildings, Dwelling Houses, Facto...ries, &c.
The above most important improvement has been extensively ...d in the City, and many large provincial towns, with perfect ...ess. The only cheap durable part is SELF ACTING and ...F-CLEANSING, and cannot get out of order. Manufactured ...roughout, at small expense, by BUNNETT and CORPE, ...HINE (S. 20 Leonard-street, London, where specimens may ...seen in action, and to whom all orders are to be addressed.
INVENTORS AND PATENTEES OF SELF ACTING
DOORLEY TRAPPED
PAN AND VALVE WATER-CLOSETS; ...most successful production. The above principle, with other ...nted improvements.

UNION BROWN STONE POTTERY,
CHEMICAL APPARATUS, and DRAIN-PIPE MANU...FACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Ma...sty's Commissioners of Woods and Forests, and by the Metro...olitan Commissioners of Sewers.



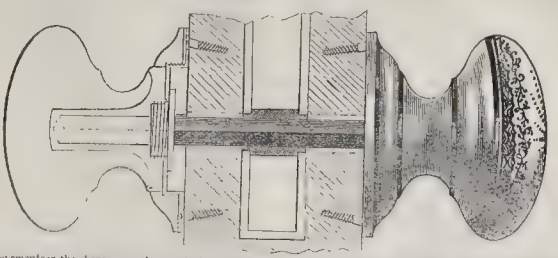
WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN ...STONE SOCKET DRAIN-PIPES, in every variety of shape, ...to call the attention of Architects, Surveyors, Contractors, ...Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length				
3-in.	4-in.	6-in.	9-in.	12-in bore
3d.	5d.	6d.	1s 10d.	1s 10d. per foot

Bends and Junctions equally low.
...B Drain-pipes from Messrs. Northen may also be obtained of ...rs. ROSHER, at their Lime Wharfs, Albion Wharf, H Hand ...n, Bridge-pass., Millbank-street, Westminster; Kingsland ...n, Kingsland-road; and Limehouse.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following; the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without alteration, and the objectionable side screw in the neck of the knob is not required. The mountings by which the knobs are secured to the door run in bearings for each knob, and rotate merely there is less friction on the follower, the action also is more pleasant than with ordinary mountings, and being fixtures, prevent the disfigurement of the door which frequently occurs when the common rosette is used. The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in now in use.

They are made to suit every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Maple, Buffalo Horn, &c. &c., en suite with Finger plates, Bell pulls, and Levers. May be obtained of all Ironmongers or of the Proprietors and Sole Manufacturers, HART and SONS, Wholesale Ironmongers, 58, 84, 85, Wych street, Strand, London.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an infringement of the Patent.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,
BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



3 in. bore. 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

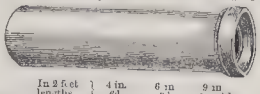
N.B. These are made without the discharge-hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Fedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's road, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY
HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in 8d.	9 in 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

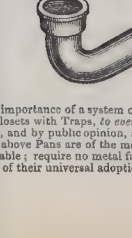
I am, Dear Sir, yours truly,
JOHN PHILLIPS.
Mr H. Doulton

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

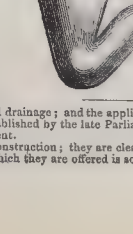
I am, Dear Sir, yours truly,
JOHN ROE.
Mr. H. Doulton.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH,
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

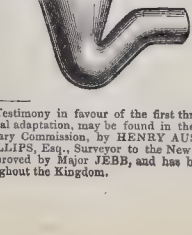
No. 1.



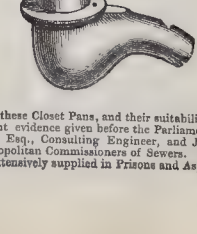
No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleansing and drainage; and the application of ...er Closets with Traps, *to every house*, is so fully established by the late Parliamentary ...ries, and by public opinion, as to need no enforcement.
The above Pans are of the most simple yet perfect construction; they are cleanly and ...ishable; require no metal fans; and the price at which they are offered is so low, as ...mit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

LONDON MECHANICS' INSTITUTION, SOUTHAMPTON BUILDINGS, CHANCERY-LANE.—The Members and the Public are respectfully informed that lectures on the following subjects will be delivered during the quarter, commencing September 6th :—Mr. G. S. NOTTAGE, on the Life, Genius, and Writings of Curran. Dr. CANTOR, on the Theory of Sleep; and on the Education of Mankind. Mr. E. DRAPER, on Character. Mr. E. WHEELER, on the Art of Travelling, &c. Mr. C. H. CHEVERTON, on the Source of Light. Mr. SMITH EVANS, on the Extent and Importance of the British Colonial Empire. Mr. A. B. STEVENS, on the Wars of England, from the Revolution of 1688 to the Peace of 1815. Shaksperian Readings, Romeo and Juliet, and Measure for Measure, by Miss KELLY. Mr. G. F. WARR, on the Philosophy of Heat. E. LANKESTER, M.D., on the Influence of Physical Agents on the Life of Organic Beings. Mr. H. PHILLIPS, on Music.

Subscription, 6s. per quarter, with 2s. 6d. entrance.—Prospectuses containing particulars, may be obtained on application at the Library of the Institution.

A. M'FARLANE, Secretary.

SALES BY AUCTION.

THE CAPITAL STOCK of MODERN PAPER-HANGINGS of Messrs. HORROCKS and Co., also the valuable BLOCKS, including numerous highly esteemed designs.

MESSRS. ROBINS are instructed to SELL, on the Premises, in consequence of the firm being about to relinquish the business, on WEDNESDAY, September 6, and following day, at Twelve, the extensive STOCK of PAPER-HANGINGS, of an extremely useful and superior description of Messrs. HORROCKS and Co., opposite St. James's Chapel, Hampstead-road, presenting a most inviting opportunity to builders and house decorators, for whose especial accommodation this superior stock will be arranged into lots. It comprises 5,000 pieces of satins of the most elegant and sumptuous designs for drawing-rooms, handsome flocks, crimsons, and an endless variety of excellent and novel patterns for sitting rooms, bed chambers, and staircases. Also the valuable BLOCKS at the factory, in Little Edward-street, upon which no expense has been spared, and which call for the especial attention of the trade. They are entirely modern, some scarcely used, and can be immediately worked with great advantage. Also the colour mills, blending, oaking, and printing machines, all on the last new principle, and a quantity of colours. May be viewed two days prior, when catalogues may be had on the premises, and at the offices in Covent Garden.

TO BUILDERS.
FIFTY CAPITAL CHIMNEY-PIECES, suitable for residences of a superior description.

MESSRS. ROBINS will SELL BY AUCTION, at their Rooms, in Covent Garden, on FRIDAY, September 8, at Twelve, FIFTY superior MARBLE CHIMNEY-PIECES, of a modern and handsome description, finished in the best manner, some richly sculptured, presenting noble designs in statuary, black and gold, dove, Kilkenny, and vein marbles, calculated for drawing-rooms of the first class, and every description of chamber; well worthy the attention of builders.—May be viewed at the auction rooms in Covent Garden.

To Timber Merchants, Builders, Carpenters, Cabinet-makers, Pianoforte-makers, and Others.—The remaining Portion of the extensive Stock in Trade of a Builder, by order of the Executrix.

MR. W. FIELD will SELL BY AUCTION, on the Premises, New-way, Broadway, Westminster, on WEDNESDAY, September 6, and following day, at Eleven for Twelve each day, the prime and well seasoned STOCK and other EFFECTS of the late Mr. Benjamin Hudson, a portion of which is lying at Messrs. Rigby's Saw-mills, Holywell street (in 450 lots), comprising upwards of 4,500 feet of mahogany in board, 1,550 feet super of pencil cedar, 2,700 feet of dry wide pine, 2,120 feet of birch, 700 feet of Memel, oak, wainscot, and beech, 200 feet cube of Memel, oak, and pine timber, 800 feet oak and fir scantling and sash sills, 240 square mill prepared (parallel width and thickness), yellow and white flooring boards and battens, 46,000 feet of yellow and white pine and spruce planks, deals, and battens, 2,240 feet of ditto various thicknesses, also 170 scaffold poles, 100 ditto boards, 31 dozen of cords, 85 putlogs, 40 ladders, work benches, building materials, a large shop-front sash, a one-horse cart and harness, 240 chimney-pots, a few thousand bricks, and effects; lotted to suit the trade and private purchasers.—May be viewed two days prior; Catalogues on the premises; and of the Auctioneer, corner of Osnaburgh-place, New-road.

CAPITAL WATER CORN MILL, COTTAGE, GRANARY, COAL and CHALK WHARF, with a comfortable Residence and 9 acres of Meadow Land, at Fingringhoe, only 4 miles from Colchester, Essex.

MESSRS. BEADEL, SON, and CHANCELLOR, are instructed to SELL BY AUCTION, at the Cups Inn, Colchester, on SATURDAY, September 23rd, 1848, at Three o'Clock, without reserve, in one lot, the following desirable property, offering singular advantages to an enterprising young man with a moderate capital:—The FINGRINGHOE MILL, in the parishes of Fingringhoe and Donyland, four stories high, substantially built and slated, situated upon the Roman river, not a mile from its junction with the Colne, near Wivenhoe, carrying five pair of stones, having all necessary going gear and machinery, and capable of grinding from twelve to fifteen loads per week; a newly erected GRANARY, MILLER'S COTTAGE, commodious RESIDENCE, with OUT OFFICES and GARDEN, and 9 Acres of rich MEADOW and PASTURE LAND; the whole forming a compact and desirable property, approached by good roads, and in a first-rate situation for commanding a large home trade. The wharf is close to the mill, and vessels of 70 tons burden can lay alongside. The best Essex wheats are grown in the immediate vicinity, and with water carriage close to the mill, a large export trade may be carried on, and the wharf will enable the occupier to supply the thickly populated district with coal, chalk, &c. The present occupier is Mr. George Hellen, whose lease will expire at Michaelmas next, when possession may be had. Five acres of the land, and part of the mill, are leasehold, for a term of 150 years, from Michaelmas, 1790, at the annual rent of 4l., payable half-yearly, with a covenant for renewal for a further term of 50 years, on payment of a fine of 100l. The rest of the property is copyhold, fine certain, of the manor of Fingringhoe. The estate is mortgaged for 2,000l., subject to which the whole property, including the fixtures, going gear, and machinery, will be sold without the least reserve.—Particulars and conditions may be obtained of Messrs. SPARLING, TURNER, and DEANE, Solicitors, Colchester; of Mr. BEADEL, Estate Agent, 25, Gresham-street, London. Place of Sale and of the Auctioneers, Chelmsford, Essex.

SURREY: in the preferable part of Reigate.—Valuable Plots of Freehold Building Ground, adapted for the Erection of First and Second Class Villas, with ample space for Pleasure Grounds and Gardens.

MESSRS. NASH are instructed, by Mr. Richard Cooke, TO SELL, BY AUCTION, at the White Hart Inn, in Reigate, on FRIDAY, the 15th day of September, 1848, at Two o'Clock, a valuable and highly important FREEHOLD PROPERTY, called the WALL FIELD, comprising altogether six and a half acres of arable land, delightfully situate at the western approach to the town of Reigate, commanding views of the surrounding eminently beautiful country, separated by three closes of land only from that much-admired spot, REIGATE HEATH, and possessing a most important frontage to the high road to Dorking, in twelve lots, adapted for the erection of first and second rate detached and semi-detached Villas. The neighbourhood of Reigate, from the dryness of its soil and the shelter afforded by its hills northward, has always borne a high character for its salubrity, but it has only recently been ascertained that it enjoys the enviable distinction of being one of three of the most healthy places in the kingdom (vide Lord Morpeth's speech on the Public Health Bill—*Times*, 8th August.) This circumstance, coupled with the fact that it possesses railway accommodation second to no town in the kingdom, a junction of three important lines of railway, and the remarkable beauty of its walks and drives in every direction, together with the unusual circumstance of a sale of freehold building land near to the town, justify Messrs. Nash in inviting the especial attention of the capitalist and speculative builder, or gentlemen seeking retirement and the gratification of architectural taste, to the plots of ground set out. Every care will be taken to protect the purchasers of each lot, by securing the erection of respectable dwellings, and ample space will be afforded for gardens and pleasure grounds, the aspect from which, south and west, is of great beauty. It may be remarked, that the demand for houses in this neighbourhood, always great, has been this season unprecedented. Plans, with printed Particulars and Conditions, are preparing, and may be obtained, in due time, at the principal Inns in the neighbouring towns; at the Old Ship Inn, Brighton; at GARRAWAY'S, Cornhill; of Messrs. NASH, Land Agents and Surveyors, Reigate; and of Messrs. EVEREST and WHITE, Solicitors, 5, Arthur-street East, Monument, London, and Epsom.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

TO BUILDERS AND OTHERS.

FREEHOLD LAND.—TO BE LET OR SOLD, on exceedingly moderate terms, several desirable PLOTS of GROUND, near Clapham common. Roads and sewers are all formed.—Apply on the ground, Park-road, Clapham-common, and of Mr. LLOYD, Surveyor, 8, Warwick court, Gray's-inn.

ISLINGTON.—LAND to LET for Building Third or Fourth-rate Cottages, at 3s. per foot Frontage. The sewers are made, and the road formed. Bricks on the spot, and may be had at a rent on the ground. Lease, eighty-six years.—Apply to Mr. W. T. KING, Architect, &c., 21, Manchester-terrace, Liverpool road.

N.B. A large quantity of Bricks for Sale cheap.

TO BUILDERS AND OTHERS.

ST. JOHN'S WOOD.—Several very eligible PLOTS of GROUND, upon a freehold estate in the most desirable part of this locality, TO BE LET, upon long building leases, upon advantageous terms. The roads and sewers are formed, the main boundary-walls are erected, part is already built upon, and no difficulty is found in letting houses in this neighbourhood at good rentals.—For particulars and plans apply to Mr. HENRY J. HAMMON, Architect, 33, Threadneedle-street.

TO BUILDERS

SEVERAL THIRD-RATE CARCASES TO BE LET, at a ground rent of 22l. 10s. each, for a term of 98 years. They are a short distance from town, and in a highly respectable neighbourhood, and will let, when finished, at a rental of 60l. per annum: 60l. could be advanced on each lease by way of mortgage for two years, when the houses are ready for papering and painting. Apply (prepaid) to A. B., care of Mr. Bowden, tailor, No. 1, Hand-court, Bedford-row, Holborn.

VALUABLE GROUND for Third and Fourth-rate HOUSES, within five minutes' walk of a station on the Eastern Counties Railway, and only 5 miles from London.—A very large quantity of LAND to be LET, on Building Leases, upon very favourable terms—presenting a fine opportunity of creating improved ground rents. Lease for ninety-nine years direct from the freeholder. If required, advances will be made.—Apply to Messrs. BECKWITH and SALMON, Land Agents, 25, Bucklersbury.

BUILDING LAND, Soho-park, Handsworth, Staffordshire (out of the borough of Birmingham). The Advertisers, having a very eligible piece of LAND TO LET, and about erecting buildings, are desirous of obtaining the notice of some respectable parties wishing to build out of the borough, to co-operate with them; by so doing a very considerable saving would be effected. For explanation and particulars, apply, by letter, 974, "Herald" office; or Mr. HAMMOND, Surveyor, Waterloo-street, Birmingham. Plans, &c., may be seen at Mr. NEWEY'S, Architect, New-street, Birmingham.

BUILDING LAND, HARROGATE.—A general plan for extensive building operations has been laid down, by direction of the Chancellor and Council of the Duchy of Lancaster, comprising all the most agreeable sites and best building land available in and around Low Harrogate, and in the immediate vicinity of the principal medicinal springs, and of the railway stations. The land will be held for a term of 99 years, on lease, directly from the Duchy of Lancaster, on very moderate ground rents.—Plans and particulars may be obtained on application, by post or otherwise, to SYDNEY SMIRKE, Esq., the Surveyor-General of the Duchy, No. 24, Berkeley-square, London.—Railway communication is now established with Harrogate from all parts of the country.

MANOR PARK ESTATE, STREATHAM, SURREY.

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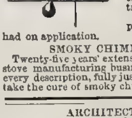
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W. ALLARD, Secretary.

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JOHN ROGERS WHEELER, Clerk to the Guardians.

Wokingham, September 6, 1848.

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PARTIES willing to CONTRACT for the ERECTION of a BRIDGE, with timber ribs, beams, and girders, and iron suspension rods and railing, and other works, over the River Bure, at Great Yarmouth, upon the site of the late Suspension Bridge, may in part the drawings and specifications at the office of GEORGE EDWARDS, Esq., Engineer, 37, Great George-street, Westminster; or at the office of Mr. BILLING, Town Surveyor Great Yarmouth, from Monday, the 4th day of September, until Monday, the 25th day of September instant, on or before which day at Two o'Clock, the TENDERS are to be delivered at Mr BILLING'S Office. The acceptance of the lowest or of any Tender will be optional.

1st September, 1848.

ALL SAINTS', POPLAR, Sept. 4, 1848.

CONTRACT for ESSENTIAL OIL LAMPS.—The Trustees of this parish will meet at the Town Hall, on Wednesday, the 20th inst., at Seven o'clock in the evening precisely, to receive proposals sealed up, and to contract for lighting with Essential Oil Lamps the streets of the parish as are not lighted with gas, for one year, commencing at Michaelmas day next. The contractor to find and provide the lamps and burners, and to fix them to the present lamp posts, the glasses of each lamp to be at least 1 inch and a half in width, and to burn a proportionable light. Patterns to be submitted for the inspection, approval, and selection of the trustees. Further particulars may be had on application at the Town Hall, or to Mr JOHN MORRIS, surveyor to the trustees, 4, Trinity-terrace, East-India road, Poplar.

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MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT.—REDUCTION of PRICE.—[illegible] invaluable cement at a considerably reduced price [illegible] been before the public so many years, and has obtained so high a station in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater [illegible] of labour required in working it, a saving of 25 to 30 per cent. is effected [illegible] STEVENS and SON, at their Plaster and Cement Works [illegible]

EMERSON'S PATENT LIQUID CEMENT.—This VALUABLE AND ECONOMIC PAINT [illegible] ONE-SIXTH the cost of oil paint; for beauty it is pre-eminent [illegible] heat or other plastering, and is particularly [illegible] become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost.—Sold in casks of 1 and 2 cwt., at [illegible]

PATENT MINERAL PAINT.

A brilliant black paint, invaluable as a coating for SHIPS' [illegible] will dry in a few hours. Price 3s. per gallon. PATENT ASPHALTE ROOFING FELT [illegible] GEORGE LEAR and Co., Sole Agents for the Patentees, No. 5, [illegible]

BOARD'S PORTLAND, BATH, and IMPROVED ROMAN CEMENT. [illegible] of the above Cements, and that the Bath and Portland will be found to resemble these celebrated stones both in colour and durability. They are recommended as being superior to all others, for the following reasons: Being made of Inland Stone and not dredged from the sea as stone for Roman is, they are not impregnated [illegible] generally complained of with Roman, they take a much larger [illegible] Hydraulic, and will set under water in a few minutes; as an [illegible] required; be trowelled up to a face almost equal to marble, or may be painted or papered on in a few days [illegible] IMPROVED ROMAN CEMENT is made of the same kind of material, and will be found to possess all the qualities of Bath and Portland (except [illegible]

A stock of those Cements, as well as Blue Lias Lime ground for [illegible] viz., Mr. R. Croft, Surrey-street, Kent-square, [illegible] Baker, 78, Digbeth, Birmingham; Mr. Furze, Hotwells-road, Bristol; Messrs. Tuthill and Co., Temple Backs, Bristol; Mr. W. Davey, [illegible]; Mr. Hurdman, Taunton; Mr. [illegible] and Co., Bridgwater; Messrs. [illegible]

PERSONS desirous of obtaining LOANS [illegible] BRITISH MUTUAL [illegible] CHARLES JAMES THICKE, Resident Sec.

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages gained for Assurers by the plan on which policies are granted in this office.—Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge-street, Blackfriars.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

Chairman—SYDNEY SMIRKE, Esq., A.R.A.

TRUSTEES.

[illegible] towns for which appointments [illegible] JOHN REDDISH, Manager.

THE LONDON INDISPUTABLE LIFE POLICY COMPANY: incorporated by Act of Parliament upon the principle of Mutual Life Assurance.—No. 31, Lombard-street, London.

TRUSTEES.

John C. Renton, Esq., M.P.	Richard Spooner, Esq., M.P.
Richard Malins, Esq.	William Wilberforce, Esq.

[illegible] All questions are [illegible] matters deserving of inquiry prior [illegible] ALEXANDER ROBERTSON, Manager.

SCOTTISH PROVIDENT INSTITUTION [illegible] MUTUAL LIFE ASSURANCE [illegible]

Reports, Tables, and every information may be had of the [illegible]

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, hot-houses, &c. with a new apparatus of the [illegible] and which is capable of [illegible] HEALY, [illegible]-street.

HOT-WATER APPARATUS.—The [illegible] BENJAMIN FOWLER [illegible] greenhouses, manufactories and warehouses, kilns, rooms for dry [illegible] purpose for which artificial [illegible] years some hundreds of [illegible] iron boiler, which requires no brickwork, may be [illegible] premises. BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

CAMDEN TOWN.—R. FULKES'S RANGE and STOVE MANUFACTORY, 21, Park-street. [illegible] Register Stoves 6d. per inch. [illegible] Ranges with Oven and [illegible] shelves, 3 ft., 55s.; 3 ft. 6 in., 60s. Chimney Bars, 14s. per cwt. [illegible] Builders' Ironmongery of all descriptions equally low.

OLD ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE. Kitchen range, and Stove grate Manufactory [illegible]

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his [illegible] Bright Bars [illegible] and upwards [illegible] Kitchen Ranges with Oven and Back Boiler, Wrought Bars, [illegible] warranted and delivered [illegible]

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d. 7d., 8d. per inch. Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. [illegible] Self-acting Ranges, with Circular Oven and Back Boiler, [illegible] Wrought Bars and Bright Fittings. 3 ft., £3. 3s. 3 ft. 6, £3. 13s. 6d. 4 ft., £4. Best [illegible] Lead Sheet Floor Brads [illegible] per cwt. Best Town Glue [illegible] 22s. per cwt. Best Patent Sash Line [illegible] per gross.

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, [illegible] Finsbury-square [illegible] at the Warehouse, or by letter [illegible] N.B. Warehouse closes at Seven o'clock.

TO BUILDERS, CARPENTERS, &c.— The undermentioned are the PRESENT PRICES of IRONMONGERY at YOUNG'S, [illegible] Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.
Cast Butts..............	11s.	18s.	24s per gross.
Cut..............	4d.	6d.	10d. 20d. } per
Clasp..............	6d.	8d.	1s. 4d. 1s. 10d. } 1,000
Nos.	3	4 5	6
Patent Line	6s. 6d.	7s. 3d. 9s. 10d.	12s. per gross.
	2	2½	3 Inches.
Rain Pipe	1s. 1d.	1s. 3d.	1s. 5d. per yard

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 120, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3 [illegible]	£4 1s.	£3 16s.	£4	£4 18s.

Henly's Patent Improved, with back Boiler and Wrought Iron [illegible]

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5	£ [illegible]	£6 [illegible]	£6 [illegible]	£7.

[illegible] PATENT REGISTER [illegible] CHIMNEYS, and effecting [illegible]

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. [illegible] FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, [illegible]-street, Birmingham. Lists of prices forwarded upon application.

IRON ROOFING WORKS, SOUTH- WARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings [illegible] Office, 2, Adelaide-place, London-bridge, City.

IRON VERANDAHS, GATES, RAILING, STAIRCASES, &c. [illegible] the lowest prices for cash payments. Excellent Iron Bedsteads, 2s. each. GALVANIZED and CORRUGATED IRON ROOFING.—GUTTERS, &c. JOHN BULLOCK and Co., Hope Ironworks, Prim[illegible]

IRON FOUNDRY, 9, Brick-lane, Old- street, St. Luke's.—J. J. JONES having made great additions [illegible] STOCK OF PATTERNS [illegible] Columns [illegible] Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c. BAKERS' OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

168, DRURY-LANE, and CHARLES STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental, Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for [illegible] ESTIMATES given for IRON ROOFING and every description of Ironwork [illegible] executed with every attention to quality and despatch.

GLOVER'S FOUNDRY, 168, DRURY LANE, and CHARLES STREET.

LIGHTNING CONDUCTORS for BUILDINGS.—SMITH'S PATENT COPPER WIRE ROPE [illegible] CHURCHES [illegible] important advantages over other forms of conductors. References can be given where it has been applied for some time past to CHURCHES, PUBLIC and PRIVATE BUILDINGS, &c. &c. [illegible] EVIDENCE of its EFFICIENCY, &c.

SMITH and ENGLISH beg the attention of those engaged in building to their IMPROVED PATENT PANELLED and REVOLVING IRON SHUTTERS. Also, the Patent Weather-tight Fastening and Cill bar, for French Casements, which are so much admired for their security, simplicity, cheapness, and efficiency. Of the merits of their

Patent Double and Single Action Door Springs,
Improved Flooring Cramps
Patent Wire Sash Lines, &c. &c.

little need be said, as they are pretty generally known and appreciated.

Manufactory for Iron Sashes [illegible] and other Doors, String Rooms, Plain and Ornamental Palisading, Gates, and Columns.—Also, Metal Sashes, Shop fronts, Stall-board Plates, Brass, Butt, and other Hinges. Buildings heated upon a new, safe, and superior plan.

Estimates given for every description of Metal-work.

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SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depots, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster Bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements [illegible] Carriage Drives. Coach houses and Stabling. [illegible] Tun-room Floors. Malt-house Floors. Piggeries, &c. &c. Covering of Railroad and other Arches. The only effectual mode to prevent the [illegible] water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of the WAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage [illegible] SEYSSEL ASPHALTE [illegible] ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

[illegible] be made direct to this Company; and as a further protection, it is requested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used. [illegible] establishment in 1838, which will [illegible] has resulted from the substitution of a spurious one.

I. FARRELL, Secretary.
Seyssel Asphalte Company, Stangate, London.

RIDER'S RAILWAY BRIDGE. — To Railway Companies.—A PROSPECTUS of the above well-invented IRON RAILWAY BRIDGE will be forwarded, and contracts entered into for business granted for its erection, on application to Mr MOULTON, Bradford, Wilts

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PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the Architectural Gallery of apartments, built expressly for that purpose; where also is kept an extensive stock of the newest Paper hangings, at the lowest possible prices, and of the most correct taste. English and French Designs, of the best Also, an Ivorine may be had a large assortment of Fire Boards to suit the universal Paper hangings always on hand. Ladies and the Trade Customers are particularly invited to the above 451, Oxford-street

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE- PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, full sized, and in the best stages, and of different sizes, to be selected. CHUBB'S PATENT DETECTOR LOCKS, Grooved for fixing to Doors, Iron or Wood, kept on sale, at very moderate prices. FIRE-PROOF SAFES of every size and description. CHUBB'S Patent Detector Locks and Latches for all purposes. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.



T. PUGH'S REGISTERED RIM LOCK, —T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to the new Rim Drawback and Bead Locks and Latches, which, they have no doubt, possess great advantages in form, over the usual Rim Lock, and also in the quality, and produced at very moderate prices; each lock is warranted perfect, and complete, with patent shifting spindles. To be had only of T. PUGH and Co., 13, King-street, Snow-hill, City, at their Ironmongery Warehouse, where they keep an extensive and most complete stock of horizontal and vertical pulls, mortise furniture, in steel, cleaned, fit for plate, half rabbeted, and rabbeted, porcelain, glass, ivory, buffal horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same superior quality they have been accustomed to send out for upwards of the last twenty years.

CHEAP SELF-ACTING WATER- CLOSET, in ENAMELLED IRON-WARE.—This durable, cleanly, and effective apparatus, ensures the use of a given quantity of water, and the complete flushing of the trap at each activity of the closet. It may be seen at the manufactory of THOMAS LAMBERT and SON, patentees of the Flexible Valve Cocks, Short street, New-cut, near Blackfriars road, London.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c. is insured by the use of

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS,

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

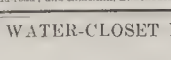
The above new, important improvement has been extensively tried in the City, and in many provincial towns, with perfect success. The apparatus, durable, is of the SELF-ACTING and SELF-CLEANSING, and is sold at a lower Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, &c., London-street, London, where specimens may be seen in action, and of the Water Detector.

INVENTORS AND PATENTEES OF SELF-ACTING AND BELL TRAPPED

PAN AND VALVE WATER-CLOSETS.

(A most successful combination of the above principle, with other patented improvements.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following Prices:—

Straight Barrel Pipes, with Socket Joints, in 2 ft. Length					
3-in.	4-in.	6-in	9-in.	12-in. bore.	
4d.	5½d.	8d.	1s. 1d.	1s. 10d.	per foot

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

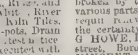
FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Clays of all sizes and shapes, which they are offering with such a large and well-assorted stock has been and from ships in the river at a great reduction. Fire Clays, Loams, Bricks, Cements, Sand, Bricks, White Bricks, Grey Tiles, Pan Tiles, Ridge, and Paving ditto, Moulding Sand, Horse and red and white River Sand, Ballast, Lime, Cement, Mal. and Cornish to Kiln Tiles, now in stock, general use for malting, &c. &c. Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

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G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, by a simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewal, it can be done in an instant, with the certainty of the joints being perfectly tight. To be had of G. HOWE, Portable Steam-Engine Maker, 119, Great Guildford-street, Borough; also of Messrs. FROST, SOARES, and VINCENT, Brassfounders, 186, Brick-lane, Whitechapel; price 1s. 9d. each.

CHEAP AND DURABLE ROOFING.

By Her Majesty's



Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c

Patronised by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S EAST INDIA COMPANY,
HER MAJESTY'S BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

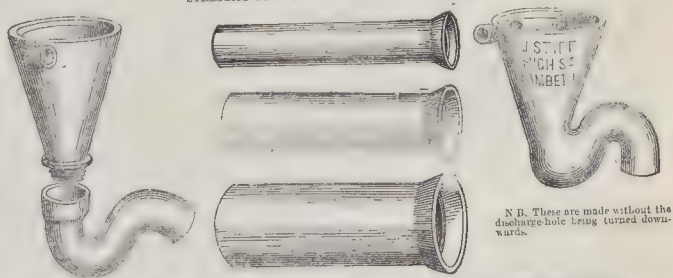
And by the most eminent members of the Royal Agricultural Societies of Ireland, Scotland, and England, at which great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for covering sheds used for under slates at the Royal Agricultural Society's Show, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and cold. The Felt can be cut to any shape. The price is only ONE PENNY PER SQUARE FOOT. Samples and testimonials, with full directions as to its use and application, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the kingdom or country. A dry hair Felt, for ceiling and plastering, is also manufactured, which, in the case of damp walls, will be found extremely useful. The TRADE are respectfully informed that the Felt is manufactured by the sole proprietors only, and that they are fully empowered to send their orders DIRECT to the FACTORY, as the sole agents for the sale of the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the only works in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament. A Liberal Discount allowed to the Trade.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 33, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
1s. 1d. per foot	6d.	8d.	1s. 1½d.	1s. 10d.	2s. 4d. per Foot.

N.B. These are made without the discharge-hole being turned downwards.

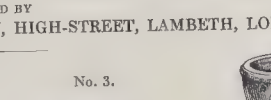
The great advantages attending the use of these articles are now so generally understood, as to render any comment on them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

In addition to the above, the Trade are cautioned against the use of spurious articles, which they may be induced to offer as "Stiff's Improved Stone Ware."

May be had also at Messrs. GLADDISH'S LIME WHARFS, Paddington Basin; Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Peddar's Acre, Westminster Bridge; City-road Wharf, City Basin

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths	2 in. 4d	3 in. 5d	In 2 feet lengths	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would readily recommend the building profession generally, in future to use no other material than Glazed Stone ware Pipes for house drains; and I am quite sure by their use they will be conferring a great boon on public health, and do not doubt that by an extended use of it also, respectively, it will be found that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

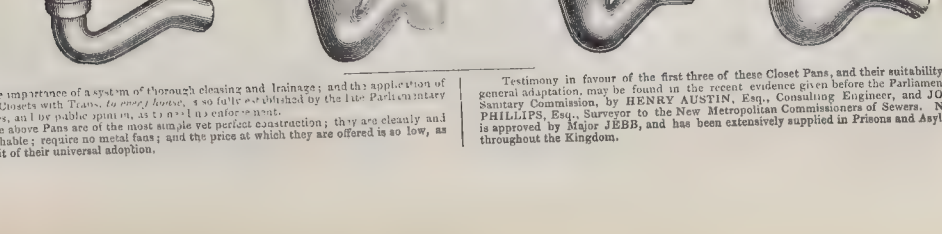
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stone ware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH,
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1. No. 2. No. 3. No. 4.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

TO BE SOLD or LET.—A Commodious FREEHOLD DWELLING HOUSE (lately rebuilt), with Workshops attached, and every convenience for a family residence, situate at the Shoreditch end of Kingsland-road (No. 3).—Apply on the premises, or at 120, Bunhill-row, Finsbury.

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WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply in 200-feet cases, delivered free in London for 6s. 6d. per case, or cut to size, 3d. per foot.—Address, 87, Bishopsgate-street-without

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS. MILLINGTON, 87, Bishopsgate-street Without, London, begs to inform the Trade, and consumers generally, that he is supplying the above articles of the best quality, and upon the lowest terms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity; VARNISH: fine Oak or Wainscot, 10s; Carriage, 12s per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s; Lifting Pumps and Cocks of every description

Milk Pans; Propagating, Bee, and Cucumber Glasses; Paper hangings from 1s per piece upwards, of very superior description.

SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:

Thirds Crown, per crate 16 tables				£3 2 6
Fourths	"	"	"	2 7 10
C C	"	"	"	3 1 0
C C C	"	"	"	1 18 0
Horticultural, 13 oz. sheet, per crate, 21d. per foot.				
Fourths,	ditto	ditto	21d.	"
Horticultural, 16 oz ditto,		ditto	24d.	"
Fourths,	ditto	ditto	2s.	"
Horticultural, 21 oz ditto,		ditto	4d.	"
Fourths,	ditto	ditto	5d.	"
Ditto,	26 oz. ditto,	ditto	6d.	"
Ditto,	32 oz. ditto,	ditto	8d.	"

Ornamental Glass of very superior patterns, from 1s 2d per super foot, cut to order; or 1s. in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate 1, ¼, ½, and ¾ inch thick.

WANTED to PURCHASE a good LEVEL (New or Second hand), with Mahogany Tripod Stand and two Staves.—Send the particulars and lowest price to J. H. S., Post-office, Guildford.

UNDER an Assignment from the Sheriff of Middlesex.—To BUILDERS, PLUMBERS, and CONTRACTORS.—PLUMBERS' BRASSWORK of every Description: ½ Cocks, 25s. per dozen; ¾ Ditto, 17s.; Pan Closets, complete, 27s; ¾ Pumps, 3l. 12s.; 3 in., 4l. 5s.; Best Spring Valve Closet, blue bason, 3l. 10s. Every article warranted best London manufacture.—Apply, Mr. J. READ, 30, Brownlow-street, Drury-lane.

THE GROTTO in OATLANDS PARK will be OPENED for TWO DAYS this month, for the Benefit of the Weybridge Parochial Schools.—Oatlands is situate half a mile from the Weybridge station of the South-Western Railway. Trains leave the Waterloo-bridge-station at 30 minutes past Ten, 30 minutes past Twelve, 30 minutes past Two, and 30 minutes past Four; and return from Weybridge at 30 minutes past Three, at Four, 37 minutes past Five, and 41 minutes past Eight.—Tickets, 2s. each of which a limited number will be issued, to be had at the Schools, and of Messrs. GRAVES, 6, Pall-mall. The Grotto is said to have cost the Duke of Newcastle 40,000l.

TO ARCHITECTS AND BUILDERS.

JENNINGS'S WATER-CLOSETS have given the greatest satisfaction to all who have tried them; they are most simple in their construction. The water is retained in the bason by the compression of an elastic tube, the raising of the close-handle releases the tube, and the water falls with force from the bason through the tube direct into the trap. As no container, or valve chamber, is required in the construction of this closet, all displacement of impure air is avoided when the closet is used.

JENNINGS'S INDIA-RUBBER TUBE COCKS have been tried in Government and other Works, and found to answer most satisfactorily.

The charge for JENNINGS'S SHOP SHUTTER SHOE and FASTENER is 3s. per Shutter, about half the cost of the clumsy Bar.

Apply at 29, Great Charlotte-street, Blackfriar's-road,

CONTRACTS.

OFFICE OF ORDNANCE, 26th August, 1848.

NOTICE TO BUILDERS AND OTHERS.

SEALED TENDERS will be received at the Office of the Honourable the Board of Ordnance on the 3rd October, for the ERECTION of TWO MARTELLO TOWERS, one at the south-west, and the other at the north-east, of Pembroke Dockyard.

The printed details and drawings of specification may be seen at the Royal Engineer's Office, Pembroke Dock, between the 18th of September and 1st of October, inclusive, by principals or by their accredited agents.—By order of the Board,

R. BYHAM, Secretary.

NOTICE to BUILDERS.—The Commanding Royal Engineer, London District, HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before the 2nd October 1848 for the CONVERSION of a BUILDING into a SCHOOL-ROOM, at Croydon Barracks.—Specification, with plans, &c., for the above work may be seen, and forms of tender obtained at the Royal Engineers' Office, 11, James-street, Buckingham-gate, daily, between the hours of 10 and four o'clock, until the 30th September, 1848.

Royal Engineers' Office, 11, James-street, Buckingham-gate, 14th September, 1848.

TO ENGINEERS AND MILLWRIGHTS.

THE Belfast Harbour Commissioners will receive PROPOSALS for CONSTRUCTING and ERECTING a WROUGHT IRON SWING or TURNING BRIDGE over the entrance to the Basin, in front of the Graving Dock. Sealed tenders, addressed to Chairman of Commissioners, and endorsed "Tender for Bridge," will be received up to Twelve o'Clock on Tuesday, the 3rd October next. The Commissioners do not bind themselves to accept the lowest tender.—The plans of specification can be seen on application at the office of Messrs WALKER and BURGESS, Great George-street, Westminster

EDMUND GETTY, Secretary.

Harbour Commissioners' Office, Belfast, 5th Sept., 1848.

TO PLUMBERS.

PARTIES desirous of CONTRACTING for the PLUMBERS' WORKS to Fifty Houses, for the Members of the Grove Building Society, now in the course of erection, may inspect the buildings already erected, the drawings, specifications, terms, and conditions of contract, on application to the Clerk of the Works, Mr. SIMS, Grove Estate Office, Broadway, Hammersmith.—Tenders to be delivered on or before Twelve o'Clock on Saturday, 23rd September, 1848, at the above office. The lowest tender will not necessarily be accepted.

TO CONTRACTORS.

PARTIES willing to CONTRACT for the ERECTION of a BRIDGE, with timber ribs, beams, and girders, and iron suspension rods and railing, and other works, over the River Bure, at Great Yarmouth, upon the site of the late Suspension Bridge, may inspect the drawings and specifications at the office of GEORGE EDWARDS, Esq., Engineer, 37 Great George-street, Westminster; or at the office of Mr HILLING, Town Surveyor, Great Yarmouth, from Monday, the 4th day of September, until Monday, the 25th day of September instant, on or before which day, at Two o'clock, the TENDERS are to be delivered at Mr. HILLING'S Office.—The acceptance of the lowest or of any Tender will be optional.

1st September, 1848.

POPLAR UNION.—TO BUILDERS.—NOTICE IS HEREBY GIVEN that the Board of Guardians of the Union will meet at the Workhouse, 114 High-street, Poplar, on MONDAY, the 18th day of September instant, at Eleven o'Clock in the forenoon precisely, to receive TENDERS and to CONTRACT for BUILDING A CHAPEL AND SCHOOL. The plan and specification of the required works may be seen and further particulars obtained on application at the Clerk's office, as above, between the hours of Ten and Four o'clock, and of Mr. JOHN NORTHEN, Surveyor, Trinity-terrace, Poplar.

JOHN SYMONS, Clerk to the Guardians.

Board-room, Sept. 8, 1848.

WOKINGHAM WORKHOUSE.—The ERECTION of the above BUILDING being POSTPONED for the present, Tenders will not now be required, and the plans and specifications are not for inspection, as advertised in "The Builder" of last week.

JOHN ROGERS WHEELER, Clerk to the Guardians.

Wokingham, September 15, 1848.

TO BUILDERS

EXTENSION of TIME.—SOUTH EASTERN RAILWAY.—TENDERS for HOUSES, CARRIAGE SHED, &c.—Persons desirous of tendering for the erection of a number of houses, carriage shed, &c., may see the drawings and specifications, at the Architect's office, Greenwich station, until Monday, 25th September, between the hours of 10 and 5.—Sealed tenders addressed to the chairman of the South-Eastern Railway Company, and endorsed "Tender for houses, carriage shed," &c. are to be delivered at the Architect's office aforesaid, on or before Tuesday, September 26, at Eleven o'clock in the forenoon.—The directors do not pledge themselves to accept the lowest tender.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and Dealers to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Washer Bricks, Oven Tiles, Pan, Flats, Ridge and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

CHUBB'S PATENT INVENTIONS

FOR THE

SECURITY OF PROPERTY FROM DEPREDATION OR FIRE.

THE QUADRUPLE LOCK.

C. CHUBB and SON, of 57, ST. PAUL'S CHURCHYARD, LONDON, having recently secured Patents for several most important improvements in the construction of Locks, respectfully request the attention of Bankers, Merchants, and the public generally, to the subject. The first invention is peculiarly adapted for the security of Bankers' and Merchants' strong-rooms, and other analogous uses. It consists of a combination of four separate and distinct DETECTOR LOCKS in one, all being acted upon at the same time by a single Key with four bits. The main bolts are attached to an eccentric wheel throwing them each way, and to these twenty or thirty bolt-heads may be fitted so as to secure an iron door on every side. The principle of the eccentric wheel has been used some years by C. CHUBB and SON, but by means of the new quadruple arrangement the wheel and bolts are much more effectually secured than hitherto. The QUADRUPLE LOCK, having six tumblers in each set, twenty-four in all, the four stumps in the tumblers being fixed in one circular plate acting on the bolt which fastens the eccentric wheel; and all being acted upon simultaneously by the motion of the four-bitted key, it is utterly impossible, from the extensive combinations, by any false key or instrument, to succeed in opening it. There is also a small Detector Lock adapted, which throws a strong shield over the key-hole, so that, in a Banking establishment, a confidential clerk may carry the quadruple key,—and the principal, having the smaller key, can at all times prevent the fire-proof safe or strong-room being opened unless he is himself present. Notwithstanding the apparent complexity of this Lock, it is really very simple; and all the parts are so well fitted and strongly made, that there exists no chance of disarrangemsnt.

CHUBB'S DETECTOR LOCKS.

A recent modification in the structure of these locks greatly increases their security. The Detector, which was formerly exposed near the key-hole, is now, by a simple but ingenious transposition, placed at the back of the tumblers and on the bottom plate of the lock, so that no instrument inserted in the key-hole can reach it. The locks have all six tumblers, and are made for every purpose to which Locks are applied.

CHUBB'S PATENT LATCH.

The object of this improvement is to give greater security to Latches for Street Doors, and to Spring Locks in general. It is well known that in all kinds of Latches hitherto made, however secure by ingenious construction from false keys, the bolts may be pushed back or lifted by a knife or thin piece of steel inserted between the door and door-post, and the house be thus easily robbed. C. CHUBB and SON'S new Patent completely obviates this evil. The Latch has a bevilled bolt, which, striking against the staple when the door is pushed to, releases a spring to shoot forward the bolt and lock itself, so that it cannot by any means be forced back, and can only be opened by the knob inside or the key outside. The simplicity of action, and its consequent durability, with the security of five tumblers, render this the most complete Latch ever made.

Spring Detector Locks for Drawers, Cupboards, &c., &c., made on the same principle.

CHUBB'S PATENT FIRE-PROOF STRONG ROOMS AND SAFES,

POSSESSING THE FOLLOWING QUALITIES.

MOVEABILITY.—A Strong Room, as generally constructed, cannot be removed: so that, in case of a change of residence, a considerable expense is incurred in again building one; but this loss and inconvenience may be obviated, and perfect security obtained, by an Iron Room constructed on the principle of this Patent, which can be taken down, removed, and put together again with little trouble.

FIRE-PROOF.—These Patent Rooms and Safes have the power of resisting most intense heat, so as to be Fire-proof, in consequence of the use of certain non-conductors, as has been proved by enclosing papers and parchments in a Patent Box, made on the same principle, and exposed in the furnace of a steam-engine, where it became red hot, and remained in that state a considerable time, without any injury to the contents.

STRENGTH.—The Rooms and Safes are made entirely of wrought iron, most securely fastened together on the inside; of thickness and strength sufficient to resist any violence; and lined with hard steel plates, which render ineffectual the application of any drill, spring-saw, or file.

SECURITY.—The Doors of the Rooms and Safes are fitted with large Patent Detector Locks, which throw ten bolts round each door. A strong case-hardened Patent Scutcheon Lock, with a small key, is fixed over, and protects the key-hole of the large Lock.

Safes or Rooms constructed on this Patent can be made of any size, so as to suit any recess or apartment; and their interior may be fitted up with shelves and partitions according to any plan. Several Strong Rooms have been recently made for Bankers in London, other parts of England, Australia, the East Indies, and America.

Wrought Iron Doors and Frames, for stone or brick rooms, made very strong, with Locks to throw bolts all round, and *Fire-proof Chests* and *Deed Boxes*, for securing valuable papers, in great variety.

CAUTION

TO LOCK MANUFACTURERS AND DEALERS, AND THE PUBLIC GENERALLY.

CHUBB *v.* COOPER AND ANOTHER.

The COURT of CHANCERY having made an order in this cause, restraining the above Defendants, FRANCIS COOPER, of Wolverhampton, Factor, and JOSEPH TAYLOR, of the same place, Lock Makers, their Agents, Servants, and Workmen, from Manufacturing or Selling any Locks or Keys, Stamped or Engraved with the name of Chubb, *or with any other of the Plaintiffs' distinctive Trade-marks, or with any other name or marks imitating or resembling the name or marks* used by the Plaintiffs; and likewise from Manufacturing or *Selling* any Locks or Keys, as and for Locks and Keys made by the Plaintiffs; or in order or so that Locks or Keys made by the Defendants may be re-sold as and for Locks or Keys made by the Plaintiffs; and likewise for copying or imitating in any manner the Plaintiff's Name and Trade-marks, and, Whereas, upon the trial of the cause

CHUBB *v.* DAVIS.

In the SHERIFF'S COURT, BIRMINGHAM, on the 17th April, 1844, the Jury found a verdict for the Plaintiffs, with FIFTY POUNDS DAMAGES, for the illegal use of the Plaintiff's Name and Trade-marks upon Locks not of their manufacture. Now all persons are hereby cautioned against in any manner stamping the Name or Trade-marks of Messieurs Chubb and Son, or either of them, upon any Locks or Keys not of their Manufacture, or selling Locks so Stamped, as immediate proceedings of a similar nature will be commenced against such persons so doing, and full damages will be enforced against them.

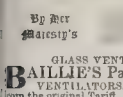
CHARLES CHUBB AND SON,
No. 57, ST. PAUL'S CHURCHYARD, LONDON.
PATENTEES AND SOLE MANUFACTURERS.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 23, Cross-street, Blackfriars-road

ARCHITECTURAL ENRICHMENTS.
BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grosers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceiling, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand

By Her Majesty's — Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.
BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Stainer, &c., and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.



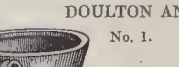
DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, Stove Maker to her Majesty, and Patentee of the above Valve, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly useful public advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.
Prices from 7s. 6d. to 30s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of the stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS
This application of the Vulcanized Caoutchouc prepared expressly for these valves, with layers of canvas and laminated thereon, having now stood the test of two years' trial with perfect success, the Patentees beg to point out some of its many important advantages over the old plug and other taps and valves. First,—The security from leakage, let the pressure be ever so great. Its extreme durability, the parts in contact with the water being free from friction; the case with which it is opened and closed; it never gets stiff or fast for want of use, neither is it liable to injury by frost; they can be made in iron, and at a less cost than any other taps, and are exceedingly well adapted for bath or cistern valves, as in no instance have they been known to fail; many hundreds have been fixed, to which reference can be given with the greatest confidence
THOMAS LAMBERT and SON, Patentees and Sole Manufacturers, 30, New Cut, near the Blackfriars-road, London.

SANITARY IMPROVEMENT.—Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAPS,
Adapted for streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.
The above most important improvement has been extensively tried in the Cities and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF CLEANSING, and are not easily out of order. Manufactured in vari ous sizes, for all purposes, by BUNNETT and COPE, ENGINEERS, 26, Liquorpond-street, London, where specimens may be seen in action, and at the Works, Deptford.
INVENTORS AND PATENTEES OF SELF-ACTING (HOT OR COLD) TRAPPED PAN AND VALVE WATER-CLOSETS;
(A most successful combination of the above principle, with other patented improvements.)

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

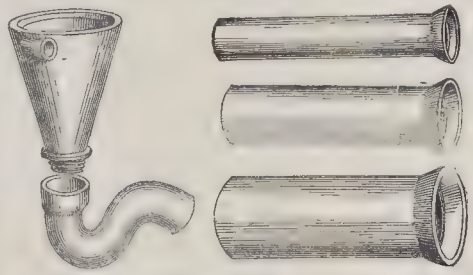
Bends and Junctions equally low.
N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. HOSKER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

UNDER BRITISH AND FOREIGN LETTERS PATENT.
VALUABLE INVESTMENT, by Partnership or otherwise.—Absorbent and soft Stone indurated, rendered impervious to wet, frost, vermin, &c., and polished as high as Marble, for all purposes. Chalk, Sand, Plaster, Wood, Carton-Roof Sheeting, &c., treated equally as successful. Established Works, a la Maladrérie, near Caen, and at Tonbridge Wells; where orders are executed much cheaper than other Stone, &c.—HUTCHISON and Co.'s Offices, East Temple Chambers, 9, Whitefriars-street, Fleet-street, London.—N.B. Licences granted.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.
RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Branch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts. Prices equal to all competition. Contracts taken to any extent.

KIMBERLEY'S PATENT JOINTING AND COMPRESSING SCREW CRAMP.—Architects, builders, shipwrights, coopers, cabinet makers, &c., are requested to direct their inventive attention to this essential article, being an invention so effective as to render it unnecessary to present them with a cramp with every quality for their daily use, in half the size, with three the power, and with a reduction in labour of full one hundred per cent less than any other cramp known at the present day. Its construction is simple and its power great, given to the mere pull that a common wheel chain affords, or by the powerful screw. It is applicable in all cases where two bodies require a fixity and perfect union; and in the laying of floors compresses the joints so gradually and truly together that the planes are seen undisturbed when the plane has passed over them. It does not require the man using it to rise from his knees, as others do; and if necessary can be left with its full pressure upon it, unattended, and in perfect safety. Its merits have been tested by many builders of extent and eminence in various parts of the kingdom, and the Patentee has the pleasure to say their opinions, without exception, have been highly and truly appreciative. It is contrived in but few parts, and breakage or derangement appears impossible. Its strength, and truly bearing together, will be found to be the highest recommendations from the practical user entitled, and the Patentee very earnestly invites these trades to its immediate trial, in the full belief that its qualities will render it at once of obvious importance to them, as well as a pecuniary saving in all respects.—May be had at the Patentee's Offices, 57, Inge-street, Birmingham; also at 2, Edward-street, Portman-square, London.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1761.
Water Closet Pans, with Syphon Traps, 7s. 6d. each
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.

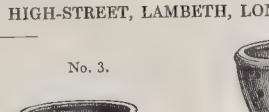


3 in. bore, 5d. | 4 in. 6d. | 6 in 8d. | 9 in. 1s 1½d. | 12 in., 1s 10d. | 15 in. 3s. 4d. per Foot.

N B. These are made without the discharge-hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.
Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



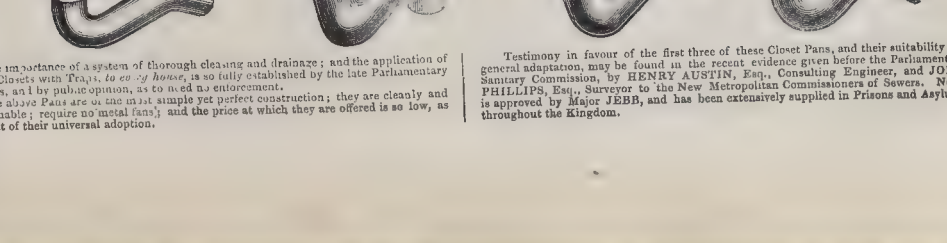
In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.
TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their adoption they will be confirming a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH,
MANUFACTURED BY
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Stamford, 7th September, 1848

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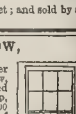
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A YOUNG MAN, aged 18, having served his time to an Architect, is in want of EMPLOYMENT Would be glad to enter an architect's, builder's, or any other office, where he could make himself generally useful, and get a small salary for his services.—Address, post-paid, to E. R., 14, Beaufort-street, Chelsea.

TO ARCHÆOLOGICAL SOCIETIES AND OTHERS.

A CLASSICAL and GOTHIC CARVER in Marble and Stone, who understands architectural and ornamental drawing and modelling, wishes for an ENGAGEMENT. He would undertake the restoration of old monuments in any material.—Address to H. S., 18, Wellington-road, St. John's Wood, London.

TO ENGINEERS, CONTRACTORS, &c.

A GENTLEMAN, who is a good surveyor, leveller, draughtsman, colourist, can set out curves, stake out the line, &c., and competent to take out quantities for calculation of earthwork, according to the most accurate methods, is desirous of EMPLOYMENT in any capacity (at home or abroad) in which he can be useful.—Address, ALPHA, care of Mr. White, 22, Great Ormond-street, Queen-square.

TO BUILDERS.

A SURVEYOR, of many years' practice, will be happy to EMPLOY any Builder, or respectable Tradesman in the Building Line, to execute work for him, who will take out one moiety in measuring, estimating, and drawing, and the other in cash.—Address, A. Z., Mr. Dixey, Optician, 241, Oxford-street

TO ARCHITECTS.

THE Advertiser, having been three years with an Architect, is desirous of an ENGAGEMENT for two or three years in an Office either in town or country, where he will have an opportunity of further improvement. A moderate remuneration would be accepted, and at the expiration of the above term an arrangement might be made for purchasing a portion of the business. References will be given and expected.—Address, J. M. H., 14, Devonshire-square, Bishopsgate.

TO ARCHITECTS AND ENGINEERS.

THE Advertiser is desirous of meeting Gentlemen who require coloured Architectural Designs, Perspectives got up and coloured in the neatest style for competitions, at moderate terms. The Advertiser further begs to state that he makes a consideration in his charges, should the competition prove unsuccessful.—Address, Mr. EDWARDS, 16, Woodstock-street, Bond-street.

TO ARCHITECTS—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

TO ARCHITECTS, ENGINEERS, SURVEYORS, BUILDERS, &c.

M. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to offer his services for that purpose, promising that any orders he may be intrusted with will be promptly attended to. It answers admirably for multiplying Tracings. Lithographic Printing Office, 15, Cheapside, London.

WANTED, a PAIR of EDGE STONES, for Mortar Grinding, with cast-iron Saw, Rakes, and all gear complete for use. Offers, stating price and where to be seen, addressed to A. B., 4, St. Paul's-road, Camden Town.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

UNDER BRITISH and FOREIGN LETTERS PATENT.—Capitalists are invited to inspect the secure and profitable investment in HUTCHISON and Co.'s INDURATED and IMPERVIOUS STONE, CHALK, SAND, PLASTER, WOOD, and CARTON-ROOF SHEETING WORKS. Paving in diamond courses, supplied at Haverly Quarry, Tunbridge Wells, at 6d. per foot superficial, perfectly compact and impervious. Other orders executed. Also à la Maladrerie, near Caen, France. Chief offices, East Temple-chambers, 2, Whitefriars-street, London, where specimens and particulars may be seen Licenses granted also for Hutchison's patent saw frames.

COMPOSITIONS for WRITING with STEEL PENS.—STEPHENS'S WRITING FLUIDS compose the most splendid and durable colours, and the most indelible composition which are to be produced. The present of a BLUE FLUID, changing into an intense black colour. PATENT UNCHANGEABLE BLUE FLUIDS, remaining a deep blue colour. Two sorts are prepared, a light and dark blue. A superior BLACK INK, of the common character, but more fluid. A superior CARMINE RED, for contrast writing. A liquid ROUGE CARMINE, for artists and contrast writing, in glass bottles. A carbonaceous RECORD INK, which writes instantly black, and being proof against any chemical agent, is most valuable in the prevention of frauds. A liquid MECHANICAL and ARCHITECTURAL DRAWING INK, superior to Indian ink. Marking inks for linen, select steel pens, inkholders.—Prepared by the inventor, HENRY STEPHENS, 54, Stamford-street, Blackfriars, and sold by booksellers and stationers everywhere, in bottles, at 1d., 2d., 3d., 6d., 1s., and 3s.

SCHOOL of ART.—INCORPORATED SOCIETY of BRITISH ARTISTS.—Suffolk-street, Pall-mall East.—The SEASON, 1848-9, will commence on MONDAY, the 25th September.—For particulars and admission apply to the Secretary, at the Society's Rooms, Suffolk-street, Pall-mall East. Subscriptions and donations received by the Treasurer, Mr. Tennant, 1, Adam-street, Adelphi; and the Society's Bankers, Messrs. Ransom and Co., Pall-mall East.

Suffolk-street, Pall-mall East. A. CLINT, Secretary.

LONDON MECHANICS' INSTITU- TION, 20, Southampton-buildings, Chancery-lane. PRACTICAL GEOMETRY. A new course of instruction has just commenced in the above science, under the direction of Mr J. S. HATTERSLEY. The present class will meet every TUESDAY evening, during the course, at Eight o'Clock precisely. Members and non-members desirous of joining the above are requested to apply to the Secretary. JOSEPH ASH,

September 20, 1848. Honorary Secretary.

ROYAL POLYTECHNIC INSTITU- TION.—An ENTIRELY NEW PHANTASMAGORIA, by CHILDE, on a magnificent scale, for the MICHAELMAS HOLIDAYS, Mornings and Evenings, in addition to various other OPTICAL EFFECTS. The CAUSE of the FATAL EXPLOSION in ALBANY-STREET explained, and illustrated in a Lecture by Dr. Ryan; also the New Patent GAS APPARATUS of Stephen White, Esq. A Lecture on the HISTORY, USES, and MANUFACTURE of GUTTA PERCHA, by Dr. Bachhoffner. DIVER and DIVING-BELL WORKING MODELS explained.—Admission, 1s.; Schools, half-price. New Catalogue, 1s.

CONTRACTS.

NOTICE to BUILDERS.—The Commanding Royal Engineer, London District, HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance office, Pall Mall, London, on or before the 2nd October next, for the CONVERSION of a PORTION of a BUILDING into a SCHOOL-ROOM, at Croydon Barrack.—Specification, with plans, &c., for the above work may be seen, and forms of tender obtained at the Royal Engineers' Office, 11, James-street, Buckingham-gate, daily, between the hours of Ten and Four o'clock, until the 30th September, 1848.

Royal Engineers' Office, 11, James-street, Buckingham-gate, 14th September, 1848

TO ENGINEERS AND MILLWRIGHTS.

THE Belfast Harbour Commissioners will receive PROPOSALS for CONSTRUCTING and ERECTING a WROUGHT IRON SWING or TURNING BRIDGE over the entrance to the Basin, in front of the Graving Dock. Sealed tenders, addressed to Chairman of Commissioners, and endorsed "Tender for Bridge," will be received up to Twelve o'Clock on Tuesday, the 3rd October next. The Commissioners do not bind themselves to accept the lowest tender.—The plans and specification can be seen on application at the office of Messrs WALKER and BURGESS, Great George-street, Westminster.

EDMUND GETTY, Secretary.

Harbour Commissioners' Office, Belfast, 5th Sept., 1848.

TO BUILDERS.

BUILDERS willing to TENDER for the ERECTION of TWO HOUSES on the Bedford Estate, Camden town, may inspect the Drawings and Specification, and obtain further particulars, after Wednesday next, between the hours of Ten and Five, at the Office of the Architect, Mr. C. H. HOWELL, 5, Lincoln's-Inn Fields, to whom the Tenders are to be sent on or before the 18th day of October next. The acceptance of the lowest Tender will be optional.

TO BUILDERS

PERSONS wishing to CONTRACT for RAISING a STORY on the HOUSE, No. 43, Farringdon-street, and 79, Holborn hill, and other works, may see the plan and specification at the offices of Mr. JAS. WARSTAFF, Surveyor, Highbury Lodge, Islington; or on the premises, between the hours of Ten and Four, until Friday next, the 29th instant, on which day the Tenders are to be delivered at the above offices at Six o'clock in the evening. The proprietor does not bind himself to accept the lowest Tender

TO BUILDERS AND OTHERS.

PERSONS willing to Contract for the ERECTION of a new BUILDING, for the purposes of the READING SAVINGS BANK, may see the plans and specifications at the office of Mr. JOHN BILLING, Architect, Reading, from the 25th to the 30th instant. The Committee do not engage to accept the lowest tender. Proper security will be required for the execution of the works. Tenders will be received by the Committee at the Savings Bank, Friar-street, Reading, at One o'clock, on Monday, the 2nd of October next.

Reading, Sept. 20, 1848. GEORGE HAWKES, Jun., Secretary.

TO BUILDERS.

UNION WORKHOUSE for 500 Inmates. —Persons desirous of Contracting with the Board of Guardians of the Ernsthaun Union for the BUILDING, in Beckton West, a UNION HOUSE for 500 Inmates may inspect the working plans and specifications at the office of the Clerk of the Union, at Southrepps, near North Walsham. Brick, earth, lime, stones, and sand may be obtained near the site. All tenders for the performance of the work to be sent free to the Clerk before Saturday, the 7th day of October next, marked "Tender for Building." The Guardians do not pledge themselves to accept the lowest tender. Security will be required for the performance of the work.

By order of the Board, JAS. S. PLUMBLY, Clerk.

Southrepps, 8th September, 1848.

GUILDHALL, September 15, 1848.

THE Committee for Letting the City's Lands will MEET at Guildhall on WEDNESDAY, the 27th day of September instant, at Two o'Clock precisely, to receive TENDERS for LETTING on Lease, for twenty-one years from Michaelmas next, a House, No. 14, on the the north side of Broad-street-buildings; a House, No. 38, on the south side of Broad-street-buildings; and a House, No. 38, on the south side of Upper Thames-street. Also, to receive tenders for letting on a building lease for eighty years, from Michaelmas next, a large Plot of Ground on the east side of Puddle dock, on the south side of Upper Thames-street, and on the north side of Bishopsgate-street, Chiswell-street; and three others, Nos. 15, 17, and 18, on the east side of the said street; a House, No. 35, on the south side of Chiswell-street; and a House, No. 32, on the south side of Chiswell-street. Also, to receive tenders for a lease of Two Houses, Nos. 4 and 5, on the east side of Type-street; and for a lease of Three Houses, Nos. 23, 24, and 34, on the north side of Ropemakers'-street; and for a lease of Four Houses, Nos. 25, 26, 27, and 28, on the north side of the said street, and including Eight Houses, Nos. 1, 2, 3, 4, 5, 6, 7, and 8, in Staple's-court, Nos. 1 and 2 Ropemakers'-street, for the term of nineteen and a quarter years (less three days) from Michaelmas next.—Further particulars may be obtained, and plans seen, by applying at the Office of Records, Guildhall.

THOMAS SAUNDERS, Comptroller.

TO BUILDERS AND OTHERS.

TO BE LET, by TENDER, on a REPAIRING LEASE, ELEVEN HOUSES, situate in Bishop's-court, Aylesbury-street, Clerkenwell. The Premises will be required to be put into substantial repair, and Tenders, specifying the amount of it, and the amount which the Lessee will undertake to spend in repair, with references, must be sent in on or before Wednesday, the 27th inst., at Twelve o'clock, addressed to Mr. SHAW, Surveyor's Office, Christ's Hospital, where further particulars may be obtained. The Lessee will not bind himself to accept the highest tender. Possession of the Houses numbered 9 and 11 may not be had till Lady Day, 1849; of the Houses numbered 1, 2, 3, 4, 5, 7, 10, till Midsummer, 1849; of the House numbered 6 till Michaelmas, 1849; possession of the House numbered 8 can be given on the completion of the contract for a lease.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY.

[illegible] SYDNEY SMIRKE, Esq. A.R.A.

[illegible] Esq. F.S.A. [illegible] Esq. F.S.A.

[illegible] are allowed on [illegible] the annual premium [illegible] the end of life. [illegible] Prospectuses, forms of proposal, &c., may be had at the Office, [illegible] and of the Agents.

AGENTS WANTED for those towns for which appointments have not yet been made. JOHN REDDISH, Manager.

SCOTTISH PROVIDENT INSTITUTION.—Edinburgh, Glasgow, Manchester, London.—for MUTUAL LIFE ASSURANCE, with these peculiar advantages: [illegible]

[illegible]

Reports, forms, and every information may be had of the Secretaries.

Edinburgh Office, 14, St. Andrew's-square. London Office, [illegible]

SCOTTISH EQUITABLE LIFE ASSURANCE SOCIETY. Incorporated by Act of Parliament. Established 1831.

PRESIDENT.

His Grace the Duke of BUCCLEUCH and QUEENSBERRY, K.G.

MEDICAL OFFICER.

JOHN LAURIE, Esq. M.D., 12, Lower Berkeley street.

View of the progress and situation of the Society since its institution:

	Amount Assured.	Annual Revenue.	Accumulated Fund.
At 1st March, 1838	[illegible]	[illegible]	[illegible]
Ditto 1843	[illegible]	[illegible]	[illegible]
Ditto 1848	[illegible]	[illegible]	[illegible]

The SCOTTISH EQUITABLE being a MUTUAL ASSURANCE SOCIETY, [illegible] Proprietary Companies, divided [illegible] the Companies and the assured. The WHOLE belong to the policy holders.

A POLICY for 1,000l. effected on the 1st March, 1832, is now increased [illegible]

The SEVENTEENTH Annual Report, Forms of Proposal, and all other information, may be had on application at the Society's office, [illegible] street, London. WM. COOK, Agent.

UNION ASSURANCE SOCIETY.

FIRE. LIFE. ANNUITIES.

Cornhill and Baker-street, London; College-green, Dublin; and [illegible] Hamburgh.

INSTITUTED A.D. 1714.

WILLIAM NOTTIDGE, Esq. Chairman. NICHOLAS CHARRINGTON, Esq. Deputy-Chairman.

LIFE.—By the plan of the Union Society the profits are calculated upon the sum insured, and not upon the amount of premium [illegible], thus giving a most important advantage to young and middle ages; and for advanced lives the tables of the Union offer [illegible] rates of premium. All new assurances [illegible] also much reduced on [illegible]

[illegible] of the extended system of Life Insurance [illegible] only two-thirds of the premium [illegible]

Loans granted on the policies of this office.

THOMAS LEWIS, Secretary.

The system of returning profits on Fire Insurances was adopted at the foundation of the Union Society in the year 1714.

*** Agents desired in places where none are at present appointed.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.

DIRECTORS.

Henry E. Bicknell, Esq., 23, Upper Bedford-place. [illegible] Esq., Newington. [illegible] Esq. M.P., Charing cross. [illegible] Esq. [illegible] Esq. [illegible] Esq., Mill-bank-street. [illegible] Esq. [illegible]

Jos. Henry Goodhart, Esq. Upper Tooting. Thomas Grissell, Esq., York-road, Lambeth. James Hunt, Esq., 31, Parliament-street, Westminster. John Arscott Lethbridge, Esq., Greenwich Hospital. E. [illegible] Esq., Millbank. [illegible] Esq., Millbank-street. John B. White, Esq., Millbank-street, [illegible] Joseph Carter Wood, Esq., Artillery-place, Westminster.

[illegible] IMMEDIATE ANNUI[TIES] [illegible] Fine in their [illegible]

[illegible] BORROWERS [illegible] offering Peculiar Advantages [illegible] and security against the [illegible]

ARTHUR SCRATCHLEY, M.A., Actuary.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79 King William-street, City.

The CHISHOLM, Erchless Castle, Inverness-shire, and Chapel-street, Grosvenor-place, London, Chairman.

RICHARD HARTLEY KENNEDY, Esq., late Physician General [illegible] Oriental Bank, Kensington [illegible]

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY.

[illegible] approved principles of [illegible] credit for half the amount of the first five [illegible] profits will be [illegible] the year 1849 [illegible] entertained involving the contin[gency] of human life.

INDIA AND LONDON LIFE ASSURANCE COMPANY.

[illegible] the laws of health, persons may stay part of [illegible] be taken consistently [illegible] the peculiar station of the [illegible] affording great advantages to parties [illegible] short periods, with the option of continuing for the remainder of life.

[illegible] whether afflicted with mental or bodily [illegible]

[illegible] military officers and civilians in [illegible] other parts of the world [illegible] and endowments for widows and children.

[illegible] A. R. IRVINE, Manager.

[illegible]

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages [illegible] CHARLES JAMES THICKE, Secretary, [illegible] New [illegible]

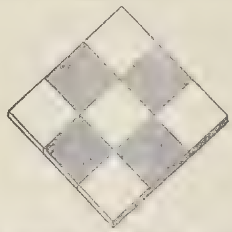
LONDON ASSURANCE CORPORATION, LIFE, FIRE, and MARINE ASSURANCE.—Established by Charter [illegible] A.D. 1720.—Offices, 7, Royal Exchange, Cornhill, and 10, Regent street.

JOHN LAURENCE, Secretary.

WORCESTER ENCAUSTIC TILE WORKS.—The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 3d. per square foot; "Seconds," at 9½d.—N.B. These Tiles being manufactured by exact imitation of the ancient specimens, are [illegible] for the restoration of ancient Churches and Buildings [illegible] affords Architects and others the means of adopting a very beautiful [illegible] at the ordinary cost of stone. All arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London at Messrs. GRIFFIN and GRELLIER'S, Marble Wharf, Belvedere-road, Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK and TILE MACHINE COMPANY. James Smith, Esq., of Deanston, Chairman. [illegible] Improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Stirling [illegible] manager in the [illegible] of Mr. John Ainslie [illegible] the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway; and two miles of the Paddington station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 185, Buchanan-street, Glasgow; Mr. Robert Charles, [illegible]; Messrs. Pennycook and [illegible] Penkridge, Staffordshire; Messrs. [illegible] and Sons, Dublin; and Mr. John Cotter, Newcastle, Limavady, County Derry.



	In London	At Tunstall
Blue and Red Squares, 6 inch and 1¼ thick	[illegible] per yard	[illegible]
Ditto ditto 7¼ and 1¼ at 2 [illegible]	[illegible] per yard	[illegible]
Ditto ditto 9 and 1¼ at 3s. [illegible]	[illegible] per yard	[illegible]

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for reference, also Testimonials respecting a MATERIAL which, when well wrought, is probably superior to every other for drains or conduits (as glass, or artificial glaze, cannot be), for sinks, hips, valleys, and every part of roofs, for plain or chequered paving, for [illegible] and other [illegible] works, &c. To be had GENUINE of THOMAS PEAKE, proprietor of "Peake's Terro-Metallic," No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure, as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A [illegible] in the best manner, and [illegible] CHUBB'S PATENT DETECTOR LOCKS [illegible] FIRE-PROOF SAFES [illegible] every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.



T. PUGH'S REGISTERED RIM LOCK.—T. PUGH and Co. beg to invite the attention of Architects, Builders, and others, to the above Rim, Drawback, and Desk Locks and Latches, in either brass or iron, possessing great advantages [illegible] usual Rim Lock, and also in the quality and [illegible] at very moderate prices; each lock is warranted perfect and complete, with patent shifting spindles.—To be had only of T. PUGH and Co., 13, King street, Snow-hill, City, at their [illegible] Warehouse, where they keep an extensive and [illegible] mortice [illegible] and latches, plain, half rabbeted, and rabbeted; porcelain, glass, ivory, buffalo horn, wood, and all kinds of fancy mortice lock furniture; all goods of the best manufacture, and of the same description as they have been accustomed to send out for upwards of the last twenty years.

PRO BONO PUBLICO.

CAUTION to Purchasers of FIRE-PROOF DOORS for strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c. that he can supply them with IMPROVED DETECTOR LOCKS for universal purposes. STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong room doors and safes have now been put up with not a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement [illegible], enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof folding-doors [illegible] made expressly for a banker's strong room, may be viewed at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabitted frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 3 feet 3 inches wide and upwards, price 10l. each, always on hand at LEADBEATER'S MANUFACTORY, 25, ALDERSGATE STREET, LONDON.

RICHARD A. C. LOADER respectfully solicits all parties about to furnish, to inspect his stock, which will be found to consist of the newest designs of furniture, of the best seasoned materials.

	£	s.	d.
Spanish mahogany easy chairs, in real morocco leather, spring seats, with continuation mahogany mouldings to the backs	2	12	0
Mahogany sweep back chairs, with Trafalgar seats, stuffed with all best horse-hair	0	14	6
Sets of six and two elbow mahogany roll over top Trafalgar chairs, in hair seating	5	5	0
Solid rosewood cabriole drawing room chairs, all hair stuffing	0	18	6
Rosewood couch to match, with cabriole front, spring stuffing	4	17	6
Solid rosewood chairs, stuffed, and covered in damask	0	13	6
Four-foot solid mahogany loo table, French polished	2	12	0
Four-foot fine mahogany loo table, with star top, very elegant	4	14	6
Five-foot lath or sacking bottom four-post bedstead, with eight-foot mahogany pillars and cornices, or poles	4	14	6
Four post mahogany bedstead without cornices	2	12	6
Japanned French bedsteads, all sizes and colours	1	3	6
Superior ditto	1	9	0
Mahogany half-tester bedstead, with cornices	3	10	0

RICHARD A. C. LOADER, 24, PAVEMENT, FINSBURY, LONDON.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements. Kitchen Floors (particularly where it [illegible]). Granaries [illegible]. Coach-houses and Stabling.

Dog-kennels. Barn Floors. Granaries. Tap-room Floors. Malt-house Floors. Piggeries, &c. &c.

Covering of Railroad and other Arches. The only effectual mode to prevent the percolation of water, which also renders it appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

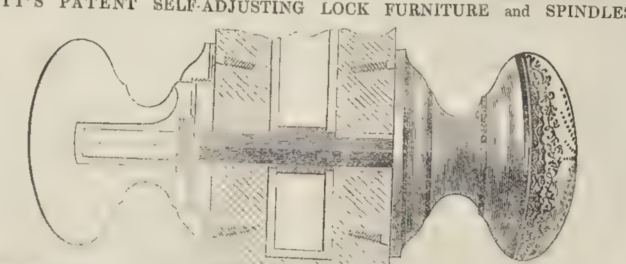
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with [illegible] dispatch.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the [illegible] used.

Information [illegible] Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of spurious one.

I. FARRELL, Secretary, Seyssel Asphalte Company, Stangate, London.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but draft [illegible] in them, and will therefore adjust themselves to doors of different thicknesses, without alteration [illegible] screw in the neck of the knob, [illegible] the door from being [illegible] knob, and consequently there is less [illegible] of the [illegible] by which the knobs are secured to [illegible] the action also is more pleasant than with the common rosette [illegible] spindles [illegible] from the necks, and the liability of breakage in [illegible] fixed, and are suitable for every description of Door Lock [illegible] and Ornamental China, Crystal, Amber, and Opal Glass, Brass, [illegible] HART and SONS, [illegible] Wych street, Strand, London, [illegible]

N.B. PITT'S PATENT SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture with such Side Screws would be an Infringement of the Patent.

COOZE'S IMPROVED MARBLE PAPERS. The Trade are supplied with these beautiful Papers, wholesale, at the Manufactory, 9, W. C. ROAD, the Queen's Head, Pimlico, by Her Majesty. They will be found fully equal, in effect, to paint and gilding, at a considerable saving of expense. W. W. C. invites an inspection of the above, at No. 29, Frith-street, Soho-square, where he has recently erected extensive premises for the manufacture of Papers, which are executed on the most economic terms. Contracts taken and work executed in any part of the United Kingdom. 29, Frith-street, Soho-square.

PAPER-HANGINGS, CHEAPEST IN LONDON. — Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English, Rolls 24 inches, at 2d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Orders forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, Borders, Friezes, Marble, &c. cheap. Terms, cash. Established twenty years. W. CROSBY, 42, Lowther Arcade, Charing Cross.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of new varieties of Paper-hangings of the most possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Ornamental Paper-hangings now on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 86, REGENT-STREET and 121, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Roll-up or Revolving Wood and Iron Shutters, under eight Methods of Raising and Lowering Shutters, without Machinery, and Twelve Methods of Sheathing the Edges of Wood Rolls with Iron. The Patentee has now fixed a new Shutter, in all the above forms, at the Prince of Wales's Coffee-House, Princes-street, Leicester-square, which he would be happy to show to Parties desirous of adopting the Safety Shutter. Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and ironmongery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

The Shutter is the strongest, safest, and most durable ever offered to the Public, and is recommended by the Patentee as superior to any other Revolving Shutter for durability, security, and simplicity, without the expense of complicated machinery employed by other makers.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c. FOR SHOP FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboards handsomely engraved. Metal works and ironmongery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price. Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office of the Patentees, 26, Lombard-street, London; and at the Works, Deptford, Kent.

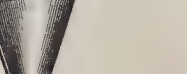
SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of BUNNETT'S PATENT SELF-ACTING EFFLUVIA TRAPS. Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF-ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, 26, Lombard-street, and at other specimens may be seen in action, and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING AND SELF-TRAPPED PAN AND VALVE WATER-CLOSETS.

A most successful combination of the above principle, with other patented improvements.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of SALT GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices

Straight Barrel Pipes, with Socket Joints, in 2 ft. Length

2 in.	3 in.	4 in	6 in	9 in	12 in
4d.	5d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limehouse, Limehouse.

CHEAP SELF-ACTING WATER-CLOSET, in ENAMELLED IRON-WARE. This durable, cleanly, and effective apparatus, ensures the use of a given quantity of water, and the complete flushing of the trap at each action of the closet. It may be seen at the manufactory of THOMAS LAMBERT and SON, 18, Jews's-row, Old Public Wash Cocks, Short-street, New-cut, near Blackfriars-road, London.

FIRE BRICKS.—To GAS COMPANIES, ENGINEERS, SHIPPERS, and Others.—One of the best Newcastle Fire Bricks have been assigned to WARD and HART, for immediate sale, at a very low price, to pay freight and charges. The price is an enormous sacrifice to the supplies the Inland Gas Companies, are full size and first-rate quality, and must be sold on account, as expected daily.—Bonded at Wharf, Paddington, London.

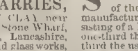
FIRE BRICKS, LUMPS, QUARRIES, &c., from the celebrated WORTLEY BED of CLAY, near Leeds. A cargo of which is now on view at the Corn Stone Wharf, Rotherhithe, are extensively used in Yorkshire, Lancashire, Derbyshire, &c., by some of the principal gas, iron, and glass works, and the proprietors have no doubt but they can supply them on such terms in London, as will meet the approbation of parties using such articles. The bricks, &c., can be seen, and every information as to price, &c., obtained, by applying to SAMUEL COOPER, Corn Stone Wharf, Rotherhithe, or to the Farnley Iron Works, near Leeds, Yorkshire.

RIDER'S RAILWAY BRIDGE. — To Railway Companies.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be forwarded, and contracts entered into, or licenses granted for its erection, on application to Mr. MOULTON, Bradford, Wilts.

TO BRICKMAKERS, POTTERS, AND LIMEBURNERS.

SWAIN'S PATENT KILN.—The attention of the above is drawn to a most valuable Invention in the manufacture of Bricks, Drain Tiles, and all kinds of Pottery, consisting of a Kiln, constructed on Scientific Principles, to burn with one-third the quantity of Coals at present required, and also in a third the usual time, thereby enabling the Manufacturer, from the great saving of both Fuel and Labour to supply to the Consumer at a considerably Reduced Price, and realise a Large Profit himself. Particulars may be obtained by application to Mr. CHARLES J. BAKER, 18, Lower Brook-street, Grosvenor-square, London; or to the Patentee, W. SWAIN, Brickmaker, Westonbury, near Leominster, Herefordshire, where a Kiln can be seen in operation.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, Isle of Wight,
ROYAL BOTANICAL GARDENS, Regent's Park

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT; samples with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to send their orders DIRECT to the FACTORY, as the surest and most expeditious supply both the purchaser, and in the best suited to their roofs. There is NO AGENCY. CAUTION!! AGAINST REPRESENTATION, and F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL ROW LONDON.

Roofs covered with the felt to be seen at the Factory, also the new Victoria Law Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 18, HIGH STREET, LAMBETH, LONDON. Established 1751.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimation, superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and superior glaze far surpassing any other manufactured of Brown Stone Ware.

May be inspected at Messrs. GLADDISH'S LIME WHARFS, Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Dauver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON and CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in 3s.	18 in. here 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession, generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH, MANUFACTURED BY DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1.

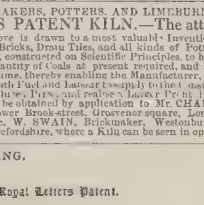


No. 2.



No. 3.

No. 4.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and unpurchasable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

ISLINGTON.—TO BUILDERS.

TO BE LET, an Excellent FAMILY RESIDENCE for many years occupied by the late William Knight, Esq., containing large dining, drawing, and breakfast-rooms, numerous bed and dressing-rooms, and every necessary domestic office for a respectable family. There is also a coach-house and five-stall stable attached, capable of being converted into premises for a builder.—For particulars apply at Mr. JAMES WAGSTAFF'S Offices, Highbury Lodge, Islington.

ISLINGTON.—LAND to LET for Building Third or Fourth-rate Cottages, at 3s. per foot Frontage. The sewers are made, and the road formed. Bricks on the spot, and may be had at a rent on the ground. Lease, eighty-six years.—Apply to Mr. W. T. KING, Architect, &c., 21, Manchester-terrace, Liverpool-road

N B. A large quantity of Bricks for Sale cheap

ISLINGTON.—BUILDING LAND to LET, fronting the High Road, for Detached Villas in pairs, handsomely constantly passing, and any one wishing to build second or third-rate houses for their own occupation or for investment, would find this a decidedly desirable opportunity, as the ground is level and all the roads they are finished.—Apply at No. 5, Devonshire Cottages, Green Lanes, at the Nearest-hou Money and materials advanced if required

CANONBURY.—TO BE LET, an excellent FAMILY RESIDENCE, for many years occupied by the late Wm. Knight, Esq., with large drawing, dining and breakfast rooms, numerous bed and dressing rooms, and every convenience for a first-rate family. There is a coach-house and five-stall stable, with other out buildings, and well adapted for a builder of eminence.—For particulars apply at Mr. JAMES WAGSTAFF'S Offices, Highbury Lodge, Islington.

BUILDING LAND, HARROGATE.— A general plan for extensive building operations has been laid down, by direction of the Chancellor and Council of the Duchy of Lancaster, for the erection of all the most agreeable situation best building land available in and around Low Harrogate, and in the immediate vicinity of the principal medicinal springs, and of the railway station. The land will be let on lease for a term of 99 years, on lease, directly from the Duchy of Lancaster, on very moderate ground rents.—Plans and part culars may be obtained on application, by post or otherwise, to SYDNEY SMIRKE, Esq., the Surveyor-General of the Duchy, No. 24, Berkeley-square, London. —Railway communication is now established with Harrogate from all parts of the country.

ADVANTAGES TO BUILDERS, &c.

THE second portion of a very important BUILDING ESTATE TO BE SOLD by PRIVATE TREATY, for the erection of a superior class of Houses, which are much wanted and will let readily. The land is nearly 9 acres, freehold, and has a fine and open aspect. The views extend over a rich variety of the society of the neighbourhood first-rate. Within an hour's ride of London, five minutes' walk from a railway station, and close to an important town. Respectable builders, or persons wishing to build their own houses in a most delightful situation, can be assisted by the owner in building to a reasonable extent easy two-thirds of their outlay, by wishing a few houses to be built before the close of the present summer.

The first portion of the above was eagerly bought up.—Apply to Mr. JOHN DOWNES, Ware, Herts.

SALES BY AUCTION.

5,000 PIECES PAPERHANGINGS, CHIMNEYPIECES, HALF-TON NAILS, QUANTITY SCREWS, BOLTS, &c.

MR. BRAY, Jun., will SELL, at his Rooms, 359, High Holborn, on WEDNESDAY, September 27, at Twelve, upwards of 5,000 Pieces of PAPERHANGINGS, comprising flocks, satins, parlour, bed room, hall and staircase papers.—May be viewed the day prior and morning of sale, and catalogues had.

TO SCULPTORS, MARBLE MASONS, BUILDERS, &c. &c.

IMPORTANT and EXTENSIVE SALE of GALWAY and ITALIAN MARBLE, including 100 blocks of marble, large statuary, available for sculpture, of the finest quality, black, dove, sienna, black and gold, green, &c.; also about 10,000 feet of marble slabs, consisting of black, dove, Bordilla, statuary, sienna, green, St. Anna's, black and gold; veined and Sicilian; marble mortars, vases, sculpture, &c. &c. TO BE SOLD BY AUCTION, by Mr. MARSH, on THURSDAY, September 28, 1848, on Ten for Eleven o'Clock, at the Bridge Wharf, Pimlico, by order of Mr. Franklin, in consequence of his being compelled to quit the premises, the property having changed hands. May be viewed, and catalogues obtained at the depot, and of Mr. MARSH'S offices, 37, Bucklersbury, Mansion-house.—TERMS: Purchasers from the country over 50l., will be allowed their railway expenses. Purchases under 20l. cash, less 5 per cent. discount. Above 20l. and not exceeding 50l., three months approved bills less deposit. Purchasers above 50l., six months approved bills less deposit. Luncheon will be provided.

To Small Capitalists and Others.—Valuable Freehold Property, Wandsworth, giving Votes for the County of Surrey.

MESSRS. EVERSFIELD and HORNE have received instructions to SELL, BY AUCTION, at Garraway's, on TUESDAY, October 3rd, at Twelve for One, by order of the Proprietor, in 17 lots, 37 FREEHOLD COTTAGES, situate at Garratt, between Wandsworth and Tooting, being 1 to 34, Church-street, containing from four to six rooms each; a Gothic COTTAGE, with garden; and a PAIR of semi detached COTTAGES, ornamental elevations, the greater part of which have been built within the last few years, in the most substantial manner, regardless of expense, and are respectably tenanted at very moderate rents, amounting to upwards of 90l. per annum. Also, TWO PLOTS of FREEHOLD BUILDING GROUND, suitable for the erection of several cottages. The district church of St. Mary adjoins the property, and an Artesian well gives an unlimited supply of the purest water. At the same time will be sold a small PIECE of FREEHOLD GROUND in Merton, on the road to Cannonhill. The property will be divided into lots to suit the small capitalist, or members of Building Societies.—Plans and particulars may be had at the Sir Jeffray Dunstan, on the property; the Spread Eagle, Wandsworth; the Angel, Tooting; of Messrs. CHESTER and SON, Solicitors, 1, Church-row, Newington Butts; place of sale; and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

CAPITAL WATER CORN MILL, COTTAGE, GRANARY, COAL and CHALK WHARF, with a comfortable Residence and 3 acres of Meadow Land, at Fingringhoe, only 4 miles from Colchester, Essex.

MESSRS. BEADEL, SON, and CHANCELLOR, are instructed to SELL BY AUCTION, at the Cups Inn, Colchester, on SATURDAY, September 23rd, 1848, at Three o'Clock, without reserve, in one lot, the following desirable property, offering singular advantages to an enterprising young man with a moderate capital:—The FINGRINGHOE MILL, the Residence and Premises for commanding a large business trade. The wharf is close to the mill, and vessels of 70 tons burden can lay alongside. The best Essex wheats are grown in the immediate vicinity, and with water carriage close to the mill, a large export trade may be carried on, and the wharf will enable the occupier to supply the thickly populated district with coal, chalk, &c. The RESIDENCE with SUPERIOR Barn, will be to lease will expire at Michaelmas next, when possession may be had. Five acres of the land, and part of the mill, are leasehold, for a term of 14½ years, from Michaelmas, 1846, at the annual rent of 4l., payable half-yearly, with a covenant for renewal for a further term of 50 years, on payment of a fine of 10l. The rest of the property is copyhold, the yearly value of the tenements for commuting a large income, mortgaged for 2,500l., subject to which the whole property, including the fixtures, rolling gear, and machinery, will be sold with out the least reserve.—Particulars and conditions may be obtained of Messrs. SPARLING, TURNER, and BEADE, Solicitors, Colchester; of Mr. BEADEL, Estate Agent, 35, Gresham street, London; Pl of Sale an of the Auctioneers, Chelmsford, Essex.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

TO BUILDERS, CAPITALISTS, AND OTHERS.

SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND TO BE LET on Lease, for 80 years (land tax redeemed), in the high road leading from Newcross to Lewisham and Greenwich, in the County of Kent, within a short distance of the Deptford Station on the London and Greenwich Railway, for first, second, and third-rate attached and semi-detached Houses. Also several of BUILDING FRONTAGE, on the east side of Florence-road, leading from Newcross-road to the Lewisham road, for fourth-rate attached Houses.—For plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High Road, Deptford.

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS.

TO BE LET (or the Lease to be Disposed of for the unexpired term of Twenty-two years), at No. 8 Wharf, North Wharf road, Paddington Basin, a large and extensive WORKSHOP, with COVERING-HOUSE, and other offices; a spacious Yard, with water frontage, lofty sheds, substantial Timber stages, Saw-pit, and every requisite for an extensive business.—Apply to Mr. D. CROSS, on the premises; or to Mr. D. FERGUSON, No. 14, Staffe-street, Bloomsbury.

MANOR PARK ESTATE, STREATHAM, SURREY.—TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of SIXTY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling; the whole forming a belt round the interior of Manor Park, which from its combination of undulating surface, ornamental water, and well-grown timber, is of singular beauty. Private rides, walks, and drives are intended to be made within the Park. Facing bricks, both White and Red, Stocks and others of an excellent quality, and in any quantities, may be had on the estate, and an allowance will be made in the price where used on the estate. Gravel of a superior description is found in abundance on the ground, and water is laid on. Advances will be made, and other accommodation afforded to respectable builders taking an adequate interest in the property, which is likely to be immediately remunerative to them, from a great and increasing demand for houses existing in this neighbourhood.—For further particulars and Plans and Particulars apply to Messrs. RANKEN, FORD, LANGBURNE, and VICKERMAN, No. 4, South-square, Gray's-inn; Mr. R. L. ROUMIEU, Architect, No. 11, Lancaster-place, Strand; or Mr. WILKINS, at the Manor-park Office, Streatham.

TO MARBLE, STATUARY, AND LYAS STONE MASONS

TO be disposed of, an excellent and long- established BUSINESS in the above line. The premises are well calculated and advantageously situated for carrying on an extensive and profitable trade, being close to the river Parret, navigable *via* Bridgewater to the Bristol Channel, in the county of Somerset, and within two miles of excellent blue Lyas Stone Quarries, from which an inexhaustible supply is obtainable at a very moderate price. The buildings are most convenient, and judiciously furnished with a 10-horse power high-pressure steam-engine, stone, slate, and circular saws, and every other appropriate machinery for the business. There is a good dwelling-house, with all requisite offices, and the rent will be very moderate. The stock comprises a well selected assortment of English and foreign marbles, in blocks and slabs, blue Lyas and other stone, which, with the machinery, are to be taken at a fair valuation. To an active person of ability and moderate capital, the above presents an advantageous opportunity of realising a very handsome return for the same. The present owner who, from other engagements cannot attend to the business, would not object to join a respectable party therein. Further particulars may be had of Mr H. ETHERIDGE, estate agent, Yeovil, Somerset.

RAIN-WATER PIPES, Heads, Shoes, and Elbows, Half-round and O G Gutters, Sash Weights, Railing Bars, Sink and Stable Traps and Gratings, Air Bricks, Coal Plates, &c.; Gas and Water Pipes from ¼ inch to 12 in. in diameter, with Bends, Branches, Syphons, and Lamp Columns; also Hot-water Pipes, with all the usual connections. A large Stock of the above Castings at JONES'S Iron Bridge Wharf, No. 6, Banks's-le, Southwark.

CAMDEN TOWN.—R. FULKES'S RANGE and STOVE MANUFACTORY, 91, Park-street.

Elliptic Stoves, 3d. per inch	Register Stoves, 6d. per inch.
Self-acting Ranges, with Oven and Boiler and Revolving Shelves, 3 ft., 55s.; 3 ft. 6 in., 62s.	Chimney Pots, 1s. 1s. per yard.
Coppers, 1s. 2d. per lb.	Sash-weights, 6s. 6d. per cwt.
Builders' Ironmongery of a'l descriptions equally low.	

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, kitchen-range, and Stove-grate Manufactory 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per inch upwards.
Bright ditto with Black and Bright Bars, 9s. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
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THE HISTORY OF ENGLAND DURING THE THIRTY YEARS' PEACE

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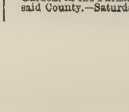
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The Association will be happy to receive any drawings they may be favoured with by the profession, the same to be delivered at the Hall on the day previous.

SCHOOL of ART.—INCORPORATED SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall-Mall East.—The School is NOW OPEN for the Season, at the Gallery, Suffolk-street, Pall-mall East. Artists and amateurs may receive all particulars on application to the Secretary, in Suffolk-street. The first of a Course of Lectures on Human Anatomy will be delivered by J. H. Strickland, Esq., M.R.C.S., on Saturday Evening next, the 30th instant, at Eight o'clock. Subscriptions and donations to the school fund are received at the Gallery, or by the society's bankers Messrs. Ransom and Co., Pall Mall East.

Suffolk-street, September 25, 1848. A. CLINT, Secretary.

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Royal Engineers' Office, 11, James-street, Buckingham-gate, 14th September, 1848.

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Southrepps, 8th September, 1848.

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BONUS.
Thirty per cent. Bonus was added to the Society's Policies on the profit scale in 1845. The next valuation will be in January, 1852.

ANNUAL PREMIUMS WITH PROFITS.

Age 20.	Age 25	Age 30	Age 35	Age 40	Age 45	Age 50	Age 55
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1 17 0	2 [illegible]	2 9 7	2 16 [illegible]	[illegible] 5 9	3 16 [illegible]	[illegible] 10 8	5 7 6

INDIA.
The Society also grants Policies to parties proceeding to or residing in India at lower rates than any other office, the Premiums on which may be payable either in London or at the Society's Office in Calcutta.
Annuities of all kinds, as well as endowments for Children, are granted by the Society.
The usual commission allowed to Solicitors and others.
JOHN CAZENOVE, Secretary.

WHITTINGTON NATIONAL SAVINGS' FUND—PERMANENT INVESTMENT and BUILDING SOCIETY.—Established by Act of Parliament, June, 1847.

TRUSTEES.
Francis Bennoch, Esq.
John Bowring, Esq., LL.D., M.P.
[illegible], Esq.

DIRECTORS.
Chairman—Mr. GEORGE PRATT, 121, Wood-street, City, and 41, Canonbury-square, Islington.
Mr. W. Blackledge, 3, Rupel-street, Cornwall-road.
Mr. Henry Cannon, 16, Castle-street, Holborn.
Mr. G. W. Chinery, Claremont House, Peckham.
Mr. J. E. Clennell, Mare-street, Hackney.
Mr. [illegible], Princes-terrace, Caledonian-road.
Mr. William Hibbitt, 4, Springfield, Wandsworth-road.
Mr. A. Hunter, 260, Regent-street.
Mr. Wm. Nicholes, 27, Brooksby-street, Islington.
Mr. W. H. Preston, 27, Grosvenor-park, Camberwell.
Mr. W. Browning Roberts, [illegible]-street, Adelphi.
Mr. W. H. J. Traice, Westminster Literary and Scientific Institution.
Mr. E. Ward, 31, Richmond-grove, Islington.

SECRETARY.
Mr. GEORGE WAGSTAFF YAPP, 6, Adelaide-road, Haverstock-hill.

The only Society that combines a SAVINGS BANK with a Building Society in one PERMANENT Institution.
The monthly subscription meetings are held on the FIRST TUESDAY in each month, from Seven till Nine o'clock in the Evening, at the Portugal Hotel, Fleet-street, where the secretary also attends on the third Tuesday Evening in the month.
Prospectuses and rules, price 6d., by post 8d., may be obtained of Mr. ENGLAND, Auction Mart, Caledonian-road, King's-cross; Mr. HENRY BRACE, 11, Crown-street, Finsbury; at the Office of the *Nonconformist*, Horse Shoe-court, Ludgate-hill; *Standard of Freedom*, 335, Strand; and at the Portugal Hotel, Fleet-street.
G. W. YAPP, Secretary.

SCOTTISH PROVIDENT INSTITUTION, for MUTUAL LIFE ASSURANCE by MODERATE PREMIUMS. Incorporated by Special Act of Parliament. Established in 1837.
Edinburgh: 14, St. Andrew's-square.
London: 12, Moorgate-street, Bank.

The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. The Premiums are, at early and middle ages, about 20, and in some instances 25, per cent. below those of most other Mutual Offices.

The Society, being Mutual, is free from the necessity of a nominal, or the burden of a real capital. Thus dividends and similar charges on the funds are avoided.

The peculiar and leading advantages of this Office may be thus briefly stated:—

PREMIUMS 20 or 25 per cent. LOWER than in most other similar Offices, at early and middle ages. Thus, the premium of the Policyholder, at age 30, for 1,000l., would, at once, in this Office, assure 1,257l.; which is obviously equivalent to a present and certain bonus of 257l., exclusive of prospective profits.

Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.

The 21 years' scale little exceeds that of most Offices for the whole of life. See table below.

Exemption from entry charges, &c.

The Society is bound by its deed of constitution to make liberal provision for members [illegible] to continue their payments.

The whole profits are divided among the assured exclusively, on a principle peculiar to this office, and which is at once equitable, secure, and especially beneficial to good lives, being entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured. It is evident that much larger profits may thus accrue to the participators than by the usual system of other offices, even though their premiums are considerably higher.

More detailed illustrations of the effects of this principle may be obtained at the offices.

Specimens of Premiums for 100l. for whole Life and for Twenty-one Years. These rates include a prospective share in the whole profits of the institution.

Age.	Payable for whole of Life.	Payable for 21 years only.	Age.	Payable for whole of Life.	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 18 0	2 [illegible] 8	36	2 9 2	3 0 11
26	1 1[illegible] 6	2 11 [illegible]	37	2 9 8	3 2 2
27	1 19 2	2 11 11	38	2 11 3	3 3 6
28	1 19 11	2 12 10	39	2 12 11	3 4 11
29	2 0 8	2 13 8	40	2 14 9	3 6 4
30	2 1 6	2 14 6	41	2 16 8	3 7 10
31	2 2 6	2 15 5	42	2 18 8	3 9 5
32	2 3 5	2 16 4	43	3 0 11	3 11 1
33	2 4 6	2 17 5	44	3 3 3	3 12 10
34	2 5 7	2 18 6	45	3 5 8	3 14 9
35	2 6 10	2 19 9			

All necessary information and forms may be obtained on application at the principal offices in Edinburgh, London, Glasgow, and Manchester, or from any of the provincial agents.
WILMER OWEN HARRIS, Secretary for London.
Office, No. 12, Moorgate-street, September, 1848.

ARCHITECTS', ENGINEERS', and BUILDERS' FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.
CHAIRMAN—SYDNEY SMIRKE, Esq., A.R.A.

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Thos. Leverton Donaldson, Esq.	Anthony Salvin, Esq., F.S.A.
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The rates for both Fire and Life Insurance are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one third till the end of life. Thus large sums may be insured at the smallest present outlay.
Prospectuses, forms of proposal, &c., may be had at the Office, 69, Lombard-street, or of any of the Agents.
AGENTS WANTED for those towns for which appointments have not yet been made. JOHN REDDISH, Manager.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT. Messrs. RUTTY and VEREY'S, 3, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE. Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.
It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.
Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 313 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its perfectly hydraulic properties, adapt it for such purposes as the building of sea and river walls, and the lining of tanks, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely Manufactured by W. ASPDIN, Son of the Patentee. This Cement has been proved, for upwards of twenty years in the Thames Tunnel, to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence expressed in them, as shown by the numerous testimonials received from public bodies and private individuals of the first importance.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystalizing properties, that the coarse quality, when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry.—Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT.—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use, from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.

TODD'S PATENT METALLIC PROTOXIDE PAINT, for Stucco Fronts, Brickwork, Iron, Wood, and every description of Painting. This Paint has been most severely tested for nearly four years, by men of great experience, and has been extensively used under the superintendence of Architects, Engineers, and Surveyors of the greatest eminence. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean-street, Soho, London.

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FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-shafts, Soffits, Bed-moulds, Pateras, &c., &c., 36-inch Centre-Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing. JOHN HERBERT and SON, Modellers, &c., 43, Parker-st., Drury-lane.

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
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IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.
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PATENT REVOLVING SOCKET CASTORS, which for strength, durability, beauty of design, and ease of action cannot be excelled.
REGISTERED CABRIOLE CASTORS, with solid wrought-iron plate, and fine cut taper screw, all in one piece, and not joined together as formerly: this is decidedly the strongest article of the kind that is made.
PATENT SINGLE and DOUBLE-ACTION HOUSE and CARRIAGE WINDOW-BLIND FURNITURE; these combine many advantages over all others, are particularly easy and silent in their action, will effectually retain the blind in any position, are readily affixed, and not liable to be out of order. They are now in use in railway carriages on several lines, and are highly approved.
PATENT SELF-ACTING SAFETY BOLTS, for all kinds of single and double doors of wardrobes, book-cases, French windows, &c. &c., which effectually secure one door at the same time the other is locked, thus removing the inconvenience of the bolts formerly in use.
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PATENT SASH FASTENER, very simple in its action, and combining neatness of appearance with perfect security.
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PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for Liquid Manure. BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
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FLEXIBLE INDIA RUBBER PIPES AND TUBING,
For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature—but are always perfectly flexible—and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and roses complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints on hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

EMERSON'S PATENT LIQUID CEMENT.—This VALUABLE AND ECONOMIC PAINT is ready for use, is simple in its application, and only ONE SIXTH the cost of oil paint, for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT STONE; it can be used at once on fresh Roman cement or other plastering, and is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be at once beautified in any weather, at a mere trifling cost. Sold in casks of 1 and 2 cwt., at 8s. and 15s. each.

PATENT MINERAL PAINT.
A brilliant black paint, invaluable as a coating for SHIPS' SIDES AND BOTTOMS; also for all kinds of WOOD or METAL work, or the asphalte roofing felts, leaky roofs, spouts, and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay,—requires no preparation, and will dry in a few hours.—Price 2s. per gallon.
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CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

Her Majesty's Woods and Forests,	Honourable Board of Ordnance,
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And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 32 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW. Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

OOZE'S IMPROVED MARBLE PAPERS.—The Trade are supplied with these beautiful ers, which are the sole invention of W. W. COOZE, Decorator er Majesty. They will be found fully equal, in effect, to painti at a considerable saving of expense. W. W. C. invites an in tion at his Manufactory, 20, Frith-street, Soho-square, where may be seen designs of every style of decoration, which are exe d on the most economic terms. Contracts taken and work sent to any part of the United Kingdom.—20, Frith-street, square

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, select from a Stock of 20,000 Pieces, of the newest designs, ch and English Bedrooms, 5d per yard; Salins, 3d. per ; Flocks, 9d. per yard. Patterns for approval sent in i or country; and Goods forwarded free of expense. A large unt allowed on taking a quantity. Panel decorations, flowers, ska remarkably cheap. Terms, cash. Established twenty years W CROSBY, 23, Lowther Arcade, Charing Cross

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

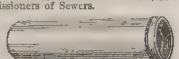
T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PERS, fitted up in panels on the walls of the extensive range partments, built expressly for that purpose; where also is kept xtensive stock of every variety of Paper-hangings, at the lowest ible price and of the best manufacture, in English and French gns, by the best Artists; and where may be had a large assort- t of French and other Continental Paper-hangings always on L.—Builders and large Consumers are particularly invited to above 451, Oxford-street.

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM HIGH-PRESSURE WATER-TAPS,— application of the Vulcanized Caoutchouc (prepared expressly these valves, with layers of canvas amalgamated therein), having stood the test of two years' trial with perfect success, the ntees beg to point out some of its many important advantages the old plug and other taps and valves. First,—The security to be derived from the application of SEYSSEL ASPHALTE. y, the parts in contact with the water being free from friction; ease with which it is opened and closed; it never gets stiff or ed for want of use, neither is it liable to be injured by frost; they be made in iron, and at a less cost than any other taps, and are edingly well adapt for tall or cistern valves, and in no instance they been known to fail; many hundreds have been fixed, to ch reference can be given with the greatest confidence THOMAS LAMBERT and SON, Patentees and Sole Manufac- rs, 30, New Cut, near the Blackfriars-road, Lo don.

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Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

B. Drain-pipes of my Manufacture may also be obtained of rs. Rostrill, at their Lime Wharfs, Albion Wharf, Holland- t, Blackfriars; Millbank-street, Westminster; Kingsland n, Kingsland-road; and Limekiln, Limehouse.

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MANUFACTURER OF
TUBULAR DRAINS, &c. IN GLAZED STONE WARE,
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hese GLAZED and VITRIFIED PIPES are of the same ription and quality as those manufactured at the LAMBETH TTERY, LONDON, and are shipped FREE ON BOARD in the of Liverpool, or placed in trucks on the Liverpool and Man- ter Railway without extra charge.

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RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O Gutters, Socket Pipes for Water Closets, Flush Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens, Lavery description, fitted complete, to be lifted into their parts. Prices equal to all competition. Contracts taken to any extent.

TO BUILDERS AND OTHERS.

RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, with all kinds of taps and gratings, are kept in stock and open coal plates, scrapers, tile lights, balcony panels, barrow wheels, &c. GAS and WATER-PIPES, bends, branches, Tee pieces, syphons and lamp columns; also hot-water pipes for heating buildings and hot-houses, and Flange Pipes, with all the usual connexions. A large stock of the above castings at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Baulkside, Southwark.

CLEANLINESS is necessarily at all times conducive to health; and this, as well as economy, is greatly promoted by substituting for the tedious process of painting with oil, &c., white lead, &c., TEPHILSON'S DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles at 1s. and 2s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied. Sold also at the Office of "The Builder," 2, York street, Covent Garden, London, at 1s. 6d., which places may be had the proper Varnish and Size, with directions for their use.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Rue.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements
Kitchen Floors (particularly where it is essential to keep damps from rising).
Garden Walks and Terraces.
Carriage Drives.
Coach-houses and Stabling.
Dog-kennels.
Barn Floors.
Granaries.
Tan-room Floors.
Malt-house Floors.
Piggeries, &c. &c.
Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

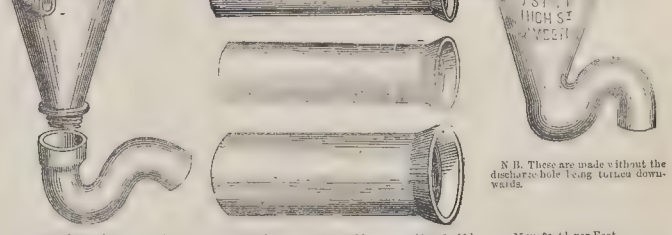
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of spurious ones.

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Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N B. These are made without the discharge hole being formed downwards.

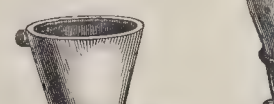
3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. The cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

May be had also at Messrs. GLADDISH'S LIME WHARFS, Pedlar's Acre, Westminster Bridge; City road Wharf, City Basin Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

In question is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and superior glaze for surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 2 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS

TESTIMONIALS from Messrs. Roe and Pinkers, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article

I am, Dear Sir, yours truly,
JOHN PHILLIPS.
Mr. H. Doulton.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all cases recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,
JOHN ROE.
Mr. H. Doulton.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

The importance of a system of thorough cleansing and drainage; and the application of ter Closets with Traps, *to every house*, is so fully established by the late Parliamentary iries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and erishable; require no metal fans; and the price at which they are offered is so low, as dmit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

SYDENHAM PARK.—Several PLOTS of GROUND in this desirable locality TO BE SOLD or LET on Building Leases. Money will be advanced, if required.—For particulars apply to Messrs. DREW and SHADWELL, Solicitors, Bermondsey-street; or to Messrs. ALLEN, SNOOKE, and STOCK, Architects and Surveyors, 69, Tooley-street.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required. To view, apply upon the Premises.

FREEHOLD LAND TO BE LET on BUILDING LEASES, for long terms, for the ERECTION of SEMI-DETACHED VILLAS; the situation is exceedingly good, and well worthy the attention of Builders, as the property would readily meet with purchasers. Money can be advanced if required. Apply, between the hours of two and five, to Mr. JOS. A. BORSLEY, Architect, Brunswick-square.

TO BUILDERS, BUILDING SOCIETIES, AND OTHERS.

VALUABLE FREEHOLD BUILDING LAND FOR SALE, by Private Contract, delightfully situate, and will be divided into suitable plots for the erection of villa residences, which are much sought after in the neighbourhood; the situation is dry and healthy, the views most extensive and varied, and only one hour's ride from London by railway. The terms are exceedingly moderate; and in order to suit the accommodation of purchasers, ten years will be allowed to complete the purchases by annual instalments. Further particulars and plans of Mr REE, Auctioneer and Surveyor, Ware, Herts.

TO BE LET, on BUILDING LEASES, for the term of ninety years, several eligible PLOTS OF LAND, for Third rate Houses, of ten and eight rooms, situate in Oakley street, King's-road, Chelsea, and the adjoining streets, and being opposite the new park, Battersea. Conveyance by steamboat or omnibus to and from all parts of London.—For plans and particulars apply to Mr. PHENE, 10, Manor-place, South, King's-road, Chelsea, between the hours of 1 and 4.

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS.

TO BE LET (or the Lease to be Disposed of for the unexpired term of Twenty-two years), at No 8 Wharf, North Wharf-road, Paddington Basin, a large and extensive WORKSHOP, with COUNTING-HOUSE and other Offices, a spacious Yard, with water frontage, lofty Sheds, substantial Timber stages, Saw pit, and every requisite for an extensive business. Apply to Mr D. CROSS, on the premises; or to Mr. D. FERGUSON, No. 15, Stafford street, Lisson Grove.

TO CARPENTERS AND BUILDERS.

EXCELLENT FREEHOLD PREMISES, in which a good business in the above line is now carried on, with the Stock in trade, TO BE DISPOSED OF. There is a good connection, and is situate in a rising town on the South Coast. No good-will required; immediate possession may be had, and part of the purchase-money can remain on mortgage. For address, apply to Mr HOWARD, Tracing-paper manufactory, 23, Great Russell-street, Bloomsbury.

TO BUILDERS AND OTHERS.

THE PHILANTHROPIC SOCIETY'S FREEHOLD ESTATE, in the best part of SOUTHWARK, TO BE LET on building leases, land tax redeemed, tithe free; consisting of 3 or 4 acres in about 20 plots, for third and fourth rate dwelling houses, &c., warehouses, handsome and important public buildings, with frontages on the London and St George's roads, and on handsome new streets connecting the said roads. One street already set out and sewer built. Apply at Messrs GARLAND and CHRISTOPHER'S offices, 12 Buckingham street, Adelphi.

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TO BE SOLD, at very reduced prices, a quantity of SLATE SLABS of various thicknesses, nearly 200 enamelled chimney-pieces, washhand stand and table tops, &c. &c. Apply to Mr. THOS ELLIS, City Union Slate Wharf, Wapping; and at Halkin Wharf Slate Works, Lower Belgrave place, Pimlico. Slate paving 1½ in. thick and upwards, laid by contract within a given distance at 7d. per foot.

SALES BY AUCTION.

BOGNOR, SUSSEX.—Immediately opposite the Rocks from which the Roman Cement is made, a CEMENT MILL, with two large Storehouses, Cart house and Stable, and two four-roomed Cottages and Gardens.

J. F. TIDEY has been favoured with instructions to submit to PUBLIC COMPETITION, without the least reserve, at the Claremont Hotel, on TUESDAY, the 3rd day of October, 1848, at Two o'Clock in the afternoon, the above desirable Premises, commanding an extensive trade, and possessing great advantages for readily obtaining the material from which the Cement is made, and for the transit of the Cement either by rail or by water. This property is particularly adapted for a manufacturer, while it is in no way ineligible to the speculator or capitalist.—Further particulars may be had upon application to the Auctioneer, Little Hampton, Sussex.

To Small Capitalists and Others. Valuable Freehold Property, Wandsworth, giving Votes for the County of Surrey.

MESSRS. EVERSFIELD and HORNE have received instructions to SELL BY AUCTION, at Garraway's, on TUESDAY, October 3rd, at Twelve for One, by order of the Proprietor, in 17 lots, 37 FREEHOLD COTTAGES, situate at Garratt, between Wandsworth and Tooting, being 1 to 34, Church-street, containing from four to six rooms each; a Gothic COTTAGE, with garden; and a PAIR of semi-detached COTTAGES, with ornamental elevations, the greater part of which have been built within the last few years, in the most substantial manner, regardless of expense, and are respectably tenanted at very inadequate rents, amounting to upwards of 500l. per annum. Also, TWO PLOTS of FREEHOLD BUILDING GROUND, suitable for the erection of several cottages. The district church of St. Mary adjoins the property, and an Artesian well gives an unlimited supply of the purest water. At the same time will be sold a small PIECE of FREEHOLD GROUND in Merton, on the road to Cannon-hill. The property will be divided into lots to suit the small capitalist, or members of Building Societies. -Plans and particulars may be had at the Sir Jeffray Dunstan, on the property; the Spread Eagle, Wandsworth; the Angel, Tooting; of Messrs. CHESTER and SON, Solicitors, 1, Church-row, Newington Butts; place of sale, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

PROTECTION FROM FIRE.—The PATENT FIRE-PROOF FLOORS and CEILINGS invented by Dr. Fox are applicable to buildings of every description, and effectually prevent the ravages of fire. They at the same time afford complete security from dry-rot and from the annoyance of vermin and insects; and though far more durable than ordinary floors they are not at all more costly. The Flooring may be seen and further information obtained on application to the proprietors, Messrs. FOX and BARRETT, Leicester-chambers, 46, Leicester-square.

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MESSRS. T. and C. CLARK and Co., Ironfounders, of Wolverhampton, beg respectfully to call the attention of Architects and Builders to their PATENT BRASS JOINT BUTT HINGE (either fast, loose joint, or skew). The above, which are now beautifully made, answer every purpose of a brass hinge at one fourth the cost of that article.

Messrs. T. and C. C. and Co. warrant every hinge to stand any test.

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THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m. to Five p.m. Mr Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Penkridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr John Connor, Newton Lindvady, County Derry.

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A CAPITAL PAN CLOSET WHITE BASIN, Ball Lever, &c., complete, warranted perfect in every respect, for 1l. 5s. 6d. for cash, and all other Plumber's Brass work proportionably cheap, at M'CHANY'S Brass Foundry, 34, Clifton-street, Finsbury-square, London.

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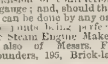
UNDER BRITISH and FOREIGN LETTERS PATENT. Capitalists are invited to inspect the secure and profitable investment in HUTCHISON and Co.'s INDURATED and IMPERVIOUS STONE, CHALK, SAND, PLASTER, WOOD, and CARTON-ROOF SHEETING WORKS. Paving in diamond courses, supplied at Calverly Quarry, Tunbridge Wells, at 6d. per foot super, perfectly compact and impervious. Other orders executed. Also à la Maladrérie, near Caen, France. Chief offices, East Temple-chambers, 2, Whitefriars-street, London, where specimens and particulars may be seen. Licenses granted also for Hutchison's patent saw frames.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight. To be had of G. HOWE, Portable Steam Engine Maker, 119, Great Guildford-street, Borough: also of Messrs. FROST, NOAKES, and VINCENT, Brassfounders, 195, Brick-lane, Whitechapel; price 2l. 1s. each.

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BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

By Her Majesty's  Royal Letters Patent.

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BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices.—Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 134, Cumberland Market, Regent's park, London, where specimens are to be seen.



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Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

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Established for the manufacture by machinery, of various descriptions of approved apparatus for warming and ventilating all kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been engaged for many years in an extensive practice of this art in various parts of the kingdom, and reduced it to certain and accurate data, and feeling satisfied, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying-rooms and stoves heated, where required, up to 300 deg. Fahrenheit, and drying operations generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—

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PUBLICATIONS.

THE EDINBURGH REVIEW, No. CLXXVIII. is this day published.

CONTENTS.

1. MILL'S PRINCIPLES of POLITICAL ECONOMY.
2. WALPOLE'S LETTERS to the COUNTESS of OSSORY.
3. REVOLUTION and REFORM.
4. FORTUNE'S CHINA: GARDENING.
5. ETHNOLOGY; or, THE SCIENCE of RACES.
6. HERVEY'S MEMOIRS of the REIGN of GEORGE II.
7. STATE of EUROPE.

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By JOHN REID, Surveyor.

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NOTICE.—This work cannot in future be supplied in Parts, and persons wishing to complete the work are requested to send their orders immediately.

JAMES BASEVI, 11, Drake-street, Red Lion-square, Holborn; and will be forwarded to any part of the town or country free of expense, on receipt of a Post-office order.

PICTORIAL HISTORY of ENGLAND.—The Standard Edition of the PICTORIAL HISTORY of ENGLAND is now completed (with the exception of an index to the whole, which will make a separate volume). The work, which contains 6,000 pages, is divided into eight volumes, which are constantly kept on sale, handsomely bound in cloth, price Six Pounds. It extends from the earliest times to the end of the war in 1815, and partially to the end of the reign of George III.

A CONTINUATION of the PICTORIAL HISTORY of ENGLAND was commenced two years ago, and two parts, at Four Shillings each, have appeared, which bring down the narrative to the accession of George IV. The publisher deeply regrets that unforeseen circumstances have interfered with the continued publication of this work. But he has now the pleasure to announce that he has made arrangements with MISS MARTINEAU for the completion of this undertaking. The publication of

THE HISTORY OF ENGLAND DURING THE THIRTY YEARS' PEACE

will be resumed on the 1st of October, and continued monthly, in Half-Parts, at Two Shillings each, and in Parts, on alternate months, at Four Shillings each. The whole work will be comprised in Eight Parts, at Four Shillings. Parts I and II will be kept constantly on sale, so that the subscribers to the Standard Edition of the "Pictorial History of England," now completed, may proceed regularly with the continuation.

PICTORIAL BIBLE.—The Index is preparing for immediate publication, when the work may be had complete, in Four Volumes, cloth boards, price 3l.

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A FEW PRACTICAL WORKS selected from the CLASSICAL CATALOGUE of JOHN WILLIAMS and Co., which they have just published, and will forward it gratis to all who may send their address.

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VOL. VI.—No. 296. OCTOBER 7, 1848. PRICE FOURPENCE. Stamped 5d.

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THE SCHOOL of ART of the INCORPORATED SOCIETY of BRITISH ARTISTS, Suffolk-street, Pall-Mall East, is NOW OPEN for the Season. Artists and amateurs may receive all particulars on application to the Secretary, in Suffolk street. Lectures on Human Anatomy, by J. H. Strickland, Esq., M.R.C.S., on Saturday Evening, the 14th instant, at Eight o'clock, and on alternate Saturdays, terminating Dec. 9. The Lectures on Perspective, by John Saddler, Esq., every Tuesday evening up to Nov. 7th. Lectures on the Structure and Phenomena of the Earth in reference to the Theory and Practice of Landscape Painting, by Professor Ansted, M.A., F.R.S., from Nov. 15. Other Lectures will be duly announced. Subscriptions and donations to the school fund are received at the Gallery, or by the society's bankers, Messrs. Ransom and Co., Pall-Mall East.

Suffolk-street, September 26, 1848. A. CLINT, Secretary.

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COUNTY of ANTRIM.—NOTICE TO CONTRACTORS, BUILDERS, and Persons desirous of CONTRACTING for the work required to be done in making an addition to the Prison of Belfast, for the accommodation of Debtors, may see the Plans and specification relating thereto at the office of CHARLES LANYON, Esq., Belfast, on or after Thursday, the 5th proximo.

Tenders to be forwarded, under cover, to JOHN COATES, Esq., Carrickfergus, on or before Wednesday, the 18th proximo.

Carrickfergus, 26th Sept., 1848.

TO BUILDERS.

PARTIES desirous of CONTRACTING for the ERECTION of a new Independent CHAPEL, at Haverstock-hill, Hampstead, are requested to send in TENDERS on or before Thursday, the 12th inst., addressed to the Committee of Haverstock-hill Chapel, Congregational Library, Bloomsbury-street. The quantities have been taken out by Mr. C. W. EPPY, Surveyor, 21, Lincoln's-inn Fields, at whose office the drawings and specification may be seen, and copies of the bill of quantities obtained on payment of one guinea. BARRY and BROWN, Architects, 41, Lord-street, Liverpool.

CHURCH of ST. THOMAS, HEPTONSTALL, in the parish of HALIFAX. The Committee for building the New Church of St. Thomas, Heptonstall, in lieu of the present ancient Church, hereby inform Architects that they are prepared to receive PLANS for a CHURCH to accommodate 1,000 persons (a portion of whom may be seated in galleries), at a cost not exceeding 4,500*l.* Premiums of 10*l.*, 7*l.*, and 5*l.* will be awarded. The Committee prefer the Decorated or Perpendicular styles. They will not consider themselves bound to give it to any architect whose estimate shall exceed the sum for which the Church will let and can be completed.—Any further information may be obtained by applying to Mr. ROBERT SUNDERLAND, Heptonstall, near Hebden bridge; to whom plans and estimates must be sent on or before the 1st day of January next.—Heptonstall, October 4, 1848.

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SYDNEY SMIRKE, Chairman of the Board of Directors.
RICHARD HART, Clerk to the said Company.

Folkestone, 26th Sept., 1848.

GUILDHALL, 27th September, 1848.

THE Committee for Letting the City's Lands will MEET at Guildhall, on WEDNESDAY, the 11th day of October next, at One o'clock precisely, to receive TENDERS for LETTING on LEASE for TWENTY-ONE YEARS, from Michaelmas, 1848, a HOUSE, No. 1, on the east side of New Broad-street; a House, No. 14, on the north side of Broad street-buildings; a House, No. 2, on the south side of Broad street-buildings; and a House, No. 38, on the south side of Upper Thames-street. ALSO, to receive separate tenders for letting on lease, for nineteen years and a quarter, from three days, from Michaelmas, 1848, a House, No. 23, on the south side of Cheswell-street; and also, a house called the White Horse Public-house, on the east side of Foster-street. Plans and particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall. THOMAS SAUNDERS, Comptroller.

SAINT BOTOLPH Without, ALDGATE, LONDON and MIDDLESEX.—NOTICE IS HEREBY GIVEN, that the Feoffees of the Parish Estates will meet, in the Committee room, at the Three Nuns Tavern, Aldgate, on THURSDAY, the 12th day of October next, at Three o'clock in the afternoon, to receive TENDERS from such persons as may be willing to take Repairing Leases for twenty-one years, from Christmas day, 1848, of the following premises—viz., No. 134, Houndsditch, and a Warehouse on the north side of Cock-and-hoop-yard, and at the rear of the above-mentioned premises; and from Lady-day, 1849, of the following premises—viz., Nos. 135 and 136, Houndsditch, and the Public-house known by the sign of the Nag's Head, at the corner of Cock-and-hoop yard, and the rooms over the gateway adjoining thereto, being the entrance into Cock-and-hoop-yard. And ALSO, six small tenements on the north side of the said Cock-and-hoop-yard, and known as Nag's Head-court. And ALSO, two messuages or tenements, Nos. 30 and 31, Wentworth-street. And to put the respective premises into substantial repair, to the satisfaction of the surveyor of the said parish. Further information may be obtained at the Clerk's Office, No. 8, Crescent, Minories; and the Tenders must be sealed up, and addressed "Tenders for Leases," to be left at his office, at least one day previously to the meeting of the Feoffees. Not to be bound to accept any Tender.

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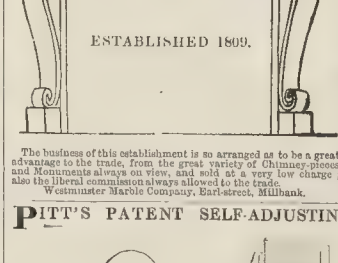
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BUILDERS, MASONS, &c., will find a considerable reduction in the price of Marble Work, at the WESTMINSTER MARBLE WORKS, from the great improvements made in Working and Polishing Marble by Patent Machinery. All orders are executed in a style entirely unequalled.



The business of this establishment is so arranged as to be a great advantage to the trade, from the great variety of Chimney-pieces and Monuments always on view, and sold at a very low charge; also the liberal commission always allowed to the trade.
Westminster Marble Company, Earl-street, Millbank.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, PORCENEAUS BITUMEN PAVEMENT OFFICE, 13, WHARF-ROAD, CITY ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

CARLISLE MARBLE WORKS.—The above Works have been established nearly Twenty Years, and have lately been fitted up in a superior manner, with all the latest improvements for working and polishing Marble by machinery. Architects and Builders requiring large orders executed will find a great saving, both in cost and time, by intrusting their orders to this establishment. Experienced workmen sent to any part of the kingdom, to fix work at a reasonable rate.
THOMAS and JAMES NELSON, Proprietors.

WILLINGTON STONE WHARF, Augustus-street, Regent's park.—Messrs. WOMERSLEY and FARRAR most respectfully beg leave to inform their friends, and the public in general, that they have opened the above Wharf, lately held by Mr. John Booth, with a very superior stock of Park-spring sawn slab and Landings, also of every description of Yorkshire Landings. Steps, Sinks, Coping, &c., on the most moderate terms.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London.—M. H. BLANCHARD, from late Coade's Original Works, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, trusts, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devises, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 13, CHANCERY LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other for Revolving Shutters for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one-third less room than any other shutters made. Harcourt Quinton, Patentee.

CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STABLE-BOARD PLATES, &c. &c., in brass, copper, and zinc. WROUGHT IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description connected with buildings, steam engines, millwork, and machinery. CLARK and Co., Engineers, 238, Wapping. Models can be seen and every information obtained at 456, Oxford-street, and 4, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c. FOR SHOP-FRONTS, SKYLIGHTS, &c.

Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stallboard in hard wood, Gas-fitting, Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

B. and C. challenge competition as to either quality or price.

Designs furnished and estimates given.

IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR BUILDERS.

SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office and Patentees, 24, Lombard-street, London; and at the Works, Deptford, Kent.

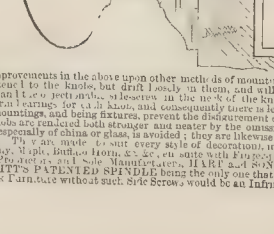
BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 118, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Public Works, by the Bishop of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Hyston Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 3,000 designs of the papier mâché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

PITT'S PATENT SELF-ADJUSTING LOCK FURNITURE and SPINDLES.



The improvements in the above upon other methods of mounting and fixing Door Furniture, consist of the following: the Spindles are not fastened to the knobs, but drift loosely in them, and will therefore adjust themselves to doors of different thicknesses, without the [illegible] usual [illegible] in the necks of the knobs as is required. The mountings by which the knobs are secured to ordinary mountings, and being fixtures, prevent the disfurnement of the door which frequently occurs when the common rosette is used. The knobs are rendered both stronger and neater by the omission of the screw holes from the necks, and the liability of breakage in now in use. They can be had in about every style of decoration, in Plain and Ornamental China, Crystal, Amber, and Opal Glass, Brass, Ivory, Ebony, Wood, Buffalo Horn, &c. &c., en suite with Finger-plates, Bell-pulls, and Levers. May be obtained of all Ironmongers.

N.B. PITT'S PATENTED SPINDLE being the only one that does not require a screw in the side of the knob or mounting, the use of any Lock Furniture without such Side Screws would be an Infringement of the Patent.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.
70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.

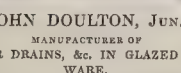
WORCESTER ENCAUSTIC TILE WORKS — The Proprietors, who are retiring from Business, are enabled to offer their STOCK of TILES at a very Reduced Rate. Ornamental Pavements of the best description, at 1s. 2d. per square foot; "Seconds," at 9½d. —N.B. These Tiles being manufactured in exact imitation of the best ancient specimens, are more suitable for the restoration of ancient Churches and Buildings than any others of modern make; and the present opportunity affords Architects and others the means of adopting a very beautiful decoration at the ordinary cost of stone. Arrangements have been made for any future "matchings" that may be required.—Specimens may be seen in London, at Messrs. GREIVE and GRELLIER'S Marble Wharf, Belvidere road. Waterloo-bridge; and in the country, at the Works, Palace-row, Worcester.

TO BRICK AND TILE MAKERS.
THE AINSLIE BRICK and TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their improved Brick and Tile Machines, which are to be seen at work at Alperton, and at the Company's office, 193A, Piccadilly, from Ten a.m. to Five p.m. Mr. Robert Scrivener, who has been appointed manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, London, 193A, Piccadilly.—March 1, 1847. These machines may also be seen at Mr. Blight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill's, 135, Buchanan-street, Glasgow; Mr. Robert Charles', Mill-hill, Leeds; Messrs. Penny and Finch's Pembridge, Staffordshire; Messrs. Drummond and Son's, Dublin; and Mr. John Connor, Newton Lindvady, County Derry.

CHEAP SELF-ACTING WATER-CLOSET, in ENAMELLED IRON-WARE. This durable, cleanly, and effective apparatus, ensures the use of a given quantity of water, and the complete flushing of the trap at each action of the closet. It may be seen at the manufactory of THOMAS LAMBERT and SON, pearetees of the Fixible Valve Cocks, Short street, New-cut, near Blackfriars-road, London.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAPS,
Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.
The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, 26, Lombard-street, London (where specimens may be seen in action), and at the Works, Deptford, Kent
INVENTORS AND PATENTEES OF SELF-ACTING DOUBLY TRAPPED
PAN AND VALVE WATER-CLOSETS;
(A most successful combination of the above principle, with other patented improvements.)

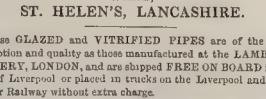
UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
3-in.	4-in.	6-in.	9-in.	12-in. bore.	
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.
N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.



JOHN DOULTON, JUN.,
MANUFACTURER OF
TUBULAR DRAINS, &c. IN GLAZED STONE WARE,
ST. HELEN'S, LANCASHIRE.

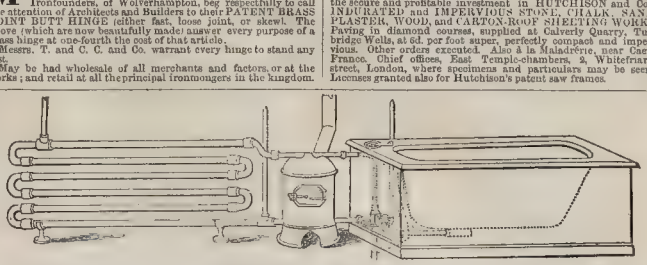
These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH POTTERY, LONDON, and are shipped FREE ON BOARD in the port of Liverpool or placed in trucks on the Liverpool and Manchester Railway without extra charge.

PROTECTION FROM FIRE. — The PATENT FIRE-PROOF FLOORS and CEILINGS invented by Dr. Fox are applicable to buildings of every description, and effectually prevent the ravages of fire. They at the same time afford complete security from dry-rot and from the annoyance of vermin and insects; and though far more durable than ordinary floors they are not at all more costly.—The Flooring may be seen and further information obtained on application to the proprietors, Messrs. FOX and BARRETT, Leicester-chambers, 36, Leicester-square.

IMPORTANT TO ARCHITECTS AND BUILDERS.
MESSRS. T. and C. CLARK and Co., Ironfounders, of Wolverhampton, beg respectfully to call the attention of Architects and Builders to their PATENT BRASS JOINT BUTT HINGE (either fast, loose joint, or skewl. The above (which are now beautifully made) answer every purpose of a brass hinge at one-fourth the cost of that article.
Messrs. T. and C. C. and Co. warrant every hinge to stand any test.
May be had wholesale of all merchants and factors, or at the works; and retail at all the principal ironmongers in the kingdom.

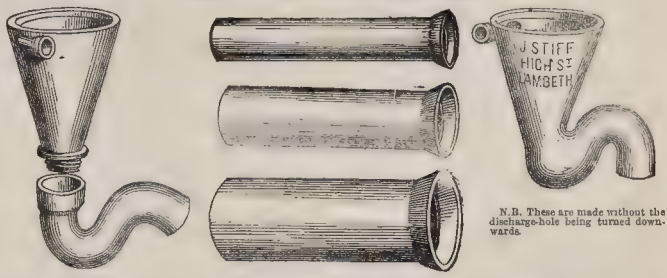
NEUBER'S WASHABLE WATER VARNISH.—REQUIRES no PREPARATION of SIZE. The peculiar advantages of this Varnish may be thus briefly enumerated:—It is perfectly washable, requires no preparation whatever, is a quick dryer, emits no smell, and gives an elegant and durable polish equal to any varnish now in use. It is admirably adapted for maps, drawings, paper hangings, &c., and may be fairly considered as a discovery well worthy the patronage of the public. Price 8s. to 12s. per gallon.—Manufactory, 4, Endell-street, Broad-street, Holborn.—N.B. A liberal commission to agents.

UNDER BRITISH and FOREIGN LETTERS PATENT.—Capitalists are invited to inspect the secure and profitable investment in HUTCHISON and Co.'s INDURATED and IMPERVIOUS STONE, CHALK, SAND, PLASTER, WOOD, and CARTON-ROOF SHEETING WORKS. Paving in diamond courses, supplied at Calverly Quarry, Tunbridge Wells, at 6d. per foot super, perfectly compact and impervious. Other orders executed. Also à la Maladerie, near Caen, France. Chief offices, East Temple-chambers, 2, Whitefriars-street, London, where specimens and particulars may be seen. Licenses granted also for Hutchison's patent saw frames.



J. TYLOR and SON'S IMPROVED COPPER CIRCULATING BATH and CONSERVATORY APPARATUS.—The copper boiler is double cased, and answers for the two purposes of BATH and CONSERVATORY—it does not require brickwork—is ECONOMICAL in FUEL and TIME (heating a bath in twenty-five minutes)—can be easily detached, and is less in original cost than any other boiler. The bath can be filled with Tylor's three-way cock, with only ONE lever and index-plate, instead of the usual plan of fixing THREE separate cocks and levers for the HOT, COLD, and WASTE water
MANUFACTURERS of COPPER and GALVANIZED IRON-BATHS, ENAMELLED WHITE MARBLE INSIDE.
Apply to the Ironmongers or Plumbers in town and country. Warwick-lane, Newgate-street.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



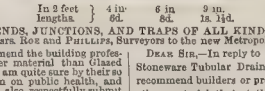
N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in.	3 in.	In 2 feet lengths.	4 in.	6 in	9 in.	12 in.	15 in.	18 in. bore
	4d.	5d.		6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.
TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH
MANUFACTURED BY
DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

No. 1.



No. 2.



No. 3.



No. 4.



The importance of a system of thorough cleansing and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.
The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

HOUSE WANTED.—Wanted to purchase a small FREEHOLD or LEASEHOLD HOUSE, within a mile of Gillingham-street, Pimlico.—Apply (prepaid), stating particulars and lowest price, to Mr G F KNOX, 39, Davies-street, Berkeley-square.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

FIFTEEN FREEHOLD HOUSES TO BE SOLD CHEAP, to meet the liabilities on them. They are but recently and substantially built, and well finished; water is laid on, the fixtures are complete. They each contain six rooms, with fore-courts and back-yards overlooking a great distance. Any person taking the whole may have them a bargain.—For further particulars apply to Mr. C. CROSS, on the premises, 27, West street, Green street, Bethnal green.

FREEHOLD LAND TO BE LET on BUILDING LEASES, for long terms, for the ERECTION of SEMI-DETACHED VILLAS; the situation is exceedingly good, and well worthy the attention of Builders, as the property would readily meet with purchasers. Money can be advanced if required.—Apply, between the hours of two and five, to Mr. JOS. A. BORSLEY, Architect, 36, Brunswick-square.

TO CARPENTERS AND BUILDERS.

EXCELLENT FREEHOLD PREMISES, in which a good business in the above line is now carried on, with the Stock in trade, TO BE DISPOSED OF. There is a good connection, and is situate in a rising town on the South Coast. No good-will required; immediate possession may be had, and part of the purchase-money can remain on mortgage. For address, apply to Mr. HOWARD, Tracing-paper manufactory, 23, Great Russell-street, Bloomsbury.

TO BUILDERS, CAPITALISTS, AND OTHERS.

SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND TO BE LET on Lease, for 80 years (land tax redeemed), in the high road leading from Newcross to Lewisham and Greenwich, in the County of Kent, within a short distance of the Deptford Station on the London and Greenwich Railway, for first, second, and third-rate attached and semi-detached Houses. Also 400 feet of BUILDING FRONTAGE, on the east side of Florence-road, leading from Newcross road to the Lewisham road, for fourth-rate attached Houses.—For plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High Road, Deptford.

PHILPOT TERRACE, EDGEWARE-ROAD.—The whole of this FREEHOLD TERRACE TO BE LET, on a Building Lease or Leases, consisting of a Frontage of about 170 feet, commencing at the corner of Church-street, with a general depth of 60 feet, and a large plot of ground in the rear. The land tax is redeemed, and tithe free. Term to be granted, 80 years. The site would be let together or separately, with or without the materials of the present buildings.—For further particulars apply to Messrs. MAYHEW and PADMORE, Architects, 14, Argyll street, St. James's, Westminster.

TRINITY WHARF, ROTHERHITHE.— TO BE LET on LEASE, the above desirable premises, having frontages of about 270 feet on the river and Rotherhithe-street, by a depth of 130 feet, and comprising yards, saw-pits, steam-engine and gear in suitable buildings, dwelling house, counting-houses, &c.; together with extensive lay-by for timber or craft, which may be embanked if required. The premises are situated within a short distance of the Commercial and Lavender Dock Piers, where steam-boats constantly call. The Granary adjoining may be had in addition, if desired.—For terms apply to Messrs. HUMPHREYS and WALLEN, Auctioneers, 68, Old Broad-street.

TO RAILWAY DIRECTORS, ENGINEERS, AND ARCHITECTS.

TO BE SOLD by PRIVATE CONTRACT, 140 CAST-IRON COLUMNS, with GRANITE PLINTHS, forming the whole of the Colonnade of the Regent-street Quadrant. The columns are of the Roman Doric order, 16 feet 2 inches high, exclusive of the Granite Plinths, which are 1 foot 6 inches high. It is considered they are well calculated for a Railway Station or a Viaduct; they are also applicable for many purposes on a gentleman's estate. Particulars may be obtained at the office of Mr. KELK, the Contractor, 13, South-street, Grosvenor-square.

IRONMONGERY BUSINESS, FOUNDRY, AND STEAM SAW-MILLS.

TO BE DISPOSED OF, a BUSINESS in the above lines, which for many years has been successfully carried on by Mr. Thomas Wolferstan, in the city of Salisbury. The business is now in full trade, and satisfactory reasons will be assigned for the present proprietor parting with the same. It presents a rare opportunity to persons willing to embark capital in a profitable undertaking, the business being capable of considerable extension. Independent of the advantages which Salisbury possesses from its large market and rich agricultural neighbourhood, it forms the central point for three great railways, viz., the Salisbury, Southampton, and Portsmouth, already completed, and the Basingstoke and Exeter, and the Wilts, Somerset, and Weymouth, now in progress. The Ironmongery Business and the Foundry may be treated for separately or together, or the Foundry and Timber Business may be disposed of together. An extensive connection is ready attaches to both these branches, and no other foundry exists within several miles of Salisbury. Applications to be made (from Principals only) to C. W. SQUAREY, Esq., Solicitor, Salisbury.

SALES BY AUCTION.

MESSRS. PROTHEROE and MORRIS will SELL by AUCTION, at the Nursery, Albion-road, Stoke Newington, on Monday, October 16, and following day, by order of Messrs. Brown, fine ornamental DECIDUOUS TREES and EVERGREEN SHRUBS, a large quantity of fine trained standard and dwarf fruit trees, American plants, large laurels, hollies, standard and climbing roses, vines, &c. On view prior to the sale. Catalogues had on the premises; of the principal seedsmen and of the Auctioneers, Leytonstone.

CAPITAL FIRST CLASS MANSION, standing in its own finely-timbered grounds at HAMPTON COURT, verging upon Bushy-park, and contiguous to the Royal Palace and Gardens, late the residence and property of James Burchell, Esq., deceased.

MR. JOHN DAWSON will SELL BY AUCTION, at the Red Lion Inn, Hampton, on THURSDAY, October 19, at Twelve o'Clock, all that noble and truly comfortable FAMILY MANSION, containing, on the principal floor, a grand suite of reception-rooms, extending upwards of 170 feet with lofty enriched ceilings, opening into a delightfully sequestered portion of Bushy-park, and communicating with light corridors, forming galleries for sculpture and other works of fine art, terminating with a large conservatory, which leads at once into the pleasure-grounds and gardens, containing, together, upwards of eight acres. These are at once ornamental and secluded by the matured shrubberies and finely-headed forest trees, and contain an elaborate grotto, a lake with perpetual fountain, and other well-adapted objects. The gardens are encircled by lofty fruit-walls, contain forcing pits and graperу, are well supplied with water, and inclose a rich little paddock. The South-Western Railway will almost immediately have completed its terminus at Hampton Court-bridge, which, with the recent extension to Waterloo and Hungerford bridges, brings this eligible family residence within a convenient distance of both Parliament and the Public Offices, and the Bank and City engagements.

Note. At the same time and place, Mr BEADEL will SELL BY AUCTION, the capital FREEHOLD FARM, situated at Hampton, and containing some 200 acres of highly-cultivated land, with homestead and offices, which might form a most desirable appendage to the above mansion, the distance being only such as to render it a source of pleasure to the proprietor, and affording much domestic convenience in dairy, brewing, and laundry arrangements. Particulars, both of the Mansion and Farm, may be had, in due time, at the principal Inns in the neighbourhood, on the respective premises, at the place of sale, at the Mart, near the Bank of England; of Messrs. WORDSWORTH and DUNN, Solicitors, Threadneedle-street; of Mr. BEADEL, 25, Gresham street East; and at Mr. JOHN DAWSON'S Auction and Land Offices, Marlborough Chambers, 49, Pall Mall.

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Black Registers, from 6½d. per in. and upwards.
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3 ft.	3 ft. 6 in.	4 ft.
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The Builder.

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NOTICE IS HEREBY GIVEN, that a GENERAL HALF-YEARLY MEETING of Members of the INSTITUTION of BUILDERS' FOREMEN will take place at the Bay Tree Tavern, St. Swithin's lane, on Wednesday evening next, October the 18th, for the purpose of electing officers for the ensuing six months, and other general business

W. ALLARD, Secretary.

ARCHITECTURE and CONSTRUCTION —The COURSES of PROFESSOR DONALDSON, for the Session 1848-49, will commence on TUESDAY, 26th October, at University College, where prospectuses and further information may be had.

CIVIL ENGINEERING, ARCHITECTURE, AND CONSTRUCTION.—The SESSION for the department of Civil Engineering, Architecture, and Machinery will commence on Tuesday, the 17th October.

The department consists of the following classes:—
MATHEMATICS—Professor De Morgan.
NATURAL PHILOSOPHY—Professor Potter, A.M.
CHEMISTRY—Professor Graham.
PRACTICAL CHEMISTRY—Professor Fownes.
CIVIL ENGINEERING—Professor Harman Lewis, A.M.
MECHANICAL PRINCIPLES OF ENGINEERING—Professor Eaton Hodgkinson.
MACHINERY—Professor Bennet Woodcroft.
ARCHITECTURE AND CONSTRUCTION—Professor Donaldson, M.I.B.A.
GEOLOGY—Professor Ramsay, F.G.S.
DRAWING—Teacher, Mr. G. B. Moore.

Prospectuses and further particulars may be obtained at the office of the College

THOMAS HEWITT KEY, A.M., Dean of Faculty of Arts and Laws.

CHARLES C. ATKINSON, Secretary to the Council.

University College, London, August 27, 1848.

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CONTRACTS.

TO BUILDERS.

PLANS and Specifications for the Erection of a new HOSPITAL and certain Alterations and Additions to the St. Alban's Union Workhouse will lie for inspection at the Board-room, St. Alban's, and at the offices of Mr. JEARRING, the architect, No. 260, Oxford-street, London, from Saturday, the 14th October instant; and sealed tenders for completing the same must be forwarded to the Clerk of the Guardians, St. Alban's, before Eleven o'clock a.m., on the 21st day of October instant, when persons tendering for the works are required to attend at the Town-hall, St. Alban's. The Guardians do not pledge themselves to accept the lowest tender.

St. Alban's, Oct. 10, 1848. R. GROVE LOWE, Clerk.

TO MASONS AND PAVIORS.

THE BOARD for the REPAIR of the HIGHWAYS of the Parish of Westham, Essex, are ready to receive TENDERS for about Eight Hundred Feet run of HERM or ARBERDEEN GRANITE CURBS, to be laid down at Westham Abbey, leading to the Abbey Mill, and in Angel-lane, Stratford, in the same parish. They are also ready to receive Tenders for about Four Thousand Feet superficial of Inch YORKSHIRE PAVING STONE, to be laid down in Angel-lane, Stratford. Also for about Thirty-two yards superficial of 4-inch and 6-inch GRANITE CROSSINGS.—Persons willing to tender for all or any of the said materials and works may see the specifications and obtain all other particulars of Mr. ROBERT RAKE, Assistant-Surveyor to the said Board, at his house, near Westham Church. Tenders to be delivered to Mr. MCPHERSON, the Treasurer of the Board, before Four o'clock on Tuesday, the 17th day of October now instant; and no tender will be received unless so delivered before that hour on that day.

GEORGE DACRE, Clerk to the Board.

Stratford, Essex, 10th October, 1848.

CONTRACTS.

ROYAL ENGINEERS' OFFICE, Chatham, 12th October, 1848.

THE Commanding Royal Engineer, Medway District, HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall mall, London, on or before MONDAY, the 6th day of November, 1848, from persons desirous of contracting with the Honourable Board of Ordnance for ERECTING RIGHT WING of the SOLDIERS' BARRACKS and OUTBUILDINGS, at Sheerness, agreeably to plans and specification as, which may be seen at the Royal Engineers' Office, Sheerness.

The persons whose tender may be accepted will be required to enter into a bond, with two eligible sureties, jointly and separately, to be bound, under a penalty of 2,000*l.*, for the due performance of the contract. The tenders to be addressed to "The Secretary of the Board of Ordnance," and indorsed "Tender for Erecting Right Wing of the Soldiers' Barracks and Outbuildings, at Sheerness." No tender can be admitted after the said 6th of November, 1848.

COUNTY OF ANTRIM.—NOTICE TO CONTRACTORS, BUILDERS, &c. Persons desirous of CONTRACTING for the works required to be done in making an addition to the Prison of Belfast, for the accommodation of Debtors, may see the plans and specifications relating thereto at the office of CHARLES LANYON, Esq., Belfast, on or after Thursday, the 5th proximo.

Tenders to be forwarded, under cover, to JOHN COATES, Esq., Carrickfergus, on or before Wednesday, the 18th proximo.

Carrickfergus, 26th Sept., 1848.

TO BUILDERS.

PARTIES desirous of CONTRACTING for the ERECTION of a GENTLEMAN'S RESIDENCE, with Stabling, &c., attached, at Higham Hill, near Walthamstow, Essex, can inspect the plans and specification, and obtain all necessary information, at the office of the Architect, Mr. R. M. PHIPSON, 34, Moorgate-street, London, on and after Monday, the 16th instant, between the hours of Ten and Three.—Sealed tenders for the same will be received till Twelve o'clock on Saturday, the 21st instant, after which time no tender can possibly be admitted. The acceptance of the lowest tender will be optional; and the party whose tender shall be accepted will be required to commence the several works with the least possible delay

TO BUILDERS.

ANY Person willing to TENDER for the ERECTION of THREE SHOPS in Conduit-street, Chelmsford, Essex, may see the plans and specifications for the erection and covering in of the same, at the office of J. Kempster, Esq., Solicitor, Kennington-lane, Lambeth; or at the office of Jas. Fenton, Esq., Architect, Chelmsford, on and after MONDAY, the 9th day of October, between the hours of Ten and Four o'Clock.—Tenders, sealed, to be delivered on the following Saturday, on or before Twelve o'clock in the forenoon, at Mr. FENTON'S office, before which hour no tender will be received. Security to be given if required for the due performance of the work.

October 12th, 1848.

TO IRONFOUNDERS AND STOVEMAKERS

THE Guardians of the Poor of St. Martin-in-the-Fields hereby invite TENDERS for the supply of BOILER and HOT-WATER APPARATUS for ventilating and heating the sick and other wards of the workhouse. Specifications and plans of the works may be inspected at the offices of P. PRICHARD BALY, Esq., Civil Engineer, at 14, Buckingham street, Adelphi, on any day from Tuesday, the 17th, to Saturday, the 21st inst., both inclusive, between the hours of Ten a.m. and Four o'clock p.m. The parties tendering are to be in attendance with their tenders, sealed up, and addressed "To the Guardians of the Poor, St. Martin-in-the-Fields," on MONDAY, the 23rd instant, at Six o'clock p.m., at the Board-room, 44, Castle-street, Leicester-square. The party whose tender may be accepted will be required, at his own expense, with one sufficient surety, to enter into a contract, to be prepared by the solicitor of the Board, for the due performance of the works. The Guardians do not bind themselves to accept the lowest tender.—12th October, 1848.

TO BUILDERS.

SAINT MARTIN-in-the-FIELDS, WESTMINSTER.—The Guardians of the Poor of this Parish hereby invite TENDERS for the execution of certain works, consisting principally of the ERECTION of a CHIMNEY SHAFT and some additional BRAINS. Specifications and plans of the works may be inspected at the offices of P. PRICHARD BALY, Esq., Civil Engineer, 14, Buckingham-street, Adelphi, on any day from Tuesday the 17th to Saturday the 21st inst., both days inclusive, between the hours of Ten a.m. and Four o'clock p.m. The parties tendering are to be in attendance, with their tenders sealed up and addressed "To the Guardians of the Poor, St. Martin-in-the-Fields," on MONDAY, the 23rd inst., at Six o'clock p.m., at the Board-room, 44, Castle-street, Leicester-square. The party whose tender may be accepted will be required, at his own expense, with one sufficient surety, to enter into a contract, to be prepared by the solicitor of the Board, for the due performance of the works. The Guardians do not bind themselves to accept the lowest tender.—October 12, 1848.

WILLIAM W. MANSELL, Purser.

PENNANT and CRAIGWEN CONSOLIDATED LEAD MINING COMPANY.—NOTICE IS HEREBY GIVEN, that the Directors are ready to receive TENDERS for the WORKING, either on tribute or by contract, of a valuable deposit of IRON PYRITES, wholly free from Arsenic; and also of TIMBER of the finest description and colour.—Specimens may be seen at the offices, No. 57, Threadneedle-street, or at the wharf, No. 332, High-street, Wapping.

October 3, 1848.

TO DRAUGHTSMEN AND CIVIL ENGINEERS.

H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.

These Pencils are prepared in various degrees of hardness and shades.

H H H for drawing on wood.	F F light and shading.
H H H for architectural use.	F for general use.
H H for engineering.	B black for shading.
H for sketching.	H B ditto ditto.
H B hard and black for drawing.	B B B ditto ditto.
M medium.	B B B B ditto ditto

Sold by all the principal Stationers in town or country.

LONDON ASSURANCE CORPORATION FOR LIFE, FIRE, and MARINE ASSURANCE.—Established, the Royal Charter of King George II.—First, A.D. 1720.
Offices, 7, Royal Exchange, Cornhill; and 1, Regent-street.
JOHN LAURENCE, Secretary.

UNION ASSURANCE SOCIETY,
FIRE. LIFE. ANNUITIES.
Cornhill and Baker-street, London; College-green, Dublin; and Esplanade, Hamburgh.
INSTITUTED A.D. 1714.
WILLIAM NOTTIDGE, Esq., CHAIRMAN.
NICHOLAS CHARRINGTON, Esq., DEPUTY-CHAIRMAN.

LIFE. By the plan of the Union Society the profits are calculated upon the sum insured, and not upon the amount of premiums paid, thus giving a most important advantage to young and middle ages; and for advanced lives the tables of the Union offer the immediate benefit of lower rates of premium. All new assurances part with their participation of profits.
The premiums are also much reduced on insurances effected with limited liability.
Detailed prospectuses of the extended system of Life Insurance may be had on application, by which two-thirds of the premium may be lent on loan.
Loans granted on the policies of this office.
THOMAS LEWIS, Secretary.

The system of returning profits on Fire Insurances was adopted at the foundation of the Union Society in the year 1714.
** Agents desired in places where none are at present appointed.

SCOTTISH PROVIDENT INSTITUTION, for MUTUAL LIFE ASSURANCE by MODERATE PREMIUMS. Incorporated by Special Act of Parliament. Established in 1837.
Edinburgh: 14, St. Andrew's-square.
London: 12, Moorgate-street, Bank.

The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. The Premiums are, at early and middle ages, about 20 and in some instances 25 per cent below those of most other Mutual Offices.
This Society being Mutual, is free from the necessity of a nominal, or the burden of a real capital. Thus dividends and similar sources of calculation are avoided.
The peculiar and leading advantages of this Office may be thus briefly stated:—
PREMIUMS 20 or 25 per cent. LOWER than in most other similar Offices, at early and middle ages. Thus, the premium of the Institution, at age 30, for 1000*l*., would, at once, in this Office assure 1,287*l*.; which is obviously equivalent to a present and certain bonus of 287*l*., exclusive of prospective profits.
Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.
The 21 years scale little exceeds that of most Offices for the whole of life. See Table below.
Exemption from entry charges, &c.
The society is based upon its limited constitution to make liberal provision to members wishing to discontinue their payments.
The whole profits are divided among the assured exclusively, on a principle peculiar to this office, and which is at once equitable, secure, and especially beneficial to good lives, being entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured. It is evident that much larger profits may thus accrue to the participators than by the usual system of other offices, even though their premiums are considerably higher.
More detailed illustrations of the effects of this principle may be obtained at the offices.
Specimen of Premiums for low for whole Life and for Twenty-one Years. (These rates include a prospective share in the whole profits of the institution.

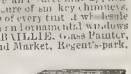
Age	Payable for whole of Life.	Payable for 21 years only.	Age.	Payable for whole of Life.	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 18 0	2 10 8	30	2 8 3	3 0 11
26	1 18 6	2 11 3	37	2 9 8	3 2 2
27	1 19 2	2 11 11	38	2 11 3	3 3 6
28	1 19 11	2 12 10	39	2 12 11	3 4 11
29	2 0 8	2 13 8	4	2 14 2	3 6 4
30	2 1 6	2 14 6	41	2 16 8	3 7 10
31	2 2 6	2 15 5	42	2 18 8	3 9 5
32	2 3 5	2 16 4	43	3 0 11	3 11 1
33	2 4 6	2 17 5	44	3 3 1	3 12 10
34	2 5 7	2 18 6	45	3 5 9	3 14 9
35	2 6 10	2 19 8			

All necessary information and forms may be obtained on application at the principal Offices in Edinburgh, London, Glasgow, and Manchester, or from any of the provincial agents.
WILMER OWEN HARRIS, Secretary for London.
Office, No. 12, Moorgate-street, September, 1848.

By Her Majesty's — No. 1 — Letters Patent.

GLASS VENTILATORS FOR WINDOWS.
BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the general Tariff. Their extensive and successful application to public offices, hot-houses, and the care of sun-key chimneys, prove them to be unrivalled. Coloured glass of every tint for ornamental windows.—Patents and estimates for churches and ornamental windows forward upon application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

DR. ARNOTT'S CHIMNEY VENTILATOR.
F. EDWARDS, Stove Manufacturer, No. 42, 43, 44, Old-street, Oxford-street, begs to call the attention of Architects, Builders, and the Public, to the truly invaluable and inexpensive apparatus, now in use, for the prevention of smoky chimneys on the above equitable terms.



Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS NO CURE, NO PAY.
Twenty-five years' extensive experience in all the branches of a stove manufacturer, has now enabled F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

WALKER'S PATENT. — WARMING and VENTILATING WORKS, LOWER KING STREET, MANCHESTER.
Established for the manufacture, by machinery, of various descriptions of ventilating apparatus for warming and ventilating of kinds of buildings by STEAM, HOT-WATER, and WARM AIR, and for the economical application of heat generally to manufacturing and domestic purposes.—The proprietor having been connected for many years in conducting the practice of this art, various parts of the kingdom, and is used it to certain, and accurate data, and feeling satisfied, from the frequency of failure in warming and ventilating, that there exists a field for the operations of properly qualified persons, is prepared to undertake works of this kind, on the principle of guaranteeing any required temperature and stated amount of ventilation. Drying-rooms and stoves heated, where required, up to 300 deg. Fahrenheit, and drying operations generally planned and executed on improved principles. Having also bestowed much attention to reducing the expense and cumbrous nature of ventilating arrangements, he solicits public notice to the following highly useful, compact, and well-tried inventions:—
Walker's Patent HEAT BOXES. Portable SELF-FEEDING BOILERS upon the SCREW WARMING and VENTILATING MACHINES. HOT-WATER STOVES. TUBULAR and other WARM-AIR STOVES. Portable Steam-Engines of useful sizes, with cylindrical or tubular boilers.
Orders executed in any part of the country. References to numbers of public institutions, churches, nobility and gentry, etc. Illustrations, &c., throughout England, Ireland, Scotland, and India.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.
MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London, as it is," exhibits in series in Pudding Row Museum, Lambeth, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Pitchfield street, Oxford-street.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, a most Mechanical Patent. For Hanging and Shifting Leaves of every kind of Wooden Sash-Frame, Iron, Wire, or Patented Frame fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and Others, testifying them as in use which, full particulars of the Patent can be obtained upon application; any other Revolving Shutter for durability, security, and simplicity of Working, Wood Sliding Screen and Screw Gear, or any other Complicated Machinery on a Set by other makers.

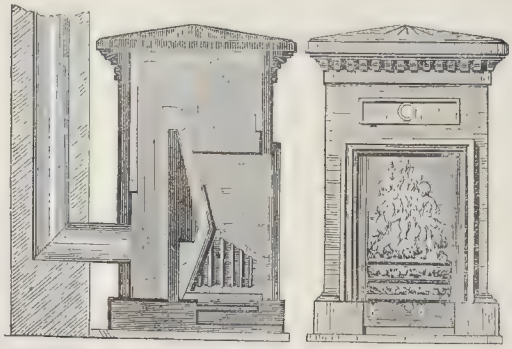
IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, with easier, cannot run down, and roll up in one-third less room than any other shutters made. Harcourt Quincey, Patentee.
CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL-BOARD PLATES, &c. &c., in brass, copper, and zinc. WROUGHT IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description in connection with buildings. Steam cranes, railwork, and machinery. CLARK and Co., Engineers, 28, Wapping. Models can be seen and every information obtained at 45a, Oxford-street, and 14, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of
REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of
ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c.
FOR SHOP-FRONTS, SKYLIGHTS, &c.
Shop fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded stall-boards handsomely enamelled. Metal works and machinery of all kinds in connection with banking houses, shops, warehouses, &c. &c.
B. and C. challenge competition as to either quality or price.
Designs furnished and estimates given.
IMPROVED PATENT BENCH AND FLOORING CRAMPS FOR JOINERS.
SOLE LICENCEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.
Office—the Patentees, 56, Lombard-street, London; and at the Works, Deptford, Kent.

CHEAP AND DURABLE ROOFING.
By Her Majesty's — Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c
Patronized by
HER MAJESTY'S Woods and Forests,
HER MAJESTY'S Commissioners of Customs,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, Isle of Wight,
and H.R.H. PRINCE ALBERT'S, Buckingham Palace, and Windsor Park.
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.
The advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and cold. The Felt can be cut to any length, by 24 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as no one else is in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW.
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

CUNDY'S PATENT OPEN FIRE-PLACE, HOT AIR, VENTILATING STOVE.



This Stove embraces the following important principles:—
HEAT BY RADIATION,
HEAT BY CONDUCTION,
HEAT BY REFLECTION,
VENTILATION.

The following are cubical areas the Stoves are calculated to warm and ventilate:—
No. 1 Stove from 5,000 to 10,000 cubic feet.
No. 2 ditto from 10,000 to 50,000 cubic feet.
No. 3 ditto from 50,000 to 100,000 cubic feet.

This admirable Stove is now extensively adopted for the Warming of Churches, Public Buildings, &c. &c., as perfect ventilation accompanies its use, and as it is a most powerful producer of heat.

TESTIMONIALS AFTER LENGTHENED TRIAL.

Gothic Villa, St. John's Wood, Oct. 22, 1846.
SIR,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my Temporary Church, and found them to succeed so well that I have introduced them into All Saints Church, St. John's Wood. The following reasons induce me to approve of them:—Example of economy, the emission of a great body of *pure* warm air, the perfect system of ventilation connected with them, and though last not least, *the great economy of fuel*. All these I perceive in your patent stoves, and recommend all my friends to do the same.—Yours truly,
ED. THOMPSON, D.D., Incumbent of All Saints', St. John's Wood.

39, Charterhouse-square, Monday, February 17, 1846.
DEAR SIR,—The stoves which you have recently erected in my church have been highly successful, and I have great pleasure in expressing to you the entire satisfaction which they have given to all parties.
The church, which was notoriously noted for its coldness and bad ventilation, is now most agreeably warmed and well ventilated.
I shall be most happy, on any occasion, to bear testimony to the excellency of your stoves, and I will endeavour, to the best of my power, to make them known, and I will certainly recommend them to my friends.
I remain, Dear Sir, yours faithfully,
WM. ROGERS, St. Thomas's, Charterhouse

PATENT TORRENT WATER-CLOSET.
AUSTIN'S PATENT.
This much approved and admired Closet is strongly recommended to those Architects and Builders who have not yet tried it: it is SELF-ACTING, THOROUGHLY CLEANSES the basin, is always TRAPPED, and requires no CISTERN if it can be connected with the water-main.
THE STOVES AND WATER-CLOSETS ARE MANUFACTURED ONLY BY MESSRS. DOWSON
(LATE OF 69, WELBECK-STREET), STINGO IRON-WORKS, STINGO-LANE, LONDON.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices consider-ably. The prices are now 6 and ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and stained work in the most moderate terms.—CHARLES LONG, 9, 1, King-street, Baker-street, Portman-square. Cash only.

WINDOW GLASS.—JAMES PHILLIPS and Co. beg to inform the trade and consumers they have a large STOCK of SHEET GLASS of superior quality on hand, which they will supply, in any quantity, at the following prices, sizes above 0 by 9, at 22s. 6d. per case—delivered free in any part of London. Ad ss, 116, Bishopsgate-street Within.

WINDOW GLASS.—THOMAS MILLINGTON begs to inform the Trade and Consumers that he has a large Stock of Sheet-Glass on hand, which he will supply 28 feet inches, London for 22s. 6d. per case, or at to size, 3d. per foot.—Address, 87, Bishopsgate-street-without.

WINDOW-GLASS, VARNISH-COLOURS, and PLUMBERS' BRASS-WORK. THOS. MILLINGTON, 87, Bishopsgate street Without, London, egs to inform the Trade, and consumers generally, that he is supplying the above articles of the best materials and upon the lowest erms for cash.

CROWN, SHEET, and PLATE GLASS, in any quantity: VARNISH: fine Oak or Walnut, 10s.; Carriage, 13s. per gallon; White Lead, 27s., and Colours and Brushes; Water Closets complete, 30s.; Lifting Pumps and Cocks of every description.

Milk Pans; Preparating Ice, and Cucumber Glasses; Paper magnings from 1s. per piece upwards, of very superior description.

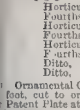
SOHO PLATE GLASS COMPANY, CROWN, SHEET, PATENT PLATE and ORNAMENTAL GLASS MANUFACTURERS.—ALFRED GOSLETT begs to call the attention of Builders and the Trade to the following quotations:

Thirds Crown, per crate 18 tables			£3 2 6
Fourths "	"	"	2 7 10
CC "	"	"	2 1 0
CCC "	"	"	1 18 0
Horticultural, 13 oz. sheet,	per crate,	24d. per foot.	
Fourths,	ditto	24d.	"
Horticultural, 16 oz. ditto,	ditto	24d.	"
Fourths,	ditto	3d.	"
Horticultural, 21 oz. ditto,	ditto	4d.	"
Fourths,	ditto	ditto	5d. "
Ditto,	26 oz. ditto,	ditto	6d. "
Ditto,	32 oz. ditto,	ditto	8d. "

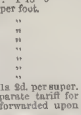
Ornamental Glass of very superior patterns, from 1s. 2d. per super. foot, cut to order; or 1s. in stock sizes. A separate tariff for Patent Plate at the lately reduced prices, will be forwarded upon application.

Plate Glass, for glazing purposes, at very reduced prices. Rough Plate ¼, ⅜, ½, and ¾ inch thick.

CHAS. WM. WATERLOW, MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.



SHOP FRONTS, SASHES AND FRAMES, DOORS, &c. MADE FOR THE TRADE.

JOHNSON and PASK,



1, Amwell street, Clerkenwell, near the New River Head.

Beg to inform the Trade, and the Building Public in general, that they continue to manufacture Sashes and Frames, Shop Fronts, Doors, and all other kinds of Joiners' work, on the lowest possible scale of prices. All kinds of Wainscot and Mahogany work done in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded by return of post, to any part of the country.





JOHN DOULTON, Jun.,

MANUFACTURER OF

TUBULAR DRAINS, &c. IN GLAZED STONE WARE,

ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH POTTERY, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway without extra charge.

SANITARY IMPROVEMENT.—Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

BUNNETT'S

PATENT SELF ACTING EFFLUVIA TRAPS,

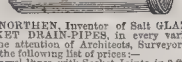
Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF CLEANSING, and can be set at order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORFE, ENGINEERS, 26, Lombard-street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING DOUBLE TRAPPED PAN AND VALVE WATER-CLOSETS;

(A most successful combination of the above principle, with other patented improvements.)

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length					
2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Allsou Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Lunehouse.

STOKES'S ANTHRACITE FIRE BRICKS.—Engineers, Gas Companies, &c., &c., can now be supplied with these very superior Fire Bricks at the Wharf, 43, Lower Shadwell. Samples may be seen, and particulars known of JOHN THOMPSON, Sole Agent, 16, Bullister street, City.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington-butts.

N.B. Cowley and Kent Bricks of every description, and Kentish Rag Stone direct from the Quarries.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loam, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above

EXTRAORDINARY SUCCESS!! of Mr. ROBERT KENYON'S "IMPROVED" BUILDING and INVESTMENT SOCIETY.—£900 ACTUAL PROFITS secured in six months. Subscription, 5s. per share per month.

NOTICE! £1000 will be offered for SALE at the NEXT MEETING, which will be held at EXETER HALL on TUESDAY Evening, the 17th inst., from half-past Seven to Nine o'Clock precisely. For prospectuses apply, inclosing a postage stamp, to ROBERT KENYON, Secretary, 15, Blackfriars road.

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead, STEPHENS'S DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is a superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolve in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent Garden, London; at which place may be had the proper Varnish and Size, with directions for their use.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrmont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.
Kitchen Floors (particularly where it is essential to keep damps from rising).
Garden Walks and Terraces.
Carriage Drives.
Conch-houses and Stabling.
Dog-kennels.
Barn Floors.
Granaries.
Tun-room Floors.
Malt-house Floors.
Piggeries, &c. &c.
Covering of Railroad and other Arches.
The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantag to be derive from the application of SEYSSEL ASPHALTE.

The armaments of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

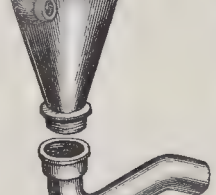
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to the Company, and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of spurious one.

J. FARRELL, Secretary.

Seyssel Asphalte Company, Stangate, London.

No. 1, in Two Pieces.



No. 2, in One Piece.



No. 3 is similar to No. 2, but with the discharge hole in a horizontal direction.
No. 4 in three pieces.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE,

PRICE 7s. 6d. EACH,

Manufactured by

DOULTON AND WATTS,

LAMBETH POTTERY,

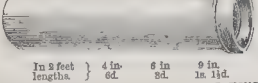
HIGH-STREET, LAMBETH,

LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

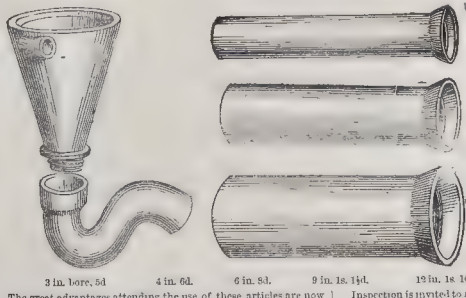
I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 33, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



3 in. bore, 5d 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s 10d. 15 in. 3s. 4d. per Foot.

N B, These are made without the discharge-hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

THE HEALTH OF TOWNS BILL.—At SUFFELL'S, 123, Long Acre.—Engineers, Surveyors, Architects, Contractors, Builders, Draughtsmen, &c. can be supplied with Instruments of every description, new or second-hand, warranted by the most esteemed makers; consisting of theodolites, levels, circumferentors, levelling staves, chains, measures, cases of instruments for separate duty, pentagraphs, sextants, compasses, protractors, and scales, rules, &c. Instruments for exportation securely packed and forwarded to all parts on the receipt of a remittance or reference.

MONEY for INVESTMENT.—To BUILDERS and Others.—Mr. EDWARD PALMER, Auctioneer, Appraiser, House and Estate Agent, is desirous to procure profitable investments for about 15,000*l.* in the purchase of freehold or long leasehold houses or land in or near London; Builders and others having such for disposal may forward full particulars, with plans, elevations, and lowest price to Mr. EDWARD PALMER, at either of his offices, 5, Queen-street-place, Cannon-street, London, or 7, Hermitage-place, St. John's-street-road, Islington.

TO BUILDERS.

TO LET, a few remaining PLOTS of FREEHOLD FRONTAGE, at extremely low rentals, including roads and sewers, which are now being made on the premises, Park-crescent Park road, Clapham-common, and of Mr. LLOYD, Surveyor, 8, Warwick-court, Gray's-inn-square.

TO LIVERY STABLE KEEPERS AND OMNIBUS PROPRIETORS.

TO BE LET, in the York-road, Lambeth, near the Railway Terminus, a very COMPLETE YARD, with every necessary adaptation, Apply to Messrs. EVERSFIELD and HORNE, 1, Little Smith-street, Westminster.

TO PERSONS REQUIRING MANUFACTURING PREMISES

TO BE LET, a large, substantial, and light FACTORY, with Offices and Three Floors, in the York-road, Lambeth, near the Railway Terminus. Apply to Messrs EVERSFIELD and HORNE, 1, Little Smith-street, Westminster.

TO BUILDERS, WHARFINGERS, AND OTHERS.

TO BE LET, in the Belvedere-road, Lambeth, between Westminster Bridge and the Railway Terminus, a very compact and commodious YARD, with WORK-SHOPS and WHARF, commanding with the River, which are Traveller Crane and every requisite for an extensive business. Apply to Messrs EVERSFIELD and HORNE, 1, Little Smith-street, Westminster.

TO BUILDERS, MANUFACTURERS, AND OTHERS.

TO BE LET (for the Lease to be disposed of for the unexpired term of nineteen years), the valuable and extensive premises, 8, Kingsland-road, near Shoreditch Church; comprising dwelling-house, large yard, counting-house, sheds, mills, sawpit, stable, &c.—Apply on the premises, or at 130, Bunhill-row, Finsbury.

TO BUILDERS, TIMBER MERCHANTS, AND OTHERS

TO BE LET (or the Lease to be Disposed of for the unexpired term of Twenty-two years), at No. 8 Wharf, North Wharf road, Paddington Basin, a large and extensive WORKSHOP, with COUNTING-HOUSE and other Offices; a spacious Yard, with water frontage, lofty Sheds, substantial Timber-stages, Saw-pit, and every requisite for an extensive business.—Apply to Mr. D. CROSS, on the premises; or to Mr. D. FERGUSON, No. 13, Stafford-street, Lisson-grove.

TO BUILDERS and OTHERS requiring extensive and convenient Premises

TO BE LET, or SOLD, very commodious PREMISES, No. 2, Bedford-street, Ampthill-square, adjoining the terminus of the London and North-Western Railway, consisting of spacious timber and iron yard, range of workshops, store room, sheds, four stall stable and chaise house, with rooms over, and good family residence fronting the street. Held by lease from Bedford, for 99 years from September, 1849, at a ground rent of 25*l.* Eligible plots of building ground to be let in the immediate neighbourhood. Inquire on the premises; or of Mr. JOSEPH IVIMEY, Solicitor, 25, Chancery-lane.

A BARGAIN.—TO BE LET, BY TENDER, FOUR SIX ROOMED HOUSES, situate and being Nos. 9, 10, 11, and 12, William-street, Prince's-road, Nottingham. They are pleasantly situated, with gardens in front, and every internal fitting complete; the party whose tender is accepted will have to pay all outgoings but ground-rent; the average rent of other houses in the street is over 20*l.* per annum, but any fair moderate offer will be considered. Tenders and other communications to be addressed Mr. R. RICHENS, 61, Paddington-street, Marylebone, of whom further particulars may be obtained.

WORKSHOPS, YARD, and PREMISES, with or without extensive Residence, 17, DORSET-PLACE, DORSET-SQUARE, will adapt for a Builder, or any trade requiring space and light, and having good back entrance, gas laid on, with supply of pure spring water, if required.—To view, apply upon the Premises.

SYDENHAM PARK.—Several PLOTS of GROUND in this desirable locality TO BE SOLD or LET on Building Leases. Money advanced, if required. For particulars apply to Messrs. DREW and SHADWELL, Solicitors, Hermes-street, near to Messrs. ALLEN and SOOKEE, and STOCK, Architects and Surveyors, 69, Tooley-street.

PHILPOT TERRACE, EDGEWARE-ROAD.—The whole of this FREEHOLD TERRACE TO BE LET, on a Building Lease or Leases, consisting of a Frontage of about 132 feet, commencing at the corner of Church-street, with a general depth of 80 feet, and a large plot of ground in the rear. The building is to be erected and finished by the Tenant in 2½ years. The site would be let together or separately, with or without the materials of three premises and buildings.—For further particulars apply to Messrs. MATTHEW and PAPWORTH, Architects, 14, Argyll-street, St. James's-Westminster.

EXCELLENT BUSINESS PREMISES, PIMLICO.—To Cabinet Upholsterers and Furniture Warehousemen, Decorators, Plan Chest Makers, Joiners, and Others.—TO BE LET, a capital HOUSE in the business part of Pimlico, contiguous to the squares, most conveniently arranged for a manufacturing or retail business, has also two large, spacious front shop double tier of workrooms, and counting-house; possesses the whole in perfect repair and in a most eligible neighbourhood, with the advantage of a connexion in the cabinet and upholstery business.—Apply to Mr. JOHN TURNER, Architect, &c., No. 4, Lower Belgrave-street, Eaton-square.

TO BUILDERS, CAPITALISTS, AND OTHERS.

SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND TO BE LET on Lease for seventy years (and for a shorter term if required), in the pleasant Village of Newcross to Lewisham and Greenwich, in the County of Kent, within a short distance of the Deptford Station on the London and Greenwich Railway, for first, second, and third-rate Cottages and semi-detached Houses. Also 150 feet of BUILDING FRONTAGE, on the east side of Florence-road, leading from Newcross road to the Railway Station, for first-rate Villa or Shop Houses. Plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High-Road, Deptford.

MANOR PARK ESTATE, STREATHAM, SURREY.—TO BE LET, on Building Leases, in the above Park, in the prominent and select district, close to the Parish Church, upwards of SIXTY PLOTS for VILLAS, DETACHED TERRACES, and several FIRST-RATE Shops and Stabling, the whole forming a handsome and interesting Manor Park, which from its combination of undulating surface, commanding and well-wooded timber, is of singular beauty. Roads, sewers, and drives are now being made within the Park. Purchasers, both White and Red, Stock and Brick, can, if required, have any quantities, may be had free of expense and all assistance will be rendered in the preparation of the estate. A grand and superior description is found in a splendid site for a Villa, on the east side of Florence-road, leading from Newcross road to the Railway Station, for first-rate Villa or Shop Houses. Plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High-Road, Deptford.

TO BUILDERS.

TO BE SOLD, a BARGAIN, a quantity of CHURCH FITTINGS, equal to new, consisting of pew doors, folding doors, and framing, all of the finest wainscot; glazed wainscot sashes for a screen, a splendid table of the Commandments, and a quantity of brass fittings. For particulars and view apply to Mr. LOVELL, Builder, 99*b*, High-street, Shadwell.

A GREAT BARGAIN.—TO BE SOLD, a very superior rich-toned ORGAN; a very fine and powerful instrument. Size, 18 feet 6 inches high; 16 feet wide; 8 feet 6 inches deep in centre; and 4 feet 6 inches the side pedal towers, of two tiers of keys, and comprising every thing requisite for a church or music-hall. Built by one of the first organ builders in England.—For particulars, apply by letter, prepaid, to Mr. JOHN TOONE, Organ Examiner, where prospectuses may be had on receipt of a stamp.

SALES BY AUCTION.

TO BUILDERS, CARPENTERS, AND OTHERS.

MR. SAMUEL JONES begs to inform the trade and the public, that he has received instructions from the trustees of Mr. W. M. Hull, of Charlton-place, Islington-green, to SELL by AUCTION, on the premises, the whole of the STOCK-IN-TRADE and effects of which due notice will be given.—Further particulars may be obtained of Mr. SAMUEL JONES, Auctioneer, 78, Hasinch-street.

TO BUILDERS, MASONS, CARMEN, IRON DEALERS, AND OTHERS.

MR. C. F. SMYRK will SELL by AUCTION, on the premises, 39, Kennington-lane, on WEDNESDAY, October 18, 1848, at Twelve for One, 100 Sound Seafold Boards, Poles, Ladders, powerful 2 and 3 Sheave Blocks, Iron and Wood Masons' Planes, 200ft. Marble Slab, 100 Cast Stone Balustrades, 50pr. large Oak Wedges, a capital 4in. wheel Timber Carriage, 26 cast-iron posts, 8 large cast-iron Sashes, Iron Tanks, Coppers, Old Iron, Shop Fronts, Sashes, Partitions and Wainscoting, Rafters, Joists, Flooring and Fencing Boards, and a variety of other effects.—Catalogues of the Auctioneer on the premises.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS are instructed to SELL BY AUCTION, on the premises, the Arboretum, Fulham-road, Brompton, on MONDAY, October 23rd, 1848, and following day, at Eleven o'Clock, by order of Mr. D. A. Ramsay, without reserve, in consequence of the land being required for other purposes, the valuable NURSERY STOCK, consisting of a very large quantity of fine evergreens, stunted and dwarf roses, fruit and forest trees, with a choice collection of new ornamental and deciduous shrubs, large specimens of choice ornamental trees. May be viewed prior to the Sale.—Catalogues had on the premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone.

TO TIMBER MERCHANTS, CABINET-MAKERS, CARPENTERS, BUILDERS, &c.

MESSRS. SKEEN and LEARY will SELL BY AUCTION, without reserve, on the premises, No. 6, Kingsland-road, Shoreditch, on TUESDAY, October 24, 1848, and following day, commencing each day at Eleven o'clock precisely, by order of the proprietor, removing to 120, Bunhill-row, Finsbury, all the remaining STOCK in TRADE of Mr. WILLIAM OLIVER, Mahogany and Timber Merchant, consisting of Spanish and Honduras mahogany, in logs, planks, boards, and veneers; African-wood, rose-wood, cedar, satin-wood, zebra-wood, maple, and walnut; prime dry wainscot, beech, birch, staves, oak, and ash, battens, cut deals, sprung, dry pine planks, and boards, &c. &c.—To be viewed two days previous to and on the mornings of sale. Catalogues to be had on the premises; and of SKEEN and LEARY, Brokers, 77, Old Broad-street. The spacious Premises to be let, or the lease to be sold.

BUILDER'S STOCK, VAUXHALL.

MESSRS. BARTON and SON will SELL BY AUCTION, by order of the proprietor, Mr. INKPEN, on the premises, near Vauxhall Gardens, on MONDAY next, October 23rd, at Twelve o'clock, including a large quantity of SCAFFOLDING, LADDERS, ropes, nearly new brick cart, trucks, barrows, benches, tools, chests, new prepared stuff, new and old timber, planks, hammer-beam, powerful crab, bricks, slates, tiles, and the usual stock in trade of a builder, all genuine and unreserved sale.—May be viewed the morning of sale, and catalogues had on the premises, or of the Auctioneers, 7, Cheltenham-place, Westminster-road.

GENUINE STOCK in TRADE of a Timber Merchant, at Walworth, near the Cottage of Content.—To Builders, Carpenters, Joiners, and others. NEW TIMBER, Battens, Pine Plank and Deals.

MESSRS. BARTON and SON will SELL by PUBLIC AUCTION, on the Premises, Park-place, East-street, Walworth, on THURSDAY, October 19th, at Twelve o'clock, comprising 1,000 battens, 800 pine planks, 700 deals, 20,000 feet of sides, 2,000 feet of new boards, an incalculable number of feet of new cut scantling, joists, plates, mortering, and lot of oak in joists, posts, sills, &c.; blind-makers' and wine baths, ceiling and panelled fir, sashes, doors, mouth quarters, feather edge boards and arris rails, water shutes and trunks, ridge planks, 50,000 bricks, 10,000 pantiles, 300 sills, 800 feet of coping, jambs, hearths, paving bricks, new builder's cart, some old timber, fittings, fixtures, and the clearance of the yards. Order of the proprietor.—May be viewed, and catalogues had at the Cottage of Content, Walworth; or of the Auctioneers, at their Offices, Lambeth, Surrey.

CLOTHING STORES AND MATERIALS, ROYAL HOSPITAL, GREENWICH.

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, at the Store Yard, on TUESDAY, October 31th, at Twelve o'Clock, by order of the Commissioners of Greenwich Hospital, the QUANTITY of STORES, comprising blue woollens, cuttings of blue cloth, striped linen and rags, cavalett blankets, bed ticks, old flock, linings and flannels, bats and shoes, copper and brass work, &c.; also, a quantity of materials, ironwork, firewood, &c., belonging to the Works Department. May be viewed one day previous, and catalogues had at the Office of the Steward and Clerk of the Works, Royal Hospital, Greenwich; and of the Auctioneers, Coal Exchange, or 1, Little Smith street, Westminster.

WESTMINSTER IMPROVEMENTS TENTH SALE

MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, on the premises, on WEDNESDAY, October 18, at One, by order of the Westminster Improvement Commissioners, the EXTERNAL MATERIALS and INTERIOR FITTINGS of four Houses, being 14, Tothill-street, and 10, 11, 12, New Tothill-street, comprising tiled roofs, sound timber in roofs, joists, girders, and floor boards; doors, sashes, and frames; wainscoting, stoves, fixtures of a coffee-shop, stone paving, kitchen and other ranges, &c.—May be viewed on the day prior to the sale, and catalogues had at the Architect's office, and of Mr. BILLINGS, Clerk to the Commissioners, 36, Great George-street; and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

VALUABLE LEASEHOLD WHARF, GROSVENOR BASIN, PIMLICO.

MESSRS. EVERSFIELD and HORNE beg to announce, that they will SELL BY AUCTION, at Garraway's Coffee House, Change Alley, Cornhill, on TUESDAY, November 14, 1848, at Twelve for One, by order of the mortgagees, under power of sale, the very commanding and extensive premises known as BELGRAVE WHARF, on the north side of Grosvenor Basin, possessing a frontage of 95 feet next the basin, by 200 feet deep, with a very attractive show-room facing Belgrave Place, with Doric portico, enriched with plate glass doors, and surmounted by the Royal Arms; also the very commodious FAMILY RESIDENCE, with back yard and all necessary out buildings. The buildings on the wharf comprise covered sheds, a range of light workshops, stabling, good offices, and other conveniences, the whole of which are built in the most substantial manner, and render the premises peculiarly adapted for stone or marble merchants, masons, builders, or contractors. He'd direct from the Marquis of Westminster, for an unexpired term of 74 years, at a very low ground rent. The crane, equal to 8 tons, with other fixtures, may be taken if required, by valuation. May be viewed, by leave of the tenant, ten days prior to the sale, when particulars may be obtained at the auction-room's head, corner of Lower Eaton street, Pimlico; of Messrs. RICKARDS and SON, Solicitors, 62, Old Broad, City; at Garraway's; and of the Auctioneers, Coal Exchange, and No. 1, Little Smith-street, Westminster.

PUBLICATIONS.

Just published, price 4s., with considerable additions,

LAXTON'S BUILDERS' PRICES for 1848.

Containing 11,000 PRICES and MEMORANDA connected with Building; together with the whole of the NEW METROPOLITAN BUILDINGS ACT, and the Modifications of the Act.

JOHN WEALE, High Holborn; SIMPKIN & MARSHALL, GROOMBRIDGE and SONS, and SHERWOOD and Co., Paternoster-row; also to be had at the office of "The Builder," and the "Civil Engineer and Architects' Journal," 10, Finsbury-street, Whitehall.

In the press, and shortly will be published,

A SERIES of DESIGNS for PUBLIC BATHS and WASHHOUSES, consisting of Nine Plans and Six Elevations.

By WILLIAM FOX, Architect.

Dedicated by permission to the Worshipful the Mayor of Liverpool.

The plans have been prepared with the view of rendering them suitable for public institutions having for their object the improvement of the SANITARY CONDITION of the population of large towns, and the designs present examples of the Italian, Tudor, and Gothic styles of Architecture.

The work is lithographed in the best style of line drawing, folio size, with descriptive letter-press.

London SIMPKIN, MARSHALL, and Co.; Liverpool—G. J. POORE.

TO LAND OWNERS AND AGRICULTURISTS.

MODEL COTTAGE for Agricultural Labourers.—Now ready, working drawings and specification, explanatory of the design for a labourer's cottage, which received the first premium awarded by the Society of Arts in the competition of May, 1848, and now published under their sanction. The work comprises plans, sections, elevations, and other details, and contains seven lithographic plates, royal 4to. It is accompanied by a specification describing the general construction of the building and the mode of warming and ventilating, with all the information that may be needed by the workman in carrying the design into execution. Price 10*s.* 6*d.*

*** Subscribers' names will be received by Mr. T. C. HINE, Architect, Nottingham; by WILLIAMS, 181, Strand; TAYLOR, King William-street, London; WEALE, Holborn, and all Booksellers.

PATENTEES and others requiring ADVERTISEMENTS in the PROVINCIAL or LONDON PAPERS, &c., will meet punctual attention through the AGENCY of S. DEACON, 21, Walbrook, where the Papers are filed from every publication of the Times, with other London Newspapers, for upwards of 100 years past; any of the Provincial Papers as they arrive may be seen at S. DEACON'S Coffee-house, No. 3, Walbrook, on taking refreshment.

TO TIMBER MERCHANTS.

WANTED, a quantity of YELLOW and WHITE BATTENS, DEALS, &c., to the amount of about £1,000, to be paid for as follows:—One-third of the above sum in CASH, the remainder in HOUSES, which are finished and let, situate within a mile of the Bank; lease, 95 years.—For further particulars apply, by letter only, to Mr. WILLIAM CUTBUSH, Architect and Surveyor, 22, Penton-street, Pentonville.

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The Builder

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Carrickfergus, 26th Sept., 1848.

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Wokingham, October 18, 1848.

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By order, T. J. BUCKTON, Secretary.

London Terminus, 17th October, 1848.

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London Terminus, October 17th, 1848.

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E. T. ARCHER, 451, Oxford-street, so- licits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the patentee's premises of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper hangings, at the lowest possible price, and of the best workmanship. Elegant and Fresh Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford-street.

COOZE'S IMPROVED MARBLE PAPERS.—The Trade are supplied with these beautiful Papers, which are the sole invention of W. W. COOZE, Decorator to her Majesty. They will be found fully equal, in effect, to painting, at a considerable saving of expense. W. W. C. invites an inspection at his Manufactory, 30, Frith-street, Soho-square, where also may be seen designs of every style of decoration, which are executed in the most economic terms. Contracts taken and workmen sent to any part of the United Kingdom.—30, Frith-street, Soho-square.

TO LEND, on mortgage of Freehold or long Leasehold securities, SEVERAL SUMS of 300*l.*, 400*l.*, and 800*l.* at 5 per cent. BRIDGER and COLLINS, solicitors, 37, King William-street, London-bridge.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET SQUARE, well adapted for a Builder, or any trade requiring large shed room, having good lock-up workshop, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

SYDENHAM PARK.—Several PLOTS of GROUND in this desirable locality TO BE SOLD or LET on Building Leases. Most eligible situations for Villas. For particulars apply to Mr. DREW, CHAPMAN, and SHAPTER, Auctioneers, Bridge-street, or at Messrs. ALLIN, SNOOKE, and STOCK, Solicitors, 10, Bank-buildings, Princes-street.

TO BUILDERS
HAGGERSTONE BRICKFIELDS.—GROUND TO LET for fourth-rate houses, adjoining the intended new Church.—Apply to Mr. PALMER, Shrubland-road, Queen's-road, Dalston. Bricks advanced, and for sale as usual.

TO BUILDERS AND OTHERS
TO BE SOLD, on reasonable terms for Cash, Half a Million to One Million of large-sized, superior STOCK BRICKS. Terms and particulars of Mr. SELLEN at the Brickfield, Hornsey, or at Cosby Park. Further particulars as to price of Mr. LLOYD'S Wharf, Pimlico.

TO BRICKMAKERS AND OTHERS
TO BE LET by TENDER, at a Royalty, a FIELD, containing a quantity of valuable Brick earth, near London-fields, Hackney.—For particulars, apply to Mr. J. G. MARTIN, No. 1, Ash-grove, Hackney.

TO BUILDERS, MANUFACTURERS, AND OTHERS.
TO BE LET (or the Lease to be disposed of for the unexpired term of nineteen years), the valuable and extensive Premises, Kingsland-road, Shoreditch, comprising dwelling-house, counting-house, yard, extensive workshops, sheds, lofts, sawpit, stable, &c.—Apply on the premises, or at 120, Bunhill-row, Finsbury.

TO BUILDERS AND OTHERS
TO BE LET, and the Lease to be disposed of, for the unexpired term of 15½ years, the VALUABLE and EXTENSIVE PREMISES, 103, East-street, Manchester-square, comprising thirteen-roomed dwelling-house, large yard, saw pit, shed for wood, timber, with workshop over, 11 rooms, 2 stables, malt-room, &c. A back entrance in mews, and a small tenement at back, of six rooms.—Apply on the premises.

BUILDING LAND
TO BE LET, or SOLD, various PLOTS of most eligible FREEHOLD LAND—some of them in particularly good situations for the erection of villas, suitable for cemeteries, suburban villas, small houses, manufactories, or public purposes, situate in the parish of Islington, with great facilities of access thereto, and for sale in lots for immediate payment of the freehold at twenty years' purchase.—Apply to Mr. FLOWERS, Park Cottage, Tollington park.

TO BRICKMAKERS, &c.
TO BE LET, a snug little BRICKFIELD, in Essex, very near the river Thames. It will be found a very desirable opportunity for any person wishing to make a million or more bricks this season. The Premises are compact, remarkably well and easily fed with water, and the Implements, are all nearly new. Coming in about 1500. The claim is excellent, and can now show a profit of 200*l.* per annum.—Apply at Mr. BARNES, Auctioneer, &c., 33, Fenchurch-street, London.

TO BUILDERS, CAPITALISTS, AND OTHERS.
SEVERAL THOUSAND FEET of FREEHOLD BUILDING LAND TO BE LET on Lease, for 80 years (land tax redeemed), in the high road leading from Newcross to Lewisham, and Greenwich, in the County of Kent, within a short distance of the Deptford Station on the London and Greenwich Railway, for first-rate, second, and third-rate detached and semi-detached Houses. Also a Plot FRONTING FORTY FEET, on the east side of Florence-road, leading from Newcross-road to the Lewisham road, for fourth-rate attached Houses.—For plans and particulars apply to Mr. JOHN JENKINS, Surveyor and Builder, Lewisham High Road, Deptford.

TO CAPITALISTS
A MANUFACTURING BUSINESS to be DISPOSED OF, secured by patents, for 11 years to run; any party with about 3,000*l.* at command would find the above a profitable concern, and can now show a profit of 200*l.* per annum, and may be greatly increased by the articles being more generally introduced, as they are now in a progressive state. The premises, which are in Long-lane, Bermondsey, are held on lease, with premises and dwelling-house, held on lease, at a low rent. The business has been carried on in the same place for many years. Part of the purchase money may be left by letter with real name and address, to DANIEL FOSSICK, Esq., 11, Angel-court, Throgmorton-street, City.

TO PAPER STAINERS, ELIGIBLE OPPORTUNITY FOR COMMENCING BUSINESS.
AN OLD ESTABLISHED BUSINESS in the above line TO BE DISPOSED OF, in consequence of the proprietor retiring from business. There are all the modern blocks, presses, and effects, requisite for a first-rate trade; as also the VALUABLE STOCK, comprising the PATTERNS of one of the largest stocks in the old English style in London, having a capital connection. The blocks and fixtures, price 300*l.*; and the remaining portion, taken at about at the option of the purchaser. Credit will be given on undoubted security. For further particulars, apply to Mr RICHARD DODS, the owner, No. 53, Bold-street, Liverpool.

SALES BY AUCTION.

CLOTHING STORES AND MATERIALS, ROYAL HOSPITAL, GREENWICH.
MESSRS. EVERSFIELD and HORNE will SELL BY AUCTION, at the Store Yard, on TUESDAY, October 24th, at Twelve, by direction of the Commissioners of Greenwich Hospital, a QUANTITY of STORES, comprising blue woollens, cuttings of blue cloth, striped linen and rags, coverlets, blankets, bed ticks, old flock, linings and flannels, nails and pikes, copper and brass work, &c.; also, a quantity of materials, ironwork, firewood, &c., belonging to the Works Department.—May be viewed one day previous, and catalogues had at the office of the Steward and Clerk of the Works, Royal Hospital, Greenwich, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

TO RAILWAY DIRECTORS AND CONTRACTORS, ARCHITECTS, ENGINEERS, AND BUILDERS.
MESSRS. EVERSFIELD and HORNE have received instructions from Mr. Kelk, the contractor for the Chatham and Dover Railway, to SELL by AUCTION, on the premises, on THURSDAY, November 2nd, at ONE for TWO precisely, the very handsome FLUTED CAST IRON COLUMNS, forming the Arcade, Colonnade, and Portico of the GREAT WESTERN QUADRANT, together with a large quantity of iron and woodwork, grants, baths, &c. The columns, which are of the Roman Doric order, stand 16 feet 6 inches high, exclusive of the plinths, and will be put into suitable lots, to be taken down by the purchasers. They are presumed to be particularly well adapted for a railway terminus, or viaduct, or might be applied with much effect in the portico or colonnade of a superior class of family mansions. May be viewed, and catalogues had six days prior to the sale; at Mr. KELK'S offices, 12, South-street, Grosvenor-square, and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

TO TIMBER MERCHANTS, CABINET-MAKERS, CARPENTERS, BUILDERS, &c.
MESSRS. SKEEN and LEARY will SELL BY AUCTION, without reserve, on the premises, No. 6, Kinsal-road, Shoreditch, on TUESDAY, October 24, 1848, at half-past One precisely, by order of the Proprietor, removing it, Rundall Row, Finsbury, all the remaining STOCK in TRADE of Mr. WILLIAM OLIVER, Timber Merchant and Builder, consisting of Spanish and Honduras mahogany, in logs, planks, boards, and veneers; African-wood, rose-wood, cedar, satin-wood, zebra-wood, maple, and walnut, pollard oak, sycamore, beech, birch, staves, ash, and deal boards, scantlings, spruce pine planks, and boards, &c. &c. To be viewed two days prior to and on the mornings of sale. Catalogues to be had on the premises; and of SKEEN and LEARY, Brokers, 75, Old Broad-street.—The spacious Premises to be let, or the lease to be sold.

THE ARCHITECTURAL CARVING COMPANY'S WORKS, Eccleston-place, Pimlico.
MESSRS. OXENHAM and SONS have received instructions to SELL by AUCTION, at the WORKS, on WEDNESDAY, November 1st, and following days, at Twelve o'clock each day, by order of the mortgagee, the VALUABLE and EXTENSIVE STOCK of CARVINGS in WOOD and STONE, comprising several beautiful Gothic church windows, fonts, pulpits, monuments, stalls-ends, lecterns, altar chairs and tables; door-framing, panelling, sets of Elizabethan chimney-pieces, chimney pieces, a large quantity of architectural and other ornaments; a small steam-engine; carts, horses; the stock of wood, consisting of about 50,000 feet of dry wainscot in plank and board, wainscot slabs and staves; a quantity of oyster shell lime, and various effects. May be viewed on the Monday and Tuesday antecedent, and mornings of sale; and catalogues had at the works, and at Messrs. OXENHAM'S Offices, 3, 4, 5, 6, Gt. Turner-street, near the Pantheon.

The valuable PATENT for Carving in Wood and Stone, Steam Engine and Plant and Machinery.—The Architectural Carving Company's Works, Eccleston-street, Pimlico.
MESSRS. OXENHAM and SONS have received instructions to SELL by AUCTION, at the WORKS, on WEDNESDAY, November 1st, at One o'clock precisely, by order of the mortgagee, in One Lot, the VALUABLE PATENT RIGHT, CARVING MACHINERY, which is an immense saving in time and expense), together with the 15-horse power Steam-engine. The plant and several lineal feet of shafting, and everything pertaining to the patent, offering to any spirited capitalist the speedy realisation of a large future. The machinery may be inspected in operation one week prior to the sale, and particulars had likewise at Messrs. OXENHAM'S Offices, 363, Oxford-street, near the Pantheon.

TO BUILDERS, CARPENTERS, AND OTHERS.—Hornsey-road, Nos. 1, 2, and 3, Hall-way-to-pike. Nearly new Building Materials, comprising 10,000 flooring boards, 50,000 feet of joists, long rafters, excellent quarterings, 3,000 feet of nearly new York paving, landings, 12 pairs of sashes and frames, boxes and shutters, capital register and other stoves, 200 feet of iron railing, 24 panelled and other doors, cupboards, dressers, and shelves, glazed stained glass doors, excellent marble-box chimney-pieces, 3 fitted bath-rooms, 2 water-closets, four kitchen ranges, a large stock of slates and pantiles, old lead, cisterns, and numerous useful items, which will be SOLD by AUCTION, by
MR. PRIEST, on the Premises, as above, on TUESDAY, October 24, 1848, at twelve, for One o'clock. May be viewed the day prior and morning of sale. Catalogues to be had at the Angel Inn, Islington; the Pied Bull, Holloway; and of the Auctioneer, No. 3, Angel-place, Pentonville.

ISLINGTON.—To CARPENTERS, BUILDERS, and Others.—Stock in Trade, Implements, and Effects of a Builder and Carpenter, large quantity of Building Materials, Horse, Carts, Harness, Van, Chaise, Truck, Scaffolding, Timber, Pine Planks, Boards, Lanchers, Stone, Bricks, Tiles, General Ironmongery and Plumbers' Tools, Work-benches, &c., which will be SOLD by AUCTION, by
MR. SAMUEL JONES, on the Premises, Charlton-crescent, Islington, on THURSDAY, October 26th, and following days, at Twelve each day, in consequence of the number of lots, by order of the trustees of Mr. W. M. Hill, for the benefit of the creditors, without reserve. The stock comprises Christiana and other deals, white and red pine plank, 11 inch boards, quartering, panelled doors, sashes, framing oak sills, fir, scaffolding poles, putlocks, boards, ropes, screens, ladders, steps, shop fronts, glazed sashes, quantity of useful materials, workbenches, grindstone, barrows, and basket, bricks, tiles, gutters, stone steps, sills, and paving cement, &c., iron-gates and palings, gratings, pipes, stoves, ranges, coppers, bars, bolts, hooks, hinges, fixtures, locks and latches, sash lines and weights, flooring boards, spike and other nails, quantity of useful ironwork and general ironmongery, painters' and plumbers' tools, materials, &c.—The whole may be viewed two days previous to the sale, when catalogues may be had on the premises; of Messrs. SELBY and MACKENSON, Solicitors, 20, London-street-fields, and at the Office of the Auctioneer, 76, Bishopsgate-street.

TO RAILWAY CONTRACTORS, BUILDERS, AND OTHERS.
TO BE SOLD BY AUCTION, on MONDAY, 6th November, 1848, on the Premises, at Penmaenmawr, near Conway, North Wales, the remaining portion of that well known VALUABLE PLANT, the property of Messrs. WARTON and WARDEN, in consequence of the completion of their works on the Chester and Holyhead Railway, consisting of 3 strong crabs, capable of lifting 16 tons, with trussed girders, blocks, and chains complete; single and double-purchase crab winches (new), two lift cranes, one of 5-ton chain to each a double-handed landing crane built of red pine; dobbin wheels, carts, barrows, and planks; a quantity of useful timber, consisting of ash, elm, beech, birch, and alder; several tons of firewood, workmen's cottages built of wood and stone, stables with corn-bins, mangers, &c.; two forges, with cart and chain gearing; smiths' tools, bellows, anvils, vice, taps, and dies; smiths' stack, new and old iron, grating, stone-troughs, &c.; two chaff-cutting machines, to work by steam or hand, field-gates, with oak and fir posts, mortar screens, two pile-driving machines, with monkeys of one ton weight to each; empty casks, paint-tubs, cans, brushes, &c., and numerous other useful lots, including office furniture, desk, stools, &c. The property may be viewed, catalogues had, and every information obtained ten days before the sale by applying to Mr PITTARD, Penmenmawr, near Conway. There is a station at Aber, which is five miles from Bangor, and nine from Conway; and Catalogues may also be had at the principal inns in the above-named places. The whole of the property lies exceedingly convenient for removal by sea, by railway, or by common road.

THE BUILDER.

PATENTEES and others requiring ADVERTISEMENTS in the PROVINCIAL or LONDON PAPERS, &c., will meet punctual attention through the AGENCY of DEACON, 2, Walbrook, where the Papers are filed from every county, and the *Times*, with other London Newspapers, for upwards of 100 years past; any of the Provincial Papers as they arrive may be seen at 8, DEACON'S Coffee-house, No. 3, Walbrook, out-lying palace-yard.

PROTECTION FROM FIRE.—The PATENT FIRE-PROOF FLOORS and CEILINGS invented by Dr. Fox are applicable to buildings of every description, and will effectually prevent the ravages of fire. They at the same time afford no place for any dry rot, and from their complete exclusion of vermin and insects; and though far more durable than ordinary floors they are not at all more costly. The Flooring may be seen and further information obtained on application to the Patentees, Messrs. FOX and BARRETT, Leicester-chambers, 46, Leicester-square.

COMPOSITIONS for WRITING with STEEL PENS.—STEPHENS'S WRITING FLUIDS compose the most splendid and durable colours, and the most indelible composition which art can produce; they consist of a BLUE LIQUID of magnificent intense black colour, PATENT UNCHANGEABLE BLUE FLUIDS, remaining a deep blue colour. Two sorts are prepared, a light and dark blue. A superior BLACK INK, of the common character, but more fluid. A superior CARMINE RED, for contrast writing. A liquid ROUGE CARMINE, for artists and contrast writing, in glass bottles. A carbonaceous RECORD INK, which writes instantly black, and being proof against any chemical agent, is most valuable in the prevention of frauds. A liquid MECHANICAL and ARCHITECTURAL DRAWING INK, superior to Indian ink. Marking inks for linen, steel pens, inkholders. Prepared by the Inventor HENRY STEPHENS, 54, Standard-street, Blackfriars, and sold by booksellers and stationers everywhere, in bottles, at 1d., 2d., 4d., 6d., 1s., and 3s.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET, and 109, CHANCERY-LANE. Patent sealed on the 28th day of February, 1846, for Fourteen Years, for Improvements in Reducing Sizes of WOOD and IRON, consisting of new Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel work, and screw gear, or any other complicated machinery employed by other makers.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in about a less room than any other shutters made. Harcourt Quincey, Patentee.

CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL BOARD PLATES, &c. &c., in brass, copper, zinc, WROUGHT IRON GIRDERS, HOT-WATER APPARATUS, and metal works of every description connected with buildings. Steam engines, to drive and model machinery. CLARK and Co., Engineers, 258, Wapping. Models can be seen and every information obtained at 5, Oxford-street, and 4, Moorgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, Gordon-street, Edinburgh.

BUNNETT and CORPE, ENGINEERS, Patentees of REVOLVING IRON AND WOOD SAFETY SHUTTERS, and of ORNAMENTAL METALLIC SASH BARS, MOULDINGS, &c., IN BRASS, COPPER, ZINC, &c. FOR SHOP FRONTS, SKYLIGHTS, &c.

Shop-fronts so completely fitted as to afford an elegant style, either plain or ornamental, also glazed with best plate glass. Strong inferior Shutters, handsomely engraved. Metal works and iron buildings of all kinds in connection with bankers' & shops, water closets, &c. &c.

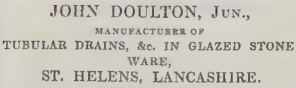
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Best sash bars and estimates given.

IMPROVED PATENT BENDED and FLOORING CRAMPS FOR BRICKLAYERS.

SOLE LICENSEES FOR MARVIN and MOORE'S PATENT DIAGONAL GRATINGS.

Office—Le Patentee-sq., Longfield-s., London, and at the Works, Deptford, Kent.



JOHN DOULTON, Jun.,

MANUFACTURER OF

TUBULAR DRAINS, &c. IN GLAZED STONE WARE,

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These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH POTTERY, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway without extra charge.

SANITARY IMPROVEMENT.—Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

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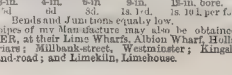
PATENT SELFACTING EFFLUVIA TRAPS, Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, and all improved by BUNNETT and CORPE, ENGINEERS, 258, Lombard-street, London where specimens may be seen in action, and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELFACTING DOUBLY TRAPPED PAN AND VALVE WATER CLOSETS;

the most successful combination of the above principle, with other patented improvements.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt-GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore.
3d.	4d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 98, Cross-street, Blackfriars-road

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Bends, Shoes, Elbows, &c., for Lead and Gutta Percha Gutters, Socket Pipes for Water or Gas, Plain Pipes, Sash Weights, and other Castings from Wrought Iron or Baker's Ovens of every description, fitted complete, to be fixed in sets or in parts. Prices equal to all competition. Contracts taken to any extent.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHÉ, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used in the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the most modern arrangements, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

TO ENGINEERS, MANUFACTURERS, RAILWAY AND STEAM-BOAT COMPANIES.

G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The Advantages of this Water-Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, by a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight. To be had of G. HOWE, Portable Steam-Engine Maker, 118, Great Guild-ford-street, Borough; also of Messrs. FROST, NOAKES, and VINCENT, Brassfounders, 195, Brick-lane, Whitechapel, price 1 10s. each.

TO ARCHITECTS, BUILDERS, &c.

COPPER-WIRE CORD.—R. S. NEWALL and Co.'s PATENT IMPROVED COPPER-WIRE CORD for WINDOW SASH LINES, Hob-houses, Lightning Conductors, Hanging Pictures, Clock Cord, and various other purposes for which hempen rope has hitherto been used. This new and valuable Patent is fast superseding the use of the hempen cord, and is strongly recommended to all builders and other parties connected with the above. The Wire Cord may be had wholesale or retail, and specimens seen at the office of the Patentees, 130, Strand, and No. 163, Fenchurch-street. W. T. ALLEN, Agent; also of all respectable Ironmongers.

TO ARCHITECTS AND BUILDERS

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBBS PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes. C. CHUBB and SON, sole Manufacturers, 57, St. Paul's Churchyard, London.

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CAUTION to Purchasers of FIRE-PROOF DOORS for Strong Rooms, Safes, Chests, and Detector Locks, &c. &c. LEADBEATER, many years manufacturer for Chubb.

LEADBEATER begs most respectfully to inform Architects, Surveyors, Builders, &c., that he can supply them with IMPROVED DETECTOR LOCKS for ordinary purposes, STRONG WROUGHT IRON FIRE-PROOF DOORS, SAFES, and CHESTS, &c., on the most improved principles of security against FIRE and THIEVES, without the aid of "expensive machinery," which is employed by some inexperienced makers, but must be paid for; at prices 25 per cent. under any other house in London.

LEADBEATER offers ONE HUNDRED POUNDS reward to any person who can pick his improved detector locks or latches. Some thousands of Leadbeater's strong room doors and safes have now been put up without a SINGLE COMPLAINT, and fifteen years' practical experience, during which he has adapted every possible improvement to real security, enables him to challenge competition with any house in London. A large assortment of all sizes on sale and made to order. A pair of extra strong wrought-iron fire-proof doors, with ventilating gates, made expressly for a London's strong room, may be seen at his manufactory. Strong wrought-iron doors for party walls, with wrought-iron rabbited frames, and secured by the BEST DETECTOR LOCKS in ENGLAND, 6 feet high by 2 feet 2 inches wide and upwards, price 10l. each, always on hand at LEADBEATER'S MANUFACTORY, 23, ALDERSGATE STREET, LONDON.

PIERCE'S ECONOMICAL RADIATING STOVE GRATES.—Families furnishing are solicited to examine the large and extensive assortment of Drawing-room and other GRATES, recently completed from the most recherché designs in the Louis Quatorze, Elizabethan, Gothic, and other styles, with PENDERS AND FIRE-IRONS en suite, always on show at the manufactory.

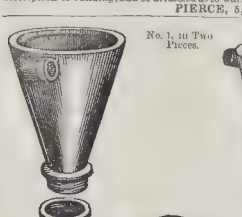
These Grates combine the decorative and useful, blending economy with comfort, and are guaranteed as a PERFECT CURE FOR SMOKY CHIMNEYS.

In BED-ROOMS and NURSERIES they are found invaluable, retaining the heat for many hours after the fire is out.

KITCHENS and LAUNDRIES fitted up in the most complete manner with Ranges, Ovens, Boilers, Hot-plates, Broiling-plates, Patent Stoke-holes, &c., with the latest improvements.

HEATING by HOT WATER, on Bilton's Wrinkle with Ventilation, on PIERCE'S improved method, adapted for every description of building, and so arranged as to warm the entire of a large mansion from one moderate fire.

PIERCE, 5, JERMYN-STREET, REGENT-STREET.



No. 1, in Two Pieces.

No. 2 in one Piece.

No. 3 is similar to No. 2, but with the discharge-hole in a horizontal direction.

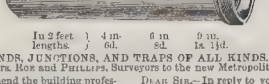
No. 4 in three pieces.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH, Manufactured by DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in. 8d.	9 in. 1s.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore. 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

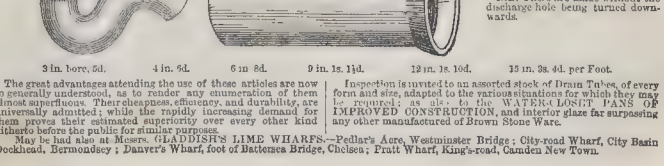
DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 30, HIGH STREET, LAMBETH, LONDON. Established 1751.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge hole being turned downwards.

3 in. bore, 5d. 4 in. 9d. 6 in 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ½ inch to 1½ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.— T. ADAMS, late S. PARE, MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Bricklayers' Arms. SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery. Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged at mill prices. Very extensive Drying Sheds.

JOHN NEWSON'S Machinery being now perfectly completed, he is enabled to offer to Builders and others the BEST DRY FLOOR BOARDS at the following reduced prices:—

¾ white S..........	1[illegible]s. per 100 feet superficial.		
1 inch ditto..........	18s.	"	"
1 inch white D..........	23s.	"	"
1 inch yellow..........	24s.	"	"
Two-cut battens white or yellow	21s.	"	"

All sorts of sawing done for the trade, and room to stack and dry upwards of 20,000 deals and battens. Barges always going to and from the principal docks. Goods can be insured in the Builders' Fire Office, 69, Lombard-street, or at Mr. Newson's Office, 56½, Westbourne-street, also at his Timber Yard, Grosvenor-row, Pimlico.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

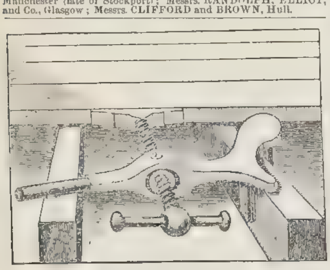
Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

The Company's Agents are—Mr. WM. LANE, Irwell-buildings, Manchester (late of Stockport); Messrs. RANDOLPH, ELLIOT, and Co., Glasgow; Messrs. CLIFFORD and BROWN, Hull.



KIMBERLEY'S PATENT

JOINTING and COMPRESSING SCREW CRAMP. ARCHITECTS, BUILDERS, SHIPWRIGHTS, COACH-BUILDERS, JOINERS, CABINET-MAKERS, &c., are requested to direct their immediate attention to this essential article, being an invention so efficient and unique as to present them with a cramp with every quality for their daily use, in half the size, with thrice the power, and with a reduction in labour of full one hundred per cent. less than any other cramp known at the present day. Its construction is simple, and its power great; give to the mere youth that command which the old ones scarce give to the powerful man. It is applicable in all cases where two bodies require a fixity and perfect union; and in the laying of floors compresses the boards so gradually and truly together that the joints are seen with difficulty when the plane has passed over them. It does not require the man using it to rise from his knees, as others do; and if necessary can be left with its full pressure upon its work, unattended, and in perfect safety. Its merits have been tested by many builders of extent and eminence in various parts of the kingdom, and the Patentee has the pleasure to say their opinions, without one exception, have been those of unqualified approbation. It is contrived in but few parts, and breakage or derangement appears impossible. Its strength, ease, and durability have won it the highest eulogiums from the practical and scientific; and the Patentee very earnestly invites these trades to its immediate trial, in the full belief that its qualities will render it at once of obvious importance to them, as well as a pecuniary saving in all respects.—May be had at the Patentee's Offices, 57, Inge-street, Birmingham; also at 2, Edward street, Portman-square, London. —Price 42s. each, net terms, cash on delivery.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING,
For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA- RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and roses complete, ready to be attached to pumps, water butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about 30 per cent. has been made on the usual Glazing sizes.—Sheet, Crown, and Ornamental Window-Glass Warehouse, 35, Soho-square, London.—ROUGH PLATE GLASS.

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NEW TARIFF.—Sheet in various large dimensions delivered free in London.

Common in 100 feet cases		....	20s. 0d.
Do.	200	do.	38s. 0d.
Thirds	200	do.	42s. 6d.
Seconds	200	do.	66s. 8d.
Best, very superior		do.	100s. 0d.

ROUGH PLATE for WINDOWS, SKYLIGHTS, and FLOORS, in sizes not exceeding 5 feet superficial.

PATENT ROUGH PLATE TILES.

⅛ inch........	1s. 0d.	⅛ inch..........	0s. 11d.
⅜ inch........	1s. 2d.	¼ inch..........	1s. 3d.
½ inch........	1s. 6d.	⅜ inch..........	1s. 7d.
¾ inch........	2s. 0d.	½ inch..........	2s. 0d.
1 inch........	3s. 0d.		

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

C C C Crown per crate 18 tables	....	£1 16 0	
C C do. do.	....	2 0 0	
Fourths do. do.	....	2 7 0	
Thirds do. do.	....	3 2 6	
Large Crown Squares in 100 feet boxes	......	2½d. per foot.	
8 by 6	10 by 8 do	......	2d. do.

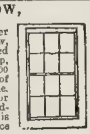
Very superior Plate for Pictures and Windows, averaging 26oz., from 1s. 6d. per foot upwards.

CHAS. WM. WATERLOW,

MANUFACTURER



of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity. N.B. This Establishment is worth the notice of all engaged in building.

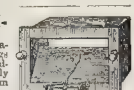


By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smokey chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12a, Cumberland Market, Regent's-park, London, where specimens are to be seen.

DR. ARNOTT'S CHIMNEY VENTILATOR.



F. EDWARDS, Stove Maker to her Majesty, 42, Poland street, Oxford-street, begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly invaluable advantages to be derived from the use of Dr. Arnott's Valve for the Ventilation of Rooms of every description.

Prices from 7s. 6d. to 20s. each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS—NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of smoky chimneys of every description, fully justifies F. E. in stating that he can undertake the cure of smoky chimneys on the above equitable terms.

WILSON and Co.'s PATENT VENTILATING CHIMNEY-POT, for the Cure of Smoky Chimneys, has been tested extensively throughout the Kingdom for the last three years, and has proved to be an effectual remedy.



The Patent Pots cannot corrode or get out of order, and can be effectually swept by the sweep's machine.

J. W. and Co. had the honour of fixing upwards of fifty of the Patent Ventilating Chimney Pots, in artificial Stone Cement, on the chimneys of Buckingham Palace; since which a number have been fixed at Windsor Castle.

The Patent Pots have proved to be the most effectual invention ever yet discovered, and also unrivalled for their ornamental appearance; they are manufactured of artificial Stone Cement, Iron, or Zinc.

The Trade supplied with them at the Manufactory,

VALE PLACE, HAMMERSMITH, MIDDLESEX.

Inquiries from the Country to be addressed to Messrs. Wilson and Co., at their Manufactory, as above. Prices and prospectuses forwarded by return of post.

N.B. Licenses granted to Manufacturers.

By Her Majesty's Royal Letters Patent.

BAILLIE'S PATENT ROUNDED RIM LOCKS,
WITH SECRET AND SECURE FIXINGS.

THIS CHEAP and USEFUL ARTICLE obviating the unsightly appearance and insecurity of the common rim lock, can be obtained from the Manufacturers, Messrs. CARPENTER and TILDESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 62, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

GALVANIZED IRON FOR ROOFING, &c. The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin, or any other metal, calculating weight and strength. This fire-proof material has been used for roofing the new Houses of Parliament, ship-building and timber sheds in her Majesty's dock yards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings, chain and wire rope bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 3, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Ballusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-moulds, Pateras, &c., &c., 36-inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—JOHN HERBERT and SON, Modellers, &c., 42, Parker-st., Drury lane.

PLASTER of PARIS.—Plasterers and Others can be supplied with PLASTER of PARIS, of excellent quality, delivered at Three Cranes Wharf, London, at 5[illegible]s. per ton, casks included; or by sending bags, can have them filled and delivered at 43s.—Orders addressed to W. B. WILKINSON, Manufacturer, Newcastle-on-Tyne, accompanied by a remittance or a reference, will meet prompt attention.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT. Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Southam. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth, No. 1, Irongate Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &c.

ROMAN CEMENT.—Great complaints having been made of the inferior quality of some descriptions of Roman Cement, which for some time have been offered to the Building public, Contractors, &c., THOMAS FREEN and Co. beg to assure Architects, Surveyors, Contractors, Builders, &c., that the CEMENT manufactured by them continues in every respect the same as that produced at their Works during the last five-and-twenty years, and can, consequently, be warranted of the best quality.—Roman Cement Works, Canal-road, Kingsland-road.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements. These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 285, pages 343 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shewn by the numerous testimonials received from public bodies and private individuals of the first importance. Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystalizing properties, that the coarse quality, when applied to newly built or damp walls, may be immediately polished, painted, or papered; and rooms rendered habitable before the materials ordinarily used would begin to dry.—Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT. REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.—HART and SONS beg to invite the attention of Architects, Builders, and others, to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are stronger, more durable, and more elegant in form, than those in ordinary use, as the spindles, being loose, do not require the objectionable side screw. They are more readily fixed, are suitable for every description of lock now in use, and, as they adjust themselves to doors of different thicknesses, without alteration, are particularly adapted for the country or for exportation. They are made (to suit every style of decoration) in China, crystal, amber, and opal glass, buffalo, horn, ivory, ebony, brass, &c., en suite with finger-plates, bell-pulls, levers, &c. May be obtained of all Ironmongers; or of the proprietors and sole manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, and 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any lock furniture without such side screws would be an infringement of the patent.

LONDON: Printed by CHARLES WYMAN, of 7, Calthorpe-street, in the Parish of St. Pancras, in the County of Middlesex, Printer, at the Printing-office of J. & H. Cox, Brothers, 74 & 75, Great Queen street, Lincoln's-Inn Fields, in the Parish of St. Giles-in-the-Fields, in the said County; and published by the said CHARLES WYMAN, at the Office of "THE BUILDER," 2, York street, Covent Garden, in the Parish of Saint Paul, Covent-Garden, also in the said County.—Saturday, October 21, 1848.

The Builder

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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ADVERTISEMENTS.

TO SURVEYORS AND BUILDERS

WANTED, an ENGAGEMENT, where the Advertiser will have an opportunity for practical improvement: understands measuring, construction, and perspective: is accustomed to making fair and working drawings. Salary a secondary consideration.—Address, A. Z., care of W. Swallow, Stationer, 90, Mary-street, Hampstead-road.

TO ARCHITECTS.

WANTED, an ENGAGEMENT in a TOWN OFFICE (wholly or partially), by a Gentleman who has had considerable experience both in town and country. Can design, make finished, working, and detailed drawings, &c., is a proficient in Gothic, and has had an extensive practice in church architecture. Terms not so much a consideration as a respectable practice.—Address, by letter only, L. Z., No. 19, Union-place, Alsop place, New-road

TO BUILDERS, &c.

WANTED a SITUATION in or out of an office, by a person of practical experience and accustomed to the usual routine of an office, or a situation where the duties are general, and to make up the time at the benches if required. Address, F. G., office of "The Builder," 2, York-street, Covent Garden.

WANTED, a SITUATION in a Builder's or any other office, by a young man, who has a thorough knowledge of practical and elementary carpentry and joinery, with measurements both superficial and solid, plain, architectural and working drawings, dwelling and land surveying. Unexceptionable references can be produced. Address, stating terms, to B. T., 25, Denmark-street, Bristol.

TO SURVEYORS, CONTRACTORS, BUILDERS, AND BRICKMAKERS

WANTED, a SITUATION as FOREMAN, in a BRICKFIELD, by an active man, without encumbrance, who is master of the trade in all its branches, and accustomed to make annually from ten to fourteen millions. Can, if required, make the mills and implements used in the trade, or give instructions to others. No objection to the country or foreign parts. Reference to his late employers (to whom alone he had—Apply to A. B., Messrs. Chambers', Ironmongers, Bishopsgate-street Without, London.

TO ARCHITECTS, SURVEYORS, and CIVIL ENGINEERS.

A TALENTED YOUTH, aged 18, is desirous of giving his services, with or without remuneration. —Address to G. G., 7, Aldersgate street, City.

TO BUILDERS, SURVEYORS, &c.

A GENTLEMAN is desirous of APPRENTICING his Son (17 years of age, and just left school), in a respectable family. A premium must be moderate.—Apply, X. Z., Rusely, Higham Ferrers, stating all particulars.

TO ARCHITECTS, &c.

AN ARCHITECT'S CLERK wishes for an ENGAGEMENT: is a good draughtsman, and well accustomed to Gothic architecture. Salary moderate. Address, Y. Z., Mr. Saunders', 5, North-place, Hampstead-road.

TO ARCHITECTS AND BUILDERS.

AN EXPERIENCED PRACTICAL MAN, who has nearly completed some extensive works in the country, is open for an ENGAGEMENT as CLERK of WORKS, or FOREMAN to a builder.—Address, J. S., office of "The Builder," 2, York-street, Covent Garden.

TO ARCHITECTS, BUILDERS, PLASTERERS, &c.

AS FOREMAN, or to take the Management of a concern, a Young Man, who thoroughly understands plastering in all its branches; is also well acquainted with modelling, drawing, measuring, keeping accounts, &c. No objection to the country. Letters to be addressed W. T., at Mr. Paddidge's, Stationer, 93, Seymour-street, Euston-square.

GREAT WESTERN RAILWAY.—OPENING OF LINE TO BASINGSTOKE. ALTERATION FOR WINTER TRAINS. AND DISCONTINUANCE OF RETURN TICKETS, 1st NOVEMBER, 1848. The Berks and Hants Railway between Reading and Basingstoke will be opened for the conveyance of passengers, goods, horses, carriages, horses, and cattle, on and after Wednesday next, the 1st November.

On the same day several alterations will be made in the times of the Up and Down trains, and both trains will be discontinued during the winter months, and those trains only will run that are required for the conveyance of mails.

The Directors have to state also, that they are compelled, in consequence of the existing severe pressure on railway property, and the increased expenses for parliamentary purposes, to relinquish the system of issuing return tickets, which will be entirely discontinued from and after the 31st October, 1848.

By order of the Directors,

THOS. A. SAUNDERS, Secretary.

Paddington Station, Oct. 26, 1848.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-on-Avon and Rugby. GLAZED STONE WARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, 6, CHURCH-STREET, RUTHERHITHE. Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth. No. 1, Ironsgate Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &c.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purpose it checks the progress of fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 284 and 285, pages 464 and 481, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purpose of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; this result placing it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as to brick, and with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufactures, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 285, pages 464 and 481 of "The Builder" for accounts of EXPERIMENTS on the strength of Portland Cements, who say the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious quantities, hard, and more burnt, than any other description of Cement, it does not require, when used for mortar, to be set affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition. Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Goree, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally, is directed to the many advantages connected with the undermentioned Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence expressed in them, as shown by the numerous testimonials received from public bodies and private individuals of the highest respectability; these testimonials and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 23, Steel yard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflorese in any degree. The fine quality will incorporate with the most delicate colours; is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallizing properties, that the coarse quality, when applied to newly built or damp walls, may be immediately painted in fresco; and from its perfect hydraulic properties, the materials ordinarily used would be of no avail. Manufactured by CHAS. FRANCIS and SONS, Roman Cement Works, Nine Elms, Pimlico.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT—REDUCTION OF PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use for a far greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal or external purposes, giving its beauty, hardness, and applicability to all plain and ornamental purposes, may be had at the reduced and very moderate price of 1s. per gallon. Specimens of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 199, Dean-lane, London.

CONTRACTS.

ROYAL ENGINEERS' OFFICE, Chatham, 12th October, 1848

THE Commanding Royal Engineer, Medway District HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall-mall, London, on or before MONDAY, the 6th day of November, 1848, from persons desirous of contracting with the Honourable Board of Ordnance for the Erection of the SOLDIERS' BARRACKS and OUTBUILDINGS, at Sheerness, agreeably to plans and specifications, which may be seen at the Royal Engineers' Office, Sheerness.

The persons whose tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately, to be bound, under a penalty of 2,000*l.*, for the due performance of the contract. The tenders to be addressed to "The Secretary of the Board of Ordnance," and indorsed "Tender for Erecting Barracks and Outbuildings at Sheerness." No tender can be admitted after the said 6th of November, 1848.

ROYAL ENGINEERS' OFFICE, Chatham, 26th October, 1848.

THE Commanding Royal Engineer, Medway District HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before THURSDAY, the 9th day of November, 1848, from persons desirous of contracting with the Honourable Board of Ordnance for CONSTRUCTING the FOUNDATION of a TOWER on the SPIT of the ISLE OF GRAIN, opposite Sheerness, agreeably to plans and specification, which may be seen at the Royal Engineers' Office, Sheerness.

The person whose tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 1,200*l.* for the due performance of the contract. The tenders to be addressed to "The Secretary to the Board of Ordnance," and indorsed "Tender for Foundation of a Tower, Isle of Grain." No tender can be admitted after the said 9th of November, 1848.

TO BUILDERS AND OTHERS

PERSONS willing to CONTRACT for the ERECTION of a WORKHOUSE at Wokingham, Berks, for the Guardians of the Wokingham Union, may see the drawings and specification at the office of Mr. J. BILLING, Architect, Reading, from the 30th instant to the 7th of November next. Tenders to be presented to the Board of Guardians, at the Town Hall, Wokingham, not later than Eleven o'clock, on TUESDAY, the 7th of November next. The advertisers do not engage to accept the lowest tender. Proper security will be required for the execution of the works. All further information will be given by the architect.

JOHN ROGERS WHEELER, Clerk to the Guardians.

Wokingham, October 18, 1848.

NEW GAS WORKS.—The Pavement Commissioners of the Town of Herne Bay will meet on Monday, the 6th day of November next, at Ten o'Clock in the forenoon, at the Pier Hotel, there to receive TENDERS for the ERECTING, at the property and own expense, of other than GAS WORKS, laying down MAINS, and for supplying the town with GAS. Further particulars to be obtained of Mr STOKES, Herne Bay.

THOS. THORPE DE LASAUX,
Clerk to the said Commissioners.

TO CIVIL ENGINEERS AND OTHERS

THE Commissioners for Paving and Cleansing the Streets of the City and Suburbs of Winchester, having appointed a Special Committee for the purpose of considering the best means of PAVING, WATERING, and CLEANSING the STREETS, the members of such Committee are desirous of availing themselves of the advice of a practical Engineer on the most efficient means of accomplishing the above objects, either by the construction of common sewers, or otherwise, as may be deemed expedient. The Committee are therefore desirous of receiving offers from Civil Engineers and others who may be willing to meet them at Winchester, and to undertake a survey of the said city and suburbs, if required, without delay. Letters addressed to the undersigned will meet with immediate attention.

By order of the Committee,
JOHN H. TODD, Clerk to the said Commissioners.

GUILDHALL, October 25, 1848.

THE Committee for Letting the City's Lands will MEET at GUILDHALL, on WEDNESDAY, the 29th day of November next, at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for Twenty-one Years, from Christmas next, a HOUSE, No. 8, on the east side of New Broad-street, a House, No. 14, on the north side of Broad-street-buildings; a House, No. 28, on the south side of Broad-street-buildings; and a House, No. 38, on the north side of Upper Thames-street. ALSO, to receive tenders for letting on lease, for nineteen years less three days, from Christmas next, a House, No. 83, on the south side of Chiswell-street; and also a House, No. 6, on the east side of Windmill-street, near Finsbury-square.—Further particulars may be obtained, and plans seen, by applying at the Office of Works Guildhall.

THOMAS SAUNDERS, Comptroller.

PANCRAS-LANE, CHEAPSIDE.—The GOVERNORS of CHRIST'S HOSPITAL, London, give notice that a Committee will sit in the Countinghouse of the said Hospital, on TUESDAY, the 7th day of November, 1848, at Eleven o'Clock in the forenoon precisely, to receive PROPOSALS for taking, on a Repairing Lease for twenty-one years, from Michaelmas, 1848, those commodious and roomy PREMISES, 3, Pancras-lane, Queen-street, Cheapside, containing on the ground-floor a counting-house and counting-house, with good cellarage in the rear and, late in the occupation of Mr. Stannard, a wine-merchant, and numerous rooms above, with a separate entrance from the street, occupied as a counting-house, by Mrs. Monkhouse, who will shew the premises. Particulars of the repairs that will be required to be done by the incoming tenant, may be seen, and any further information obtained upon application at the Solicitor's office, in Christ's Hospital. Tenders, to be indorsed, "Tenders for Lease," must be left at the Countinghouse of the said Hospital, on or before Monday, the 6th November next, and all persons desirous of treating for the premises are requested to be attended the meeting of the Committee on the following day, to answer to their proposals.

GEORGE TROLLOPE, Clerk.

Christ's Hospital, 13th Oct. 1848.

LONDON ASSURANCE CORPORATION FOR LIFE, FIRE, [illegible] MARINE ASSURANCE. [illegible] 1720. [illegible]

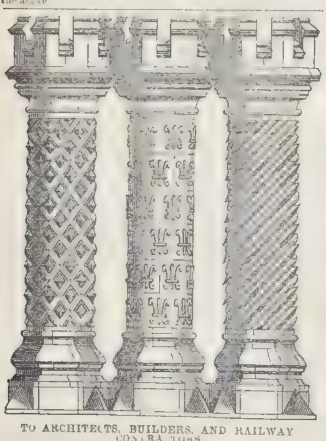
UNION ASSURANCE SOCIETY.
FIRE. LIFE. ANNUITIES.
Cornhill and Baker-street, London; College-green, Dublin; and Esplanade, Hamburgh.
INSTITUTED A.D. 1714.
WILLIAM NOTTIDGE, Esq., CHAIRMAN.
NICHOLAS CHARRINGTON, Esq., DEPUTY-CHAIRMAN.

LIFE.—By the plan of the Union Society the profits are calculated upon the sum insured, and not upon the amount of premiums paid, thus giving a most important advantage to young and middle ages; and for advanced lives the tables of the Union offer the immediate benefit of lower rates of premium. All new assurances participate [illegible] profits. [illegible] may be had gratis. [illegible]
THOMAS LEWIS, Secretary.
The system of returning profits on Fire Insurances was adopted at the [illegible]
*** Agents desired in places where none are at present appointed.

ENCAUSTIC, VENETIAN, BATH, and other PATENT TILES, and MOSAIC PAVEMENTS, may be obtained in great variety at MINTON and Co.'s Warehouse, 9, Albion place, Surrey side of Blackfriars-bridge; and at their Manufactory, Stoke-upon-Trent, Staffordshire.—N.B. Slabs and Tiles for Fireplaces, plain and ornamental; Door Furniture, &c.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, [illegible]
N.B. [illegible] Bricks of every description, and Kentish Rag Stone direct from the Quarries.

FIRE BRICKS.—WARD and HART, Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, [illegible] and others [illegible] Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers [illegible] the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, [illegible] Sand, Ballast, Lime, Cement, [illegible] now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.



TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.

BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate at Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth, near Waterloo-bridge, [illegible] dressings for windows and doors, mullions, ridges, skirtings, &c. Also roofing and paving tiles of [illegible] the best specimens referred to under the articles "Brickwork," in Nos. 290 and 291, of "The Builder."

TO DRAUGHTSMEN AND CIVIL ENGINEERS.
H. MORRELL, BLACK LEAD PENCIL MANUFACTURER, No. 149, Fleet-street, London.
These Pencils are prepared in various degrees [illegible] and shades.

H H H H for drawing on wood.	F F light and shading.
H H H [illegible]	F for general use.
H H for engineering.	B black for shading.
H for sketching.	B B [illegible] ditto.
H B hard and black for drawing.	B B B ditto ditto.
M [illegible]	B B B B ditto ditto.

Sold [illegible] the principal [illegible] country.

IMPORTANT to PAINTERS and the Public.—SWEET OIL of TURPENTINE, a new and VALUABLE DISCOVERY. [illegible] to me by the Inventor in confidence, and I am satisfied that by this discovery the deleterious properties for which oil of [illegible] now used will be entirely superseded. I find that paint when mixed with Sweet Oil of Turpentine, although greatly improved in brilliancy of colour is FREE FROM SMELL, and [illegible] be a SURE PREVENTIVE AGAINST the common and fatal disease called THE PAINTER'S COLIC, and an invaluable boon to the public, in depriving the process of house painting of those manifold ill effects and discomforts with which it has [illegible] Royal College of Chemistry, Senior Physician [illegible] the Articles on "The Evils [illegible] Nerves [illegible] 1848."—Sold only at the Depot, [illegible]

LIGHTERAGE.—To Contractors, Builders, Stone, Timber, and Slate Merchants, [illegible] CHARLES STAPLETON, [illegible] CONTRACTS [illegible] near [illegible] Commercial Docks.—BARGES LET on HIRE.

IRON ROOFING WORKS, SOUTHWARK.—JOHN H. PORTER, manufacturer of Iron Roofs and Buildings, Iron Hurdles, and other fences, and iron work generally. Lists of prices and estimates furnished upon application. Office, 2, [illegible]-place, London-bridge, City.

TO THE OWNERS OF SAW MILLS, PLANTATIONS, and Collieries; to Builders, Millwrights, Engineers, &c.
IMPROVED CIRCULAR SAWS, Upright Saws, for timber and deal frames; Patent Tempered Machine Plane Irons, saw files, improved engineers' files; Patent Tempered Machine Knives, and cutters of all descriptions, made on the most [illegible] BLAKE and PARKIN, [illegible] Sheffield.

NOTT'S PATENT STOVES, for warming Churches, Chapels, Shops, Warehouses, &c.—Architects, Builders, and [illegible] is REMOVED from Great Queen-street to Messrs. BENHAM AND SONS, Wigmore-street, Cavendish-square, where there is also a large assortment of other Warm Air Stoves, and a very extensive variety of fashionable Stove Grates, Fenders, and Fire irons.
N.B. Churches, Conservatories, and other Buildings warmed by hot water.

HOT-WATER WARMING APPARATUS, with the latest improvements, adapted for hot-houses, green-houses, pits, &c., continue to be supplied and erected by SPILLER and TAYLER, Battersea. Also improved warming apparatus for churches and other buildings requiring to be warmed [illegible] N.B. The parts being always ready, promptitude may be relied on.

BURBIDGE and HEALY, 130, FLEET-STREET, LONDON, beg respectfully to inform the Building Public that they fit up COOKING ARRANGEMENTS for large Mansions [illegible] on scientific principles, [illegible] Also HOT WATER APPARATUS upon improved and scientific principles, which they recommend for its peculiar safety for the Warming of Mansions, &c.
They fit up Laundries with Hot Water Apparatus, for Drying in a cleanly, expeditious, and safe manner. They also fit up BATHS with elegant arrangements, with every modern scientific improvement. Also Apparatus for the plentiful supply of Hot Water for Baths and general use of Mansions and large establishments.

TO BUILDERS and CARPENTERS.— Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d. 7d., 8d. per inch.
Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.
Self-acting Ranges, with [illegible] Oven and Back Boiler, best Wrought Bars [illegible] Fittings.
3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.
Best Patent Cut Clasp.
4½d. 5d. 7d. 10d. 1s. 2d. 1s. 8d. per 1,000.
[illegible] 10d. [illegible]
Best Sheet Floor Brads 13s. per cwt.
Best [illegible] per cwt.
Best Patent Sash Line.
4s. 3d. 5s. 6s. [illegible] 12s. per gross.
1 2 3 4 5 6
At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, [illegible]
Lists of Prices [illegible] pre-paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO ARCHITECTS, BUILDERS, &c.
REDUCED LIST of PRICES.— [illegible] WHOLESALE IRONMONGERS, [illegible] Manufacturers of KITCHEN RANGES, STOVES, &c., 16, Blackfriars-road, and 17, [illegible]-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars. [illegible]
Henly's Patent Improved with [illegible] Boiler and Wrought Iron Oven. [illegible] 4 ft. £7.
Best Register Stoves [illegible]
Do. Elliptic do., [illegible]
Manufacturer of WOLLASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, [illegible] and Stove-grate Manufactory, 18, Cross-street, [illegible]
JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of [illegible]
Black Registers, [illegible] upwards.
[illegible] upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. [illegible]s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, [illegible]

BUILDERS and CARPENTERS' IRONMONGERY WAREHOUSE, [illegible]-street, Manchester-square, [illegible] Lists of prices may be had [illegible] application.
[illegible] Proprietors.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, [illegible] Staircases, [illegible] Brackets, Cantilevers, [illegible] Water Closet Work, Area Gratings, Fly and [illegible] Wheels, Wheel Plates, &c.
[illegible] OVEN WORK, Pipe Boxes and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,
168, DRURY-LANE, and CHARLES-STREET, DRURY-LANE
JOSEPH GLOVER,
Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental. Wheel Pinion and Steam-Engine Patterns; Range Stove and Hot Plate Metal.
A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.
GLOVER'S FOUNDRY,
168, DRURY LANE, and CHARLES-STREET.

TO BUILDERS AND OTHERS.
RAIN-WATER PIPES, heads, shoes, and elbows, half round and O G gutters, sash weights, railing bars, [illegible] barrow wheels, &c.
GAS and WATER-PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, with all the usual connexions. [illegible] CASTINGS [illegible] prices, at JONES'S Iron Bridge Wharf, [illegible] Southwark.

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE.

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron [illegible] ROOFING and BUILDING PURPOSES, [illegible] any other metal, calculating weight and strength. This fire-proof material has [illegible] the new Houses of Parliament, ship-building and timber sheds in her Majesty's dock-yards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, gas works, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof [illegible] gutters, &c. &c. [illegible] the offices of the Company, [illegible] London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

TO ARCHITECTS, BUILDERS, AND BRICK-MAKERS.
PUMPS of Superior CONSTRUCTION, bored perfectly true by improved machinery, in various plain and ornamental patterns for Conservatories, Squares, Market Places, Roads, Gardens, and for [illegible] BRICK-MAKERS' PUMPS, in Wrought and Cast Iron, HYDRAULIC LIFT PUMPS, and ENGINES for Wells of any depth. SINGLE and DOUBLE PUMPS up to twelve-inch bore, kept for Hire.
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FLEXIBLE INDIA RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.
THE PATENT VULCANIZED INDIA-RUBBER HOSE PIPES [illegible] engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass [illegible] ready to be attached [illegible] Sole [illegible] JAMES LYNE HANCOCK, Goswell-mews, Goswell-road, London.
N.B. Vulcanized India-rubber washers of all sizes for joints of hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

PIERCE'S ECONOMICAL RADIATING STOVE GRATES.—Families furnishing are solicited to examine the large and extensive assortment of Drawing-room and other GRATES, recently completed from the most *recherché* designs in the Louis Quatorze, Elizabethan, Gothic, and other styles, with FENDERS AND FIRE IRONS *en suite*, always on show at the manufactory.
These Grates combine the decorative and useful, blending economy with comfort, and are guaranteed as a PERFECT CURE FOR SMOKY CHIMNEYS.
In BED-ROOMS and NURSERIES they are found invaluable, retaining the heat for many hours after the fire is out.
KITCHENS and LAUNDRIES fitted up in the most complete manner with Ranges, Ovens, Boilers, Hot-plates, Broiling-plates, Patent Smoke-jacks, &c., with the latest improvements.
HEATING by HOT WATER, combining Warmth with Ventilation, on PIERCE'S improved method, adapted for every description of building, and so arranged as to warm the entire of a large mansion from one moderate fire.
PIERCE, 5, JERMYN-STREET, REGENT-STREET.

CHEAP AND DURABLE ROOFING.

By Her Majesty's Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of
THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.
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HER MAJESTY'S WOODS AND FORESTS,	HONOURABLE BOARD OF ORDNANCE,
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And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover square.
Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat [illegible] ONE PENNY PER SQUARE FOOT. Samples [illegible] TESTIMONIALS [illegible] CAUTIONED AGAINST MISREPRESENTATIONS [illegible] F. McNEILL and Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL-ROW [illegible] Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

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BROWN'S PATENT METALLIC TUBS or CASKS.—To GILMEN and Others.—A FEW to be SOLD, 25 per cent less than the usual price, some of them have not been used. They are 27 inches in diameter, 48 inches in height, with four hoops, in massive bars, and would contain about 80 gallons. The cause of sale is, Wine Wharf, Belvidere-road, Lambeth, near Westminster Bridge.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 98, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hanging and Sheathing the Edges of Wood Laths with Iron. The Patentee having been for some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, with it the use of cog-wheel work and screw gear, or any other complicated machinery employed by other makers.

IRON SHUTTERS.—The PATENT CONVEX REVOLVING IRON SHUTTERS are cheaper, twelve times stronger, work easier, cannot run down, and roll up in one-third less room than any other shutters made. Harcourt Quincey, Patentee

CLARK and Co., Sole Manufacturers, and of IMPROVED DRAWN ORNAMENTAL METALLIC SASH BARS, ASTRAGALS, MOULDINGS, STALL BOARD PLATES, &c. &c. in brass, copper, and zinc. WROUGHT-IRON GIRDERS, HOT-WATER APPARATUS, in metal work of every description connected with buildings. Steam engine and work, and machinery. CLARK and Co., Engineers, 238, Wapping. Models can be seen and every information given at the Works, as before, and 4, Bloomgate-street, City. Agent for Scotland, Mr. G. BRIGSTOCK, 17, George-street, Edinburgh.

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Shop-fronts completely fitted and fixed in a superior style, either plain or ornamental, also glazed with best plate glass. Strong moulded sash bars, heads, &c. engraved. Metal works and machinery of all kinds in connection with banking-houses, shops, warehouses, &c. &c.

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TO BE SOLD, a great bargain, a quantity of WHITE and BLUE WATER-CLOSET and PLUG BASINS, consisting of Pan Closets, Hopper Valve & Ac being the remains of a Bankrupt Stock, near Stafford, in STAFFORDSHIRE, for the whole, or in lots, as may be required, to be sold in One, Two, Three, or Four Lots, to suit the purchaser. On view on Monday the 8th inst. at No. 4, Edmund place, Shepherdess-walk, City-road.



JOHN DOULTON, Jun.,

MANUFACTURER OF

TUBULAR DRAINS, &c. IN GLAZED STONE WARE,

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These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH POTTERY, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway without extra charge.

SANITARY IMPROVEMENT.—Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of BUNNETT'S PATENT SELF-ACTING EFFLUVIA TRAPS, Adapted for Streets, Public Buildings, Dwelling Houses, Factories Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, 9, L. Island-street, London, where specimens may be seen in action, and at the Works, Bedford, Iseat

INVENTORS AND PATENTEES OF SELF ACTING DOUBLE TRAPPED PAN AND VALVE WATER-CLOSETS;

A most successful combination of the above principle, with other patented improvements.)

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IMPORTANT to ARCHITECTS, SURVEYORS, BUILDERS, and Others, requiring a SUPPLY of WATER.—Boring for water, Artesian wells, sinking, &c. Water Companies, Banks, public Institutions, brewers, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer, and Patentee of Boring Tools, 10, Cumming-street, Pentonville, London, whose long experience and practical knowledge in the above, enable him to give the most satisfactory and highly respectable references. Wells that are dry may be abundantly supplied. Pumps and machinery of every description for raising water from deep wells. Men and tools supplied to bore for rail roads, minerals, &c. Boring tools and suitable pipes for exportation with instructions.

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G. HOWE begs to call the attention of the above parties to his improved WATER-GAUGE for STEAM-BOILERS. The advantages of this Water-Gauge, for which a prize medal was given by the Royal Agricultural Society of England, at their meeting at York, is, that the glass tube, in a most simple contrivance, is completely prevented from being broken by the expansion or contraction of the boiler and the various parts of the gauge; and, should the glass tube at any time require renewing, it can be done by any one in a few minutes, with the certainty of the joints being perfectly tight. To be had of G. HOWE, Portable Steam-Engine Maker, 119, Great Guildford-street, Borough; also of Messrs. FROST, NOAKES, and VINCENT, Brassfounders, 193, Brick-lane, Whitechapel; price 2l 10s each.

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SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S  PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrmont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes.—

Foot Pavements.
Kitchen Floors (particularly where it is essential to keep damp from rising).
Garden Walks and Terraces.
Carriage Drives.
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Malt-house Floors.
Pigeries, &c. &c.
Covering of Railroad and other Arches.
The only effectual made to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantag to be derived from the application of SEYSSEL ASPHALTE.

To arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to the Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of spurious one.

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Seyssel Asphalte Company, Stangate, London.

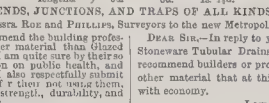


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The annexed Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in. 4d.	3 in. 5d.	In 2 feet lengths.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Roe and Phillips, Surveyors to the new Metropolitan Commission of Sewers.

Dear Sir,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

Dear Sir,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1731.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

N.B. These are made without the discharge hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them and of superiors. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge, City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware

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AN AUCTIONEER of respectability, desirous of increasing his business, will allow to architects and surveyors a liberal per centage on all business introduced to him through their instrumentality. The most satisfactory references will be given, and the most perfect confidence may be relied on.—Apply by letter only, with real name and address, to J. C. L., 425, Strand, London.

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WANTED, at the West End of London, a SMALL PREMISES; rent low.—Apply, by letter, to A. B. 17, Southampton-row, Russell-square.

FREEHOLD.—WANTED, a SMALL FREEHOLD PROPERTY, within Five Miles of the Royal Exchange,—a small house or cottage, with garden or some land attached in front, by, and open situation on the high road preferred.—Address full particulars to M. A., 38, Threadneedle-street.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, standing, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

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SLOANE-STREET, CHELSEA.—TO BE LET, on Building Lease, a desirable PLOT of BUILDING GROUND, 70 feet wide and 92 feet deep, in the New Road at the back of Sloane-street.—For particulars apply to Mr. FREDERICK GODWIN, 3, Halkin-terrace, Belgrave-square, or Mr. PAUL, No. 191, Sloane-street, next the Church, Auctioneers and House Agents.

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HAGGERSTONE BRICKFIELDS.—GROUND TO LET for fourth-rate houses, adjoining the intended new Church.—Apply to Mr. PALMER, Shrubland-road, Queen's road, Dalston. Bricks advanced, and for sale as usual.

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TO BE LET by TENDER, at a Royalty, a FIELD, containing a quantity of valuable Brick earth, near London-fields, Hackney.—For particulars, apply to Mr. J. C. MARTIN, No. 1, Ash-grove, Hackney.

TO BE LET, on BUILDING LEASES, for the term of ninety years, several eligible PLOTS OF LAND, for Third rate Houses, of ten and eight rooms, situate in Oakley-street, Kingsland, Old-ford, and the adjoining streets, and being opposite the new Church, Hatfield's Cemetery, by the Canal, at or contiguous to and from all parts of London. For plans and particulars apply to Mr. PHENE, 19, Manor-place South, King's-road, Chelsea; between the hours of Ten and Four.

TO FENCE WALLERS.

TO LET, the LABOUR required in Building a quantity of Random-coursed Fence Wall, in Mortar, of Kentish Rag Stone, with string C pe on same, &c. TENDERS to be addressed to Mr. DIGGLE, 29, Norland road, Notting-hill, on or before Wednesday next, of whom further particulars may be obtained.

WHARF TO BE SOLD, at a great sacrifice, consisting of Stables, Waggon and Cart Sheds, Lofts, large store, office, and small dwelling-house, suitable for a coal, stone, lime or timber merchant, all brick and slated, in good repair. Having a large piece of ground for back parking, the premises could be divided with advantage, having an ancient water frontage, situate on the Kensington Canal, adjoining the West London Railway, and known as Brass's Wharf, Lower Ashley's, near Addison's grand rent. Apply to Mr. NEWTON, 41, Brewer-street, Golden-square.

TO DISSENTING MINISTERS AND OTHERS REQUIRING A LARGE AND ROOMY RESIDENCE.

TO BE DISPOSED OF, the CARCASS of a large BRICK BUILDING, with CUPOLA, complete, originally intended for a Literary Institution, recently erected, and situate on the west side of Albion-square, Queen's-road, Dalston, held for a long term of years, at a small rent of 20l.—Apply, post paid, to HENRY SWAN, Esq., Solicitor, 2, Great Knightrider-street, Doctors'-commons; or to Mr. SYMONS, Secretary, No. 4, Mayfield-place, Dalston.

TO PAPER STAINERS. ELIGIBLE OPPORTUNITY FOR COMMENCING BUSINESS.

AN OLD ESTABLISHED BUSINESS in the above line TO BE DISPOSED OF, in consequence of the proprietor retiring from business. There are all the modern blocks, presses, and effects, requisite for a first-rate trade; as also the MANUFACTURED STOCK, and the FIXTURES, of one cellar and one shop, situate in one of the best streets in Liverpool, and having a capital connection. The blocks and fixtures, price 30l.; and the stock may be either taken or not at the option of the purchaser. Credit will be given on unquestionable security. For further particulars, apply to Mr. RICHARD DODS, the owner, No. 33, Bold-street, Liverpool.

VALUABLE FREEHOLD INVESTMENTS in the immediate vicinity of Berkeley-square.

MR. JOHN DAWSON will SELL by AUCTION, some time in NOVEMBER, in One or more Lots unless in the meantime an acceptable offer should be made by Private Contract, the important FREEHOLD ESTATE, comprising a capital first-class residence in Dover-street, in the occupation of a nobleman, on lease, and that extensive mews, known as Bourne-yard, opening into Berkeley-street, and in communication from Dover-street, all under well-assured leases to first-class tenants, producing an aggregate rental of about 700l. per annum. A more detailed advertisement will appear in a few days.—Auction and Agency Offices, Marlborough Chambers, 49, Pall-mall, October 28, 1848.

BUILDING MATERIALS FROM THE REGENT-STREET QUADRANT.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at the vacant ground, Charles-street, Bloomsbury, on TUESDAY, November 7th, 1848, at Twelve, by order of Mr. KELK, the Contractor for the Quadrant Improvements, a large quantity of MATERIALS taken down from the Quadrant, Regent-street and removed for the convenience of Sale: comprising stout fir timber and quartering, iron-railing, foot-tiles, ironwork of the area, and a very large quantity of Portland-stone landed on the premises; also at Mr. KELK'S office, 13, South-street, Grosvenor-square, and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.

TO RAILWAY DIRECTORS AND CONTRACTORS, ARCHITECTS, ENGINEERS, AND BUILDERS.

MESSRS. EVERSFIELD and HORNE have received instructions from Mr. Kelk, the contractor for the Quadrant Improvement, to SELL by AUCTION, on the premises, on TUESDAY, November 7th, at ONE for TWO precisely, the very handsome FLUTED CANTHON COLUMNS, forming the much admired COLONNADE of the REGENT-STREET QUADRANT, together with a large quantity of iron and woodwork, granite plinths, &c. The columns, which are of the Roman Doric order, stand 16 feet 2 inches high, exclusive of the plinths, and will be put into suitable lots, to be taken down by the purchasers. They are presumed to be particularly well adapted for a railway terminus, or viaduct, or might be applied with much effect in the portico or colonnade of a superior class of family mansions. May be viewed, and catalogues obtained six days prior to the sale; at Mr. KELK'S offices, 13, South-street, Grosvenor-square; and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

SALES BY AUCTION.

HORNSEY, MIDDLESEX.—Life Interest in Copyhold Premises and Freehold of an old established full-priced Baker's Business.

MESSRS. BOYES and SAFFELL will SELL by AUCTION, at Garraway's, on TUESDAY, November 7, at Twelve, the LIFE INTEREST in a COPYHOLD DWELLING-HOUSE, SHOP, and PREMISES, at Hornsey, opposite the Church, at present in the occupation of the tenant for life, in whose favour a new lease for fourteen years has been granted by the Copyholder of the Business of a Baker, which has been carried on therein for many years.—The premises may be viewed, and particulars had 3 days prior, and of JOSEPH LUCAS, Esq., 1, Trinity-place, Charing-cross; and at the Auctioneers' Offices, 3, Abchurch-lane, City.

STOCKWELL, SURREY.—Freehold Estate, producing 61l. 12s. per annum.

MESSRS. BOYES and SAFFELL have received instructions to SELL BY AUCTION, at Garraway's, on TUESDAY, 7th November, at Twelve, in one lot, a brick-built DWELLING-HOUSE, with GARDEN, situate 12, Queen's-row, Stockwell, producing 61l. 12s. per annum, let on lease, and held for a long term of years. Particulars may be had of Messrs. DIMMOCK and BURBEY, solicitors, 11, Clement's-lane, City; at Garraway's; Yorkshire Stingo, Paddington; and at the Auctioneers' offices, 3, Abchurch-lane, City.

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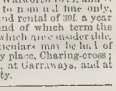
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EDWARD PITT, Clerk to the Guardians of the Poor for the parish of Birmingham.

Office, Lichfield street, October 26, 1848.

CONTRACTS.

ROYAL ENGINEERS' OFFICE, Chatham, 26th October, 1848.

THE Commanding Royal Engineer, Medway District, HEREBY GIVES NOTICE, that TENDERS will be received at the Ordnance Office, Pall Mall, London, on or before THURSDAY, the 9th day of November, 1848, from persons desirous of contracting with the Honourable Board of Ordnance for CONSTRUCTING the FOUNDATION of a TOWER on the SPIT of the ISLE OF GRAIN, opposite Sheerness, agreeably to plans and specification, which may be seen at the Royal Engineers' Office, Sheerness.

The person whose tender may be accepted will be required to enter into a bond, with two eligible securities, jointly and separately to be bound under a penalty of 1,000*l.* for the due performance of the contract. The tenders to be addressed to "The Secretary to the Board of Ordnance," and indorsed "Tender for Foundation of a Tower, Isle of Grain." No tender can be admitted after the said 9th of November, 1848.

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Tenders to be forwarded, under cover, to JOHN COATES, Esq., Carrickfergus, on or before Tuesday, the 7th November.

Carrickfergus, 26th September, 1848.

TO TURRET-CLOCK MANUFACTURERS.—The Committee appointed to carry into effect the erection of a TOWN CLOCK, &c., in the Church Tower at Tavistock, Devon, will, until seven o'clock on WEDNESDAY EVENING, the 15th November, 1848, receive TENDERS, with particulars, for making and fixing a POWERFUL EIGHT-DAY CLOCK, of the best description, with the latest improvements, and warranted to keep time accurately, to strike the hour on a 30 cwt. bell; to shew hours and minutes on three 7 feet copper dial plates, and on one 7 feet dial for illumination, and a seconds hand inside for the purpose of regulating, &c., together with a chiming apparatus capable of playing different tunes on eight bells, at six, nine, and twelve o'clock. The tenders are to state separately the extra cost of a second dial for illumination, in lieu of one of the copper dials, and the extra cost if the clock be made to strike the quarters on two bells. The tower is about 14 feet square inside; walls, 4 feet 6 inches thick; inside heights about as follows, viz.: from belfry-floor to clock-floor, 16 feet; thence to centre of dial, 11 feet; thence to bell-floor, 6 feet; thence to bell axle, 4 feet 6 inches. The Committee will be at the expense of alterations, additions, or repairs that may be necessary to be done to the building. The Committee will not be bound to the lowest or any Tender unless approved of. The Tenders (marked "Tender for Town Clock, &c.") to be sent free to the care of the Secretary, Mr. R. LUXTON, Guildhall buildings, Tavistock, who will (if necessary) render further particulars.

TO NIGHTMEN, SCAVENGERS, CONTRACTORS, AND OTHERS.

THE Metropolitan Commissioners of Sewers are desirous to obtain TENDERS for the EMPTYING and CLEANSING of all CESSPOOLS within the several districts under their jurisdiction. Specifications, forms of tender, and other particulars may be obtained at this office daily, between the hours of nine and four. Parties offering must be in attendance at One o'Clock precisely, on the 14th day of November, with separate sealed tenders, specifying on the outside for which of the several districts the tender is made. Each tender must be strictly in the form prescribed. The Commissioners do not bind themselves to accept the lowest tender.

D. H. STABLE, Accountant Clerk.

Sewers Office, 1, Greek-street, Soho-square.

GUILDHALL, October 25, 1848.

THE Committee for Letting the City's Lands will MEET at Guildhall, on WEDNESDAY, the 16th day of November next, at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for Twenty-one Years, from Christmas next, a HOUSE, No. 8, on the east side of New Broad-street, a House, No. 14, on the north side of Broad-street-buildings; a House, No. 26, on the south side of Broad-street-buildings; and a House, No. 38, on the south side of Upper Thames-street. ALSO, to receive tenders for letting on lease, for nineteen years less three days, from Christmas next, a House, No. 89, on the south side of Chiswell-street; and also a House, No. 2, on the east side of Windmill-street, near Finsbury-square. Further particulars may be obtained, and plans seen, by applying at the Office of Works Guildhall.

THOMAS SAUNDERS, Comptroller.

LIGHTERAGE.—To Contractors, Builders, Stone, Timber, and Slate Merchants, or others requiring Lighterage. CHARLES STRUTTON, Lighterman and Timber Rafter, having a large number of craft of all sizes, is ready to undertake large or small CONTRACTS at prices particularly advantageous to his employers 34, Commercial-road, Lambeth, near Waterloo-bridge, and Trinity street, Rotherhithe near the Commercial Docks).—BARGES LET ON HIRE.

LONDON ASSURANCE CORPORATION for LIFE, FIRE, and MARINE ASSURANCE.—Established by Royal Charter of King George the First, A.D. 1720. Offices, 7, Royal Exchange, Cornhill, and 16, Regent-street.
JOHN LAURENCE, Secretary.

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages offered for Assurers by the plan on which policies are granted. Prospectuses, &c. may be had at the office. Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge-street, Blackfriars.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street, London.

DIRECTORS

Henry E. Bicknell, Esq., 28, Upper Bedford place	Jos. Henry Goodhart, Esq. Upper Tooting
William Cabell, Esq., Newington-place, Surrey	Thomas Grissell, Esq., Yorkroad, Lambeth
Thomas Somerville, Esq., jun., Esq., M.P., Charing cross	James Lamb, Esq., 31, Parliament-street, Westminster
George Henry Drew, Esq., Uxbridge-street	John Argent Lethbridge, Esq., Greenwich Hospital
William Evans, Esq., Chesham-street, Belgrave-square	Edmund Lees, Esq., Millbank-street, Westminster
William Freeman, Esq., Millbank-street	James Lyall Senger, Esq., Millbank-street
Francis Fuller, Esq., Abingdon-street, Westminster, and Croydon	John B. White, Esq., Millbank-street and Essex-street
	Joseph Carter Wood, Esq., Artillery-place, Westminster

Particular attention is invited to the rates of premium for the Assurance of Sums payable at Death. IMMEDIATE ANNUITIES and OLD LIVES and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.

Parties desirous of procuring for the Renewal Fine in their Leases can do so with facility in this Society.

Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the Loan loss their deaths would occasion.

Prospectuses and further information, free of expense, from
ARTHUR SCRATCHLEY, Actuary.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY, and INDIA and LONDON LIFE ASSURANCE COMPANY, 14, Waterloo-place, and 79 King William-street, City.

The CHISHOLM, Redcastle, Inverness-shire, and Chapel-street, Grosvenor-place, London, Chairman.

RICHARD HARTLEY KENNEDY, Esq., late Physician General, Bengal, Deputy-Chairman of the Oriental Bank, Kensington Lodge, Notting-hill, Deputy-Chairman.

GREAT BRITAIN MUTUAL LIFE ASSURANCE SOCIETY

This Society is established upon the most approved principles of the mutual system, dividing the whole of the profits among the members; and allows credit for half the amount of the first five annual premiums.

The first division of profits will be in the year 1849.

Proposals for every description, both endowment, involving the contingency of human life.

INDIA AND LONDON LIFE ASSURANCE COMPANY

CAPITAL £500,000 in 5,000 SHARES of 50 each.

This Company assures the lives of healthy persons in any part of the world at such rates of premium as can be taken consistently with perfect security, while, for the accommodation of the assured a half premium table (No. 2) has been constructed on a plan never before offered, but most advantageous in paying the assurance for short periods, with the option of continuing for the remainder of life.

Also special lives, whether afflicted with mental or bodily infirmities.

And lives of naval and military officers and civilians in India in any of the Colonies, or other parts of the world.

Annuities granted and endowments for widows and children.

London, 14, Waterloo-place. A. R. IRVINE, Manager.

The following examples show how small a weekly sum will secure the benefit of Life Assurance, for 100*l.*:—

WITH PROFITS.		WITHOUT PROFITS.	
At age of	about 1*l.* per week	At age of	about 8*d.* per week
" 8	" 1s. 1*d.*	" 30	" 10*d.*
" 40	" 1s. 8*d.*	" 40	" 1s. 1*d.*

PEOPLE'S SAVINGS' BANK.—THE WHITTINGTON NATIONAL SAVINGS' FUND, established by Act of Parliament in June, 1847, is a PERMANENT SAVINGS' BANK and BUILDING SOCIETY, which gives more than usual advantages to depositors, investing its income at the best possible security, and divides all the profits annually among its depositors.

SHARES of 17*s.* NEW SHARES ISSUED AT THE LAST FOUR MEETINGS

Members may join at any time.

No fee in payments, arrears, postage, or redemption-fee, premium, bonus, loan, or other charge whatever, except an entrance fee of SIXPENCE per share.

Subscriptions received at the Portugal Hotel, Fleet-street, on the FIRST and THIRD TUESDAY in each month, between the hours of Seven and Nine in the Evening, or by the Secretary at any time.

Any further information may be obtained of the Secretary, 6, Adam-street, Hyde-park-hill.

Deposit Receipts for 1*s.* 2*d.*, by post 5*l.* may be obtained of Mr. ENGLAND, Ashton Mart, Caledonian-road, King's-cross; Mr. HENRY BRACE, 11, Crown-street, Finsbury; at the office of the *Illustrated London News*, Strand, Inglefield-hall, and of the *Sunday Times*, Strand, of Mr. KELLY, Boswell-court, Carey-street, Mr. CHAPEL SMITH, Dean-street, Westminster; Mr. WINN, College-green, Gravesend; Mr. STEVENS, 48, Tottenham-court-road; Mr. BATCHELOR, Odiham, Hants; Mr. BONNEY, Southampton; the Post-office, Uxbridge; and at the Portugal Hotel, Fleet-street.

G. W. YAPP, Secretary.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and Greatest Variety ever seen in London.

HEAL AND SON'S LIST OF BEDDING,

Containing a full description of Weights, Sizes, and Prices, sent free by post on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

JORDAN'S PATENT MACHINE CARVING and MOULDING WORKS for WOOD and STONE, Belvedere-road, Lambeth, and 154, Strand. TAYLOR, WILLIAMS, and JORDAN beg to call the attention of the building community to a new feature of their establishment, and, at the same time, to thank their numerous patrons and friends for the very liberal support they have lately experienced, which they assure them and the public it will be their constant endeavour to deserve, by giving their customers an increasing share of the advantages arising from the constant improvements in the machinery which they have just succeeded in applying to the production of the most intricate carving in Caen and other freestones, and in mastic or wood.

T., W., and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large saving both of time and in many instances, great indeed, that in many cases they can deliver a well-finished article in Caen stone for less money than it can be obtained in cement, while their work, carving with, in some cases, half the number of masons' operations, the best kinds of composition ornament. For prices and references apply to 154, Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"Gentlemen,—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, that in the execution of some of the carved enrichments in the Houses of Parliament, executed in Caen stone, I have found it to answer the purpose very well, and to be a considerable saving of time and expense. I am also happy to add that I have found Messrs. Jordan's workmen intelligent and willing to adopt any suggestions I have made to them, and to execute the work faithfully.

"CHARLES BARRY."

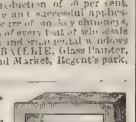
"Messrs. Taylor, Williams, and Jordan."

By Her Majesty's — Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 50 per cent. from the original tariff. Their extensive and successful application to public offices, bedrooms, and the cure of smoky chimneys, prove their great utility. Coloured valves of every tint of the glass. Price lists, references, and estimates, for church and other parochial windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 124, Cumberland Market, Regent's park, London, where specimens are to be seen.

DR. ARNOTT'S CHIMNEY VENTILATOR.



F. EDWARDS, Stove Maker to her Majesty, 12, Poland-street (by Oxford-street), begs to call the attention of Architects, Builders, Gas-fitters and the Public, to the truly valuable and unimpeachable principle of the use of *Dr. Arnott's* Valve for the Ventilation of Rooms of any description.

Prices from 25*s.* to 3*l.* each. A prospectus, containing full particulars, to be had on application.

SMOKY CHIMNEYS NO CURE, NO PAY.

Twenty-five years' extensive experience in all the branches of a stove manufacturing business, and the cure of such chimneys of every description in fully possible, F. E. . . . st to be in can undertake the cure of smoky chimneys on the most equitable terms.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.



For carrying off Heated and Impure Air from Bed-rooms, Sitting rooms, Counting-houses, and Apartments generally.

LIST OF PRICES

First size, 11 by 8	Second size, 16 by 8
Plain Iron Valve 7 6	..... 13 0
Bronzed and Leathered 9 0	..... 14 0
Japanned, white with Gold lines 15 0	..... 21 0
Brass Front..... 17 0	..... 25 0

Packing Cases if required, 1*s.* 3*d.* each

Manufactured by HART and SONS, 58, 54, 55, Wych-street, Strand, London.

By Her Majesty's — Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.



HART and SONS beg to invite the attention of arch tects, builders, and others to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are stronger, more durable, and more elegant in form, than those in ordinary use, as the spindles, being loose, do not require the objectionable side screw. They are more readily fixed, are suitable for every description of look now in use, and, as by adjustment they fit to doors of different thicknesses, without alteration, are particularly adapted for the country or for export trade. They are made to suit every style of decoration in China, crystal, rober, and opal glass, buffalo, horn, ivory ebony, brass &c., or suit with finger plates, bell pulls, levers, &c. May be obtained of all Ironmongers; or of the proprietors and sole manufacturers HART and SONS, Wholesale Ironmongers, 58, 54, and 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the necessity for such fine turning without such side screws would be an infringement of the patent.

PATENT PLATE GLASS.—HETLEY and CO. beg to inform Architects, Builders, and the Trade generally, that their new Tariff of PRICES for the above is now ready, and will be forwarded on application. A REDUCTION of about Fifty per cent. has been made on the usual Original sizes. This Sheet, Crown and Ornamental Window Glass Warehouse, 55, Soho-square, London.—ROUGH PLATE GLASS

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The press are on a scale ONE SHILLING PER FOOT SUP., and one-fifth ONE PENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, Kirle-street, Baker-street, Portman-square.—Cash only.

WINDOW GLASS.—JAMES PHILLIPS and Co beg to inform the trade and consumers they have a large STOCK of SHEET GLASS of superior quality on hand, which they will supply in cases containing 200 feet, of sizes about to buy, at 8*d.* per case. Delivered free in any part of London. Address, 146, Bishopsgate-street Without.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now coming into general use for all purposes. Rolling Iron, BRITISH and ROUGH PLATE, CROWN SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. Lists of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quality required. Being manufacturers of Plate Glass for plate purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 3-8ths, 4-4, and 1 inch thick.

London Warehouse, 93, Hatton-garden, Holborn.
H. CHRISTIE, Agent.

TO ARCHITECTS, BUILDERS, &c.

EDWARDS, PELL, and CARTISSER beg to call attention to their PATENT ORNAMENTAL GLASS, which for originality and beauty of design is not to be surpassed. This glass possesses every advantage, viz., that it has the same appearance on both sides, is cleaned with the same ease as common window glass, and will retain its colour, which ordinary ground and matted glass will not. It is admirably adapted for skylights, picture galleries, interior decorations, staircase windows, &c. It affects without obstructing the light, and has an equally good effect by throwing light as by day. The process may be applied to any glass from 13 oz. to 32 oz. to the foot. A few days is all the time required for the execution of extensive orders. Specimens may be seen, and orders received at the Works, No. 21, Castle-street, Southwark-bridge-road.

N.B. A liberal discount to the trade.

WINDOW GLASS.—THOMAS MILLINGTON solicits an inspection of the different GLASSES he has now in stock, the qualities of which will be found to be very superior. 87, Bishopsgate-street, Without.

NEW TARIFF. Sheet in various large dimensions delivered free in London.

Common in 100 feet cases	20*s.* 0*d.*
Do 200 do.	35*s.* 0*d.*
Thirds 250 do.	42*s.* 0*d.*
Seconds 200 do.	60*s.* 8*d.*
Best (very superior) do.	200*s.* 0*d.*

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding

¼ thick.....	1*s.* 6*d.*	¼ inch.....	2*s.* 6*d.*
3-8ths inch..	1*s.* 3*d.*	1 inch.....	3*s.* 6*d.* per foot.
½ inch.....	1*s.* 6*d.*		

PATENT ROUGH PLATE TILES.

¾ inch.....	1*s.* 9*d.*	¼ thick.....	0*s.* 11*d.*
⅞ inch.....	1*s.* 9*d.*	½ inch.....	1*s.* 3*d.*
1 inch.....	1*s.* 6*d.*	3-8th inch..	1*s.* 7*d.*
¾ inch.....	2*s.* 0*d.*	½ inch.....	2*s.* 0*d.* each.
1 inch	3*s.* 0*d.*		

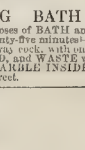
GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

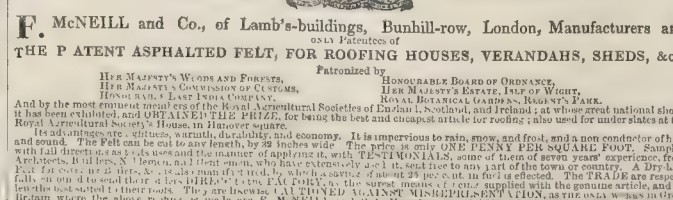
C C C Crown per crate 18 tables	£1 16	0
C C do. do.	2 0	0
Fourths do. do.	2 7	0
Thirds do. do.	3 2	6

Large Crown Squares in 100 feet boxes ..... 24*d.* per foot.
5 by 4 — 10 by 8 do. 3*d.* do.
Very superior Plate for Pictures and Windows, averaging 26oz., from 1*s.* 6*d.* per foot upwards.

CHAS. WM. WATERLOW, MANUFACTURER of Sashes and Frames, and Joiner to the Trade, 121, Bunhill-row, Finsbury-square. Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings to any pattern. N.B. This Establishment is worth the notice of all engaged in building







J. TYLOR and SON'S IMPROVED COPPER CIRCULATING BATH and CONSERVATORY APPARATUS—The copper boiler is double cased, and answers for the two purposes of BATH and CONSERVATORY—it does not require brickwork—is ECONOMICAL in FUEL and TIME (heating a bath in twenty-five minutes)—can be easily detached, and is less in general cost than any other boiler. The bath can be filled with Tylor's three-way cock, with only ONE lever and index plate, instead of the usual plan of fixing THREE separate cocks and levers for the HOT, COLD, and WASTE water.

MANUFACTURERS of COPPER and GALVANIZED IRON BATHS, ENAMELLED WHITE MARBLE INSIDE.

Apply to the Ironmongers or Plumbers in town and country. Warwick-lane, Newgate-street.

CHEAP AND DURABLE ROOFING.

By Her Majesty's — Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent engineers of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover square.

Its adhesiveness, pliableness, warmth, durability, and economy, and sound. The Felt can be cut to any length, by 32 inches wide. It is impervious to rain, snow, and frost, and a non-conductor of heat

The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions as to its use and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-lair Felt for covering under tiles, slates, and thatch, is also made by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully requested to observe that the FACTORY, the surest means of being supplied with the genuine article, and that the only one where it is MANUFACTURED. CAUTIONED AGAINST MISREPRESENTATION, as THE ONLY WORKS in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW

Roofs covered with the felt to be seen at the Factory, also the new Vice Chancellor's Courts, the passages and offices leading to West minster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

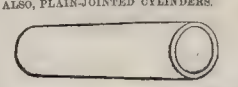
DRAINS, with SOCKET JOINTS, AS USED AT BRIDGEWATER HOUSE.



			In London.	At Tunstall.
2 feet long, and 16 inches diameter, per foot,	4s.	0d.	.....	2s. 5½.
Ditto 12	ditto	ditto,	2 3	..... 1 4½
Ditto 9	ditto	ditto,	1 2	..... 0 9
Ditto 6	ditto	ditto,	0 8	..... 0 6
Ditto 4	ditto	ditto,	0 6½	..... 0 4½
Ditto 3	ditto	ditto,	0 5½	..... 0 3½

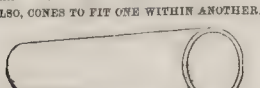
Curves and Junctions charged double.

ALSO, PLAIN-JOINTED CYLINDERS.



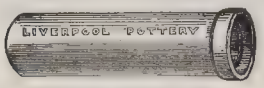
			In London.	At Tunstall.
Half-yard long, 16 inches diameter, per foot,	3s.	9d.	....	2s. 3d.
Ditto 12	ditto	ditto	2 11	.... 1 2
Ditto 9	ditto	ditto	0 11	..... 0 6
Ditto 6	ditto	ditto	0 6	.... 0 4
Ditto 4	ditto	ditto	0 5	.... 0 3 3-8ths.
Ditto 3	ditto	ditto	0 4	..... 0 2 5-8ths.
Ditto 2	ditto	ditto	0 3	..... 0 2

ALSO, CONES TO FIT ONE WITHIN ANOTHER.



			In London.	At Tunstall.
20 inches long, 9 inches diameter, per foot ..	1s.	3d.	....	0s. 6d.
Ditto 6	ditto	ditto	0 9	..... 0 4 5-8ths.
Ditto 4	ditto	ditto	0 6	..... 0 3 3-8ths.
Ditto 3	ditto	ditto	0 5	..... 0 3
Ditto 2	ditto	ditto	0 3½	..... 0 2½

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for REFERENCE, also TESTIMONIALS respecting a MATERIAL which, when well wrought, is probably superior to every other for drains or conduits (as glass, or artificial glazes, corrodes), for ridges, hips, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be Had GENUINE of THOMAS PEAKE, proprietor of "Peake's Terro-Metallic"), No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.



JOHN DOULTON, JUN.,

OF THE LAMBETH POTTERY, LONDON),

MANUFACTURER OF GLAZED STONE WARE, TUBES, &c.

ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH WORKS, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway without extra charge.

PRICES.

In 3 feet lengths.			In 2 feet lengths				
2 in.	2½ in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
4d.	4½d	5d.	6d.	8d.	1s. 1½d.	1s. 8d.	2s. 6d.	3s. per foot.

BENDS AND JUNCTIONS OF ALL REQUIRED SHAPES.

The superiority of these tubular drains in glazed stone ware, for the perfect drainage of dwelling-houses and for public sewerage, is established in the recent evidence before the Parliamentary Sanitary Commission. The following Testimonial is from JAMES NEWLANDS, Esq., C.E., Borough Engineer of Liverpool:—

Public Offices, Engineer's Department, Liverpool, Oct. 25, 1848.

DEAR SIR,—I have pleasure in testifying to the excellence of the glazed stone ware pipes manufactured by you at the Liverpool Pottery. The specimens I have seen are straight and fine, the sockets very accurately moulded. These stone ware glazed pipes are strong, smooth, and imperishable; they are readily laid; they afford an easy flow, and are not affected by the sewage matter,—and on these grounds I recommend them as eminently superior to the common brick drains. When more attention is given to sanitary matters, I believe their use will become universal.

I am, dear Sir, your obedient servant,

JAMES NEWLANDS, Borough Engineer.

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—Families furnishing are solicited to examine the large and extensive assortment of Drawing room and other GRATES, recently completed from the most *recherché* designs in the Louis Quatorze, Elizabethan, Gothic, and other styles, with FENDERS AND FIRE-IRONS to suit, always on show at the manufactory.

These Grates combine the decorative and useful, blending economy with comfort, and are guaranteed as a PERFECT CURE FOR SMOKY CHIMNEYS.

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Kitchen Floors particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c
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The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

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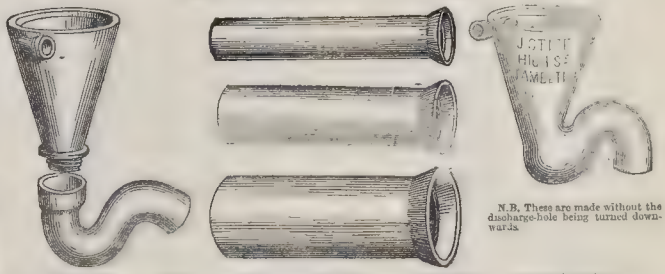
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Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

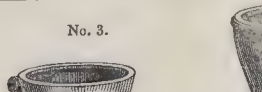
The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and inferior to glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Deckhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	2 in.	3 in.	In 2 feet lengths.	4 in.	6 in	9 in	12 in.	15 in.	18 in bore
	4d.	5d.		6d.	8d	1s. 1½d	1s. 10d.	3s.	4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6D. EACH

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The importance of a system of thorough cleaning and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

LAND.—WANTED to purchase from FIVE to TWENTY ACRES of FREEHOLD LAND land tax redeemed), in a healthy situation, not exceeding seven or ten miles from the General Post-Office, and a moderate distance from a railway station.—Address, particulars and terms, pre-paid, to Mr. J. B. SHEPHERD, Surveyor, 14, Bucklersbury.

REPAIRING LEASE.—WANTED, some PROPERTY on a REPAIRING LEASE; its being in a low neighbourhood would not be objected to; or the advertiser would be glad of an ENGAGEMENT to COLLECT RENTS, at a small per-centage. Ample security would be deposited.—Apply to H. C., 3, Bride-lane, Fleet-street.

TO HOUSE AGENTS AND OTHERS

WANTED, to LEASE a GENTLEMAN'S RESIDENCE, situate within 4 or 5 miles of either Shoreditch Church or the Angel at Islington. Must be in good repair, in fair occupation, in a respectable locality, and have a drawing, dining, and drawing-rooms, with seven good bed-rooms, three-stall stable and good house, good garden and pump.—Address to stamped, to A. M., Mr. Bruce's, Stationer, Tyndale-street, Cheapside, London, stating full particulars, terms, and rent.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring good light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

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HAGGERSTONE BRICKFIELDS.—GROUND TO LET for fourth-rate houses, adjoining the finished new Church. Apply to Mr. PALMER, Shrubland-road, Queen's road, Dalston. Bricks advanced, and for sale as usual.

BROXBOURN, HERTS. — BUILDING GROUND TO BE LET on lease for 99 years at low ground rents, being sites for semi-detached cottages, with a frontage to each pair of upwards of 100 feet by a depth of 150 feet. The situation is all respects desirable and healthy; close to the station at Broxbourn, and the demand for houses in the neighbourhood considerable. Leases will be granted direct from the freeholder.—Further particulars may be obtained at the offices of Messrs. DENT and SON, Surveyors, No. 11, Southampton buildings, Chancery-lane; and 38, High-street, Camden Town.

TO BE LET, on BUILDING LEASES, for the term of ninety years, several eligible PLOTS OF LAND, for Third-rate Houses, of ten and eight rooms, situate in Oakley-street, King's road, Chelsea, and the adjoining streets, and being opposite the new park gates, affording convenience by steamboat or omnibus to and from all parts of London.—For plans and particulars apply to Mr. PHENE, 19, Manor-place South, King's-road, Chelsea, between the hours of Ten and Four.

BUILDING GROUND, PECKHAM-ROAD ESTATE.

TO BE LET, on the High Road, 2½ miles from the Bank, a CORNER PLOT, for a Public-House, and other Plots for Private Residences; term ninety-nine years, direct from freeholder; land-tax redeemed. The estate is bounded by two high roads, of great thoroughfares, and by the most respectable neighbourhood in the vicinity. The soil is gravelly, and the frontages throughout the estate abut on good thoroughfares. Money advanced if agreed. Apply to Mr. CHARLES JOSEPH ORRIDGE, Architect, No. 14, King William-street, Strand.

MANOR PARK ESTATE, STREATHAM, SURREY.—TO BE LET, on Building Leases, in the above Park, in this favourite and select district, close to the Parish Church, upwards of NINETY PLOTS for VILLAS, FIFTY for TERRACES, and several for Shops and Stabling, the whole forming a belt round the interior of Manor Park, which from its combined of undulated surface, planted walks, and well-grown timber, is of singular beauty. Private rides, walks, and drives are intended to be made within the Park. Facing-bricks, both White and Red, Roofing Slates of an excellent quality, and in any quantities, may be had on the estate, and an allowance will be made in the price where used on the estate. Gravel of a superior description is found in abundance on the ground, and water is laid on. Advances will be made, and other accommodation afforded to respectable builders taking an adequate interest in the property, which is likely to be immediately remunerative to them, from a great and increasing demand for houses existing in this neighbourhood.—For Lithographed Plans and Particulars apply to Messrs. RAWKINS, PUGH, LANGBURNE, and VICKERMAN, No. 4, South-square, Gray's-inn; Mr. R. L. ROUMIEU, Architect, No. 10, Lincoln's-inn-fields, Strand; or Mr. WILKINS, at the Manor park office, Streatham.

LEASEHOLD PREMISES, SOUTHWARK, TO BE LET.—The trustees of COLLETT'S CHARITY will meet at the School-house, at the corner of Redcross-street and Union-street, Southwark, on Monday, the 30th day of November next, at Twelve o'clock at noon precisely, TO LET BY TENDER, for the term of 21 years, from Christmas day next, all those 3 Premises, now or lately in the occupation of Messrs. Nos. 11 to 13, Tar-street, High-street, Southwark, adjoining the Townhall. The parts requiring such, are will have to repair and improve. Plans and particulars of the premises may be seen at the office of Mr. Rose, the surveyor, of Great Dover-street, within three months from the 25th day of December next, in her Mr. Rose will grant leases of the premises (containing the usual covenants) for 21 years, at the rent by next, at the rent to any person who shall be accepted, and be ready will have to execute a counterpart thereof, and will have to bear Mr. Rose's charges for the surveyor's fee of the repairs, and also the costs of the lease and counterpart, and the plans to be inserted therein. Persons desirous of taking the premises must send in a tender (sealed up), to the trustees at the School-house, to be addressed, before Twelve o'clock of the day of meeting, and must be in attendance, so as, on the acceptance of the tender, he may sign the agreement. The size or form of the premises and the amount of the rent shall in the case of the grant of the lease can be seen and further particulars obtained of the trustees, or any other. The trustees do not bind themselves to accept the highest tender. Dated this 24th day of October, 1848.—By order of the trustees,

STURMY and SIMPSON, Solicitors, 8, Wellington street, London-bridge.

TO BE DISPOSED OF, an old established CARVING and GILDING BUSINESS in an improving town.—For particulars, address J. R., post-office, Marlborough.

TO STONE MASONS.

TO BE DISPOSED OF, near the City, an old ESTABLISHED BUSINESS and PREMISES, with useful selected GOODS, to be taken at a reduced rent low. An active person would find this a good opportunity to commence business immediately; the present proprietor having ill health, is obliged to decline it.—Application, stating where an interview to be made by letter, post-paid, to Y. Z., at the Office of "The Builder," 2, York-street, Covent Garden, will be attended to.

TO INVESTMENT SOCIETIES AND OTHERS.

TO BE SOLD, on most reasonable terms, THREE large sized SIX-ROOMED CARCASES, with kitchens attached, 99 years' lease, drains, sewers, paving, and roads are all settled for, and in a most improving neighbourhood, at Islington.—Apply to WM. PECK, 38, Aldenham street, Somers-Town.

TO BUILDERS AND OTHERS.

TO BE SOLD, the Lease and Goodwill of a very OLD-ESTABLISHED BUSINESS, about 20 miles from London, and within one mile of a principal railway station in the county of Hertford. The premises, which comprise a commodious dwelling-house, counting-house, shop, and substantial workshop, with large yard and capital wharf, and are held by the year at a low rent, may be taken at a valuation, or upon terms to suit a purchaser, and immediate possession can be obtained.—Further particulars may be had at the offices of Messrs. DENT and SON, and Mr. Saddington, Auctioneers, No. 38, High-street, Camden Town, and No. 5, Saddington buildings, Chancery-lane, Holborn.

THE EXCELLENT MATERIALS and FITTINGS of two first-rate BUILDINGS, consisting of 18 rooms each, will be pulled down and sold in lots privately, situated in Canonbury-fields. The buildings are quite new, the ground being wanted for other purposes. Two excellent Portland staircases, with landings, iron bedsteads, and mahogany hand-rail; a large quantity of good stock bricks to be sold cheap.—Inquire at Canonbury Tavern, Canonbury-fields, Islington. A quantity of dry rubbish may be had.

SALES BY AUCTION.

TO RAILWAY DIRECTORS AND CONTRACTORS, ARCHITECTS, ENGINEERS, AND BUILDERS.

MESSRS. EVERSFIELD and HORNE have received instructions from Mr. Kelk, the contractor for the Quadrant Improvement, to SELL by AUCTION, on the premises, on THURSDAY, November 7th, at ONE for TWO precisely, the very handsome FLUTED CAST-IRON COLUMNS, forming the much-admired COLONNADE of the REGENT-STREET QUADRANT, together with a large quantity of iron and woodwork, granite plinths, &c. The columns, which are of the Roman Doric order, stand 16 feet 2 inches high, exclusive of the plinth, and will be put into suitable lots, to be taken down by the purchasers. They are presumed to be particularly well adapted for a railway terminus, or viaduct, or might be applied with much effect in the portices or colonnade of a superior class of family mansion. May be viewed, and catalogues had (six days' previous to the sale: at Mr. KELK'S offices, 13, South-street, Grosvenor-square; and of the Auctioneers, Coal Exchange, or No. 1, Little Smith-street, Westminster.

TO MASONS, BUILDERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at No. 8 Wharf, City road Basin, on TUESDAY, November 21, at Ten for Eleven precisely, by order of the consignee, a consignment of MARBLE, consisting of statuary, vein, Sicilian, Bardilla, and Sienna, in block and scantling; also a large quantity of Marble Slab, of all the above varieties, in various thicknesses. The above will be found of a very superior quality, and will be put into lots to suit every class of purchaser. Approved bills, at four months, to purchasers above 30l. May be viewed on the premises the day of sale, and catalogues had on the premises, and of the Auctioneers, Coal Exchange; or No. 1, Little Smith-street, Westminster.

To Railway Contractors, Builders, Ironfounders, and Others.
Surplus Materials, Euston and Camden Stations

PULLEN and SON are directed to SELL BY AUCTION, at the Ground adjoining the Euston and Camden Stations (entrance in Seymour-street and at Hampstead-road Gate), on TUESDAY, November 21, and following day, at Twelve, in lots, a large quantity of SURPLUS MATERIALS, part new and the remainder taken down in the recent extensive alterations at Camden and Euston; comprising about 150 loads of prime timber, consisting of stout shoring timber and scantling, in 10 to 20 feet lengths, several thousand feet of deals, one and a half floor boards and battens, 30 framed principals, from 17 to 36 feet long, 300 centres, 50 tons of wrought and cast-iron, 23 iron girders, from 15 to 21 feet long, iron columns, 17 large wrought-iron principals, 400 feet of iron railing, 200 feet gratings, iron sashes, new rod and bar iron, hoop iron, &c.; 1,000 feet run of capital Portland coping and rills, stone steps, York paving, granite and other blocks and useful stone, 600 squares of rough plate glass in various sizes, 20 dozen, of glazed sky-lights and sashes, erection of sheds and workshops, and a great variety of valuable materials.—May be viewed on Saturday and Monday. Catalogues had on the premises, and of PULLEN and SON, 80, Fore-street, Cripplegate.

COOZE'S IMPROVED MARBLE PAPERS.—The Trade are supplied with these beautiful Papers, which are the sole invention of W. W. COOZE, Decorator and Paper Manufacturer, by whom they will be found fully equal, in effect, to painting, at a considerable saving of expense.—W. W. C. invites an inspection at his Manufactory, 20, Frith-street, Soho-square, where also may be seen designs of every style of decoration, which are executed on the most economical terms. Contracts taken and workmen sent to any part of the United Kingdom. 20, Frith street, Soho-square.

PAPER-HANGINGS, CHEAPEST IN LONDON.—Builders, the Trade, and Country Dealers, may select from a Stock of 20,000 Pieces, of the newest designs, French and English. Bedrooms, 4d. per yard; Satins, 3d. per yard; Flocks, 6d. per yard. Patterns for approval sent in town or country; and Goods forwarded free of expense. A large discount allowed on taking a quantity. Panel decorations, flowers, or oak grounded, very cheap. Terms, cash. Established twenty years W. CROSBY, 29, Lowther Arcade, Charing Cross.

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UNDER an ASSIGNMENT from the SHERIFF of MIDDLESEX.—To Builders, Plumbers, and Contractors.—The remaining portion of PLUMBER'S BRASS WORK ON SALE.—1 Cocks, 2½s. per dozen; ¾, 22s.; ½, 17s. Pan Closets, complete, with white bason, 42s. 6d. 2 Lift Pumps, 3l. 12s.; 3 in. 4l. 5s. Best Spring Valve Closet, blue basons, complete, 3l. 10s. Every article warranted best London manufacture. Apply, Mr. JAMES REID, 30, Brownlow street, Drury lane

NEUBER'S WASHABLE WATER VARNISH REQUIRES no PREPARATION of SIZE. The peculiar advantages of this Varnish may be thus briefly enumerated.—It is perfectly washable, requires no preparation whatever, is a quick dryer, emits no smell, and gives an elegant and durable polish equal to any varnish now in use. It is admirably adapted for maps, drawings, paper hangings, &c., and may be fairly considered as a discovery well worthy the patronage of the public. Price 8s. to 12s. per gallon.—Manufactory, 4, Endell-street, Broadstreet, Holborn.—N.B. A liberal commission to agents.

PAINTING WITHOUT SMELL.—The desideratum so long sought after Mix every paint with the newly discovered SWEET OIL of TURPENTINE, created by Dr. Serny, instead of the deadly abomination called Oil or Spirits of Turpentine. The following certificate must convince the most sceptical

"This is to certify that I have analysed and subjected to various tests a Sweet Oil of Turpentine, which is wholly free from the smell hitherto considered inseparable from the article. The process of manufacture, which is entirely new, has been communicated to me by the Inventor in confidence, and I am satisfied that by this discovery the deleterious properties for which all of turpentine has hitherto been notorious are wholly obliterated, whilst its useful properties are preserved intact, and that the use of common oil of turpentine, in all branches of trade wherein it is employed, now stand will be entirely superseded. I find that paint, when mixed with Sweet Oil of Turpentine, although equally improved in brilliancy of colour, is FREE FROM SMELL, and does not produce those noxious vapours which are so offensive to the smell and prejudicial to health, and I am confident that this discovery will prove to be a SURE PREVENTIVE AGAINST the common and fatal to the public, in depriving the process of house painting of those manifold ill effects and discomforts with which it has hitherto been accompanied.

(Signed) "J. B SERNY, M.D.,
"A Senior Member of the Royal College of Chemistry, Senior Physician to the Spinal Institution, and Author of the 'Treatise on Local Inflammation,' 'Spinal Curvature,' and Contributor of the Articles on 'The Evidence of Two Electric Fluids,' 'The Structure of the Nerves and the Nature of Light'—*Lancet*.
"8, Nottingham-terrace, New-road, October 7, 1848."

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By JOHN REID, Surveyor.
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The Builder.

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Architect, Engineer, Operative & Artist.

E. D. LAINE &c.

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ROB. LAMOND, Secretary.

29, St. Vincent-place, Glasgow, Oct. 25, 1848.

NEW WORKHOUSE for the PARISH of BIRMINGHAM.—TO ARCHITECTS.—Architects desirous of furnishing PLANS and ESTIMATES for the ERECTION of a NEW WORKHOUSE for the parish of Birmingham, to contain 1,350 inmates, are informed that plans and sections of the site, with printed instructions, may be had on application to the Clerk, on and after the 8th day of November next; and all plans, &c., must be sent in on or before the 1st day of January next, before Twelve o'clock at noon. The printed instructions will contain every particular required to be known by architects, as personal canvass of the guardians is strictly prohibited, and all applications to the Clerk must be by letter only.—By order,
EDWARD PITT, Clerk to the Guardians of the Poor for the parish of Birmingham.

Office, Lichfield-street, October 28, 1848.

CONTRACTS.

TO PERSONS desirous of TENDERING for WORKS required in FITTING UP the GALLERY of the LECTURE THEATRE for the BIRKBECK SCHOOL, at the London Mechanics' Institution, 29, Southampton-buildings, Chancery-lane, are hereby informed that the specifications can be seen on application to the Secretary, in the Library, as above. Tenders must be sent to the Committee, addressed "Tender for Works at the Birkbeck School," on or before eight o'clock p.m. on the 18th inst., after which time no tender will be received. The Committee do not pledge themselves to accept the lowest tender.
W. MATTIEU WILLIAMS, Hon. Sec.

November, 1848.

GUILDHALL, October 25, 1848.

THE Committee for Letting the City's Lands will MEET at Guildhall, on WEDNESDAY, the 15th day of November next, at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for Twenty-one Years, from Christmas next, a HOUSE, No. 8, on the east side of New Broad-street, a House, No. 14, on the north side of Broad-street buildings; a House, No. 23, on the south side of Broad-street-buildings; and a House, No. 39, on the south side of Upper Thames-street. ALSO, to receive tenders for letting on lease, for nineteen years (less three days), from Christmas next, a House, No. 93, on the south side of Chancery-lane; a House, No. 25, on the south side of Old street, and a large yard and buildings behind the same; and also a House, No. 3, on the east side of Windmill-street, near Finsbury-square.—Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.
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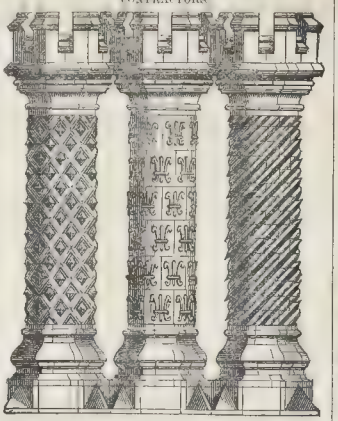
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NEUBER'S WASHABLE WATER VARNISH.—REQUIRES no PREPARATION of SIZE. The peculiar advantages of which may be thus briefly enumerated:—It is perfectly washable, requires no preparation whatever, is quick drying, emits no smell, and gives an elegant and durable polish equal to any varnish now in use. It is admirably adapted for glass frames, paper hangings, &c., and may be partly used for this purpose with well-worthy the patronage of the public. Price 8s. to 12s. per gallon.—Manufactory, 4, Endell-street, Broad-street, Holborn.—N.B. A liberal commission to agents.

PAINTING WITHOUT SMELL.—The desideratum so long sought after.—Mix your paint with the newly discovered SWEET OIL of TURPENTINE, certified by Dr. Ure, Apsley, Herts, of the old-fashioned unpalatable Oil or Spirits of Turpentine. The Oil is sold at a moderate rate, and is the cheapest method of obtaining the most superior

"This is to certify that I have analysed and subjected to various tests a Sweet Oil of Turpentine, which is totally free from the smell hitherto considered inseparable from the article. The process of rendering it inodorous I have communicated to the Inventor in confidence, and I am satisfied that by this discovery the deleterious properties for which oil of turpentine has hitherto been notorious are wholly eliminated, whilst its useful properties are preserved. Under all the circumstances, I consider Sweet Oil of Turpentine in all branches of trade wherein this article is now used will be entirely superseded. I find that paint, when mixed with Sweet Oil of Turpentine, although greatly improved in brilliancy of colour, is FREE FROM SMELL, and does not emit those noxious vapours which are so offensive to the smell and prejudicial to health, and I am confident that this discovery will be found to be a SURE PREVENTIVE AGAINST the common and fatal disease called THE PAINTER'S COLIC, and an invaluable boon to the public, in depriving the process of house painting of those painful and ill effects and discomforts with which it has hitherto been accompanied.

(Signed) "J. B. SERNY, M.D.,

"A Senior Member of the Royal College of Chemistry, Senior Physician to the Spinal Institution, and Author of the 'Treatise on Local Inflammation, Spinal Curvature,' and Contributor of the Articles on 'The Evidence of Two Electric Fluids,' 'The Structure of the Nerves,' and 'The Nature of Light.'—*Lancet*.

"9, Stanhope-terrace, New Road, October 7, 1848."

Sold only at the Depot, 1, Bream's-buildings, Chancery-lane, by the gallon or by the gallon. Sample bottles may be had, One Shilling and Two Shillings each.

PLASTER of PARIS.—Plasterers and Others can be supplied with PLASTER of PARIS, of excellent quality, delivered at Three Cranes Wharf, London, at 8s. per ton, casks included; or by sending bags, can have them filled and delivered at 4s.—Orders addressed to W. B. WILKINSON, Manufacturer, Newcastle-on-Tyne, accompanied by a remittance or a reference, will meet prompt attention.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 9, South Wharf, Paddington Basin. Works at Strat[illegible]-on-Avon and Southam GLAZED STONEWARE DRAIN PIPES in stock.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth, No. 1, Doucate Wharf, Puddle-hill, and at the Manufactory, Mill Walk, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or made in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and effective substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it excels the process of Parian in the streets of Vienna.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool

PORTLAND CEMENT.—J. B. WHITE and SONS, request reference to Nos. 84 at 1285, pages 1 and 331, of "The Builder," for accounts of experiments on the strength of Portland Cements. These tests prove that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for uniting the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, renders it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 285, pages 343 and 351 of "The Builder." Their accounts of EXPERIMENTS on the strength Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water to a degree in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes, and is equally applicable to the purposes of concrete, as the finest stucco, to level by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depot, 11, Bank Gorse, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, interior resistance to frost or heat, and economy, distinguish it as from all the cements and paints now in use. Numerous testimonials received from public bodies and private individuals of the first importance. Prospectuses and particulars may be obtained from the sole agent, PHILLIP HARE, at the Warehouse, 22, Stodyard, Upper Thames-street.

PARIAN CEMENT, used as a Stucco, cannot easily be distinguished from Statuary or Parian Marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; is adapted to ornamental work, fresco, and internal stucco, and the most elaborate embellishment. So perfect are its setting or crystalizing properties, that the coarse quality, when applied to newly built or damp work, may be immediately painted, papered, or papered; and if ornaments that have become mutilated, it is used would seem to be manufactured by JOHN FRANCIS and SONS, Parian Cement Works, Old Pye-street, London.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been in use for upwards of two years, and its owners high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. It seems shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained at the Patentees, Messrs. MARTIN and Co.'s, at their Plaster and Cement Works, 186, B, Ann's-place, Limehouse.

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting the process of painting with oil and white lead, STEPHENS'S DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, halls, dining rooms, and other rooms in private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, being a rich colour when first applied, and while they reflect all the beauty of the natural grain, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences from paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 31, Stanhill-street, Blackfriars-road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Walnut and Dark Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied. Sold also at Mr. Foden's, 2, York-street, Covent Garden, London; at both which places may be had the proper Varnish and Size, with directions for their use.

JORDAN'S PATENT MACHINE CARVING and MOULDING WORKS for WOOD and STONE, Belvedere-road, Lambeth, and 154, Strand.—TAYLOR, WILLIAMS, and JORDAN beg to call the attention of the building community to a new feature of their establishment, and, at the same time, to thank their numerous patrons and friends for the very liberal support they have lately experienced, which, they assure them and the public, it will be their constant endeavour to deserve, by giving their customers an increasing share of the advantages resulting from the constant improvements in machinery which they have just succeeded in applying to the production of the most intricate carving in Caen and other freestone, and in statuary marble.

T., W., and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large building may be executed in a comparatively short time, and that in many cases they can deliver a well-finished article in Caen stone for less money than it can be obtained in cement, while their workmanship from its accurate adaptation of machinery is in close competition with the best kinds of composition ornament.—For prices and estimates apply at 154, Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"Gentlemen,—In reply to your letter requesting my opinion of your fret-cutting Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the production of the wood carvings of the House of Peers, and other apartments of the New Palace, at Westminster, that I am enabled to make the most favourable report concerning it, and to add that it has more than justified the favourable terms in which I recommended it in 1846 to her Majesty's Commissioners of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S newly-invented SIMPLEX WIND-GUARDS, which offer the following advantages over the well-tried invention, known as DAY'S PATENT WIND-GUARD, viz., greater cheapness and durability, impossibility of clogging with soot, and the prevention of the descent of smoke down adjoining chimnies. Price in Galvanized Iron, 20s.; Size for Kitchen Chimnies, 40s.; To be seen and tested at Mr. JEAKES, the Sole Proprietor, 51, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country licenses for manufacturers granted.



SMOKY CHIMNEYS.—
"NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale place, Hammersmith, begs to inform architects, surveyors, builders, and others, that he can guarantee a perfect cure of chimneys from smoking into rooms, and on the equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'s PATENT CHIMNEY-POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, can be forwarded to any part of the Kingdom on receipt of a Post-office order. Prices and prospectuses by return of post. Licenses granted to manufacturers.

MANUFACTORY, VALE-PLACE, HAMMERSMITH, MIDDLESEX.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.



HART and SONS beg to invite the attention of architects, builders, and others, to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are stronger, more durable, and more elegant in form, than those in ordinary use, as the spindles, being loose, do not require the objectionable side screw. They are more readily fixed, are suitable for every description of lock now in use, and, as they adjust themselves to doors of different thicknesses, without alteration, are particularly adapted for the country or for exportation. They are made to suit every style of decoration in China, crystal, amber, and opal glass, buffalo, horn, ivory, ebony, brass, &c., en suite with finger-plates, bell-pulls, levers, &c. May be obtained of all ironmongers; or of the proprietors and sole manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, and 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any lock furniture without such side screws would be an infringement of the patent.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAPS.

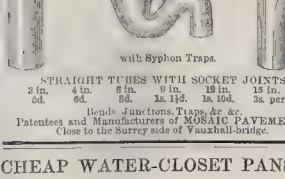
Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF-ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, for all purposes, by BUNNETT and COMPE, ENGINEERS, 26, Lombard-street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING DOUBLY TRAPPED
PAN AND VALVE WATER-CLOSETS;
A most successful combination of the above principle, with other patented improvements!

VAUXHALL POTTERY, established upwards of 150 years.

ALFRED SINGER and Co., Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER-CLOSET PANS, &c.



with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS.

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
6d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s. per foot.

Bends, Junctions, Traps, &c. &c.

Patentees and Manufacturers of MOSAIC PAVEMENTS. Close to the Surrey side of Vauxhall-bridge.

IMPORTANT to ARCHITECTS, SURVEYORS, BUILDERS, and Others, requiring a SUPPLY of WATER.—Boring for water, Artesian wells, sinking, &c. Water Companies, towns, public buildings, brewers, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer, and Patentee of Boring Tools, 10, Cumming-street, Pentonville, London; whose long experience and practical knowledge in the above enable him to give the most satisfactory and highly respectable references. Wells that are dry may be abundantly supplied. Pumps and machinery of every description for raising water from deep wells. Men and tools supplied to bore for rail roads, minerals, &c. Boring tools and suitable pipes for exportation with instructions.

ARCHITECTURAL ENRICHMENTS.

BIELEFELD'S IMPROVED PAPIER MACHE, which has been almost universally adopted for architectural decoration, has been patronized by her Majesty, by the Honourable Commissioners of Board of Works, by the highest of the nobility and gentry, and by the most eminent architects of the day. It has been used at the royal palaces, at the present House of Lords, at Dublin Castle, at Drayton Manor, the new Conservative Club House, Grocers' Hall, &c., also at the British Museum and Pantheon Bazaar, where it has been extensively used for some years, and an inspection will sufficiently establish its superiority over every other kind of composition, both for beauty and durability. Designs prepared for the decoration of ceilings, panelling of walls, &c. A volume of enrichments, containing more than 1,000 designs of the papier maché ornaments, with a tariff, price £1.—Works, 15, Wellington Street North, Strand.

TO BUILDERS AND OTHERS.

RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sink and stable traps and gratings, air bricks, close and open coal plates, scrapers, tile lights, balcony panels, barrow wheels, &c.

GAS and WATER-PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLANGE PIPES, with all the usual sockets. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 6, Bankside, Southwark.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

PAPER HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper-hangings, at the lowest possible price and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Continental Paper-hangings always on hand.—Builders and large Consumers are particularly invited to the above.—451, Oxford street.

FRENCH AND ENGLISH PAPER HANGINGS.

MESSRS. MARKS and CO., French and English Paper Stainers, beg to inform the trade, that having availed themselves of the long interval of labour in Paris, they have since the commencement got together and produced a most beautiful selection of PATTERNS, English and French, for the ensuing season, at prices varying from 6d. to 6s. per piece. Messrs. M and Co. are prepared to compete in prices with country work, for any description. An early inspection is requested at the Warehouse, 59, Princes-street, Leicester-square.—A large stock of French and English Marbles and Gratites.

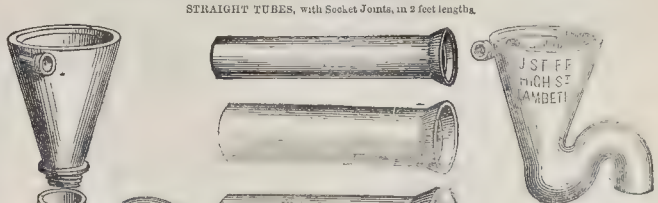
MACHINERY SUPERSEDED.—Architects, Builders, and others may have any quantity of Carvings executed at the same rate, and with as much expedition, by manual labour as by machinery, by applying to F. IRISH, Carver, Windmill-street, Tottenham Court-road.

N.B. Designs made and estimates given without delay. Patterns carved for casting in brass, iron, or other metals.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES' BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge-hole being turned downwards.

3 in. bore, 5d.	4 in. 6d.	6 in 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. The cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

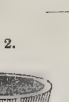
May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON and CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,

JOHN PHILLIPS'S REGISTERED SINK TRAP.



REGISTERED AIR-TIGHT STONE WARE TRAP.



In 3 feet lengths	2 in. 4d.	3 in. 6d.	In 2 feet lengths	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR, I would respectfully recommend the building profession generally, in future, to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regard strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR, In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

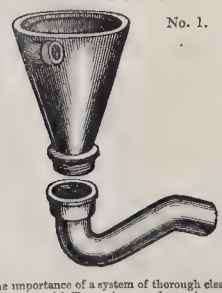
Mr. H. Doulton. JOHN ROE.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE, PRICE 7s. 6d. EACH

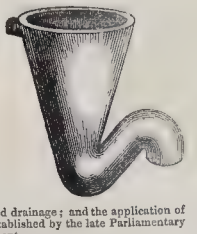
MANUFACTURED BY

DOULTON AND WATTS, LAMBETH POTTERY, HIGH-STREET, LAMBETH, LONDON.

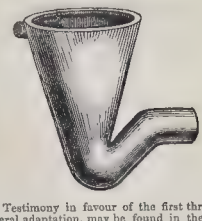
No. 1.



No. 2.



No. 3.



No. 4.

The importance of a system of thorough cleaning and drainage; and the application of Water Closets with Traps, *to every house*, is so fully established by the late Parliamentary inquiries, and by public opinion, as to need no enforcement.

The above Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans; and the price at which they are offered is so low, as to admit of their universal adoption.

Testimony in favour of the first three of these Closet Pans, and their suitability for general adaptation, may be found in the recent evidence given before the Parliamentary Sanitary Commission, by HENRY AUSTIN, Esq., Consulting Engineer, and JOHN PHILLIPS, Esq., Surveyor to the New Metropolitan Commissioners of Sewers. No. 4 is approved by Major JEBB, and has been extensively supplied in Prisons and Asylums throughout the Kingdom.

LIVERPOOL POTTERY.

JOHN DOULTON, JUN. (OF THE LAMBETH POTTERY, LONDON),
MANUFACTURER OF GLAZED STONE WARE TUBES, &c.,
ST. HELENS, LANCASHIRE.

STRAIGHT TUBES, WITH SOCKET JOINTS, FOR DRAINAGE AND THE CONVEYANCE OF WATER OR GAS.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH WORKS, London, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway, without extra charge.

The superiority of these Tubular Drains in Glazed Stone Ware, for the perfect drainage of dwelling houses and for public sewerage, is established in the recent evidence before the Parliamentary Sanitary Commission.



In 3 feet lengths.

1½ in.	2 in.	2½ in.	3 in.
3½d.	4d.	4½d.	5d. per foot.

In 2 feet lengths.

4 in.	6 in.	9 in	12 in.	15 in.	18 in. bore.
6d.	8d.	1s. 1½d.	1s. 8d.	2s. 6d	3s. per foot.

The following Testimonial is from James Newlands, Esq., C.E., Borough Engineer of Liverpool :—

"Public Offices, Engineer's Department, Liverpool, Oct. 25, 1848.

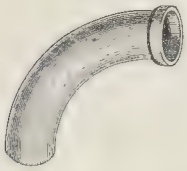
"DEAR SIR,—I have pleasure in testifying to the excellence of the glazed stone ware pipes manufactured by you at the Liverpool Pottery. The specimens I have seen are straight, and have the sockets very accurately moulded. These stone ware glazed pipes are strong, smooth, and imperishable; they are readily laid; they afford an easy flow, and are not affected by the sewage matter,—and on these grounds I recommend them as eminently superior to the common brick drains. When more attention is given to sanitary matters, I believe their use will become universal.—I am, dear Sir, yours, &c.,

JAMES NEWLANDS, Borough Engineer.

Mr. Doulton, St. Helens.

BENDS.

Fig. 1.



2 in. 1s.
2½ in. 1s. 1d.

Fig. 2.



3 in. 1s. 3d.
4 in. 1s. 9d.
6 in. 2s. 3d.

Fig. 3.



9 in. 3s. 6d.
12 in. bore, 8s. 6d. each.

SINGLE.

JUNCTIONS.

DOUBLE.

Fig. 4.



Fig. 5.



Fig. 6.



2 in. 1s.
2½ in. 1s. 1d.
3 in. 1s. 3d.
4 in. 1s. 6d.
6 in. 2s.
9 in. 3s. 6d.
12 in. 7s. 6d.
15 in. bore of main tube. 7s. 6d. each.

Fig. 7.

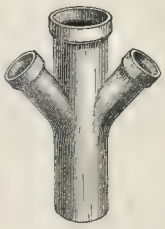


Fig. 8.

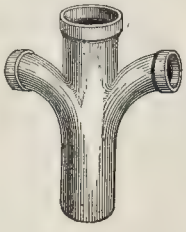


Fig. 9.

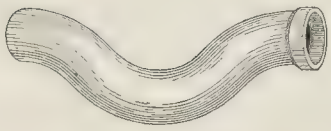


2 in. 1s. 4d.
2½ in. 1s. 6d.
3 in. 1s. 8d.
4 in. 2s.
6 in. 2s. 8d.
9 in. 4s. 6d.
12 in. 7s.
15 in. bore of main tube. 10s. each.

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TRAPS.

Fig. 10.
Syphon Trap.



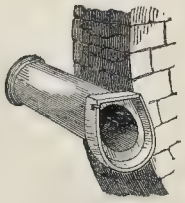
2 in. 2s
3 in. 2s 6d.
4 in. 3s 6d.
6 in. 6s.
9 in. 7s. 6d.
12 in. 10s each.

Fig. 11.
Gully Drain, with Syphon Trap.



2 in. 3s. 6d.
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6 in. 9s.
9 in. 14s. each.

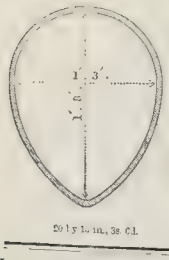
Fig. 12.
Trap for Iron Flap.



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A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

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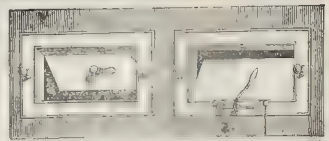
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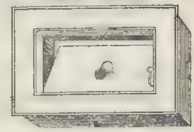
(Signed) "J. B. SERNY, M.D.,
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"8, Nottingham-terrace, New-road, October 7, 1848."

Sold only at the Depôt, 1, Bream's-buildings, Chancery-lane, by the cwt. or by the gallon. Sample bottles may be had, One Shilling and Two Shillings each.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. F. EDWARDS having had the advantage of making them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 20s. and upwards. A prospectus, containing every requisite information, to be had on application to F. EDWARDS, 42, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.



For carrying off Heated and Impure Air from Bed-rooms, Sitting-rooms, Counting-houses, and Apartments generally.

LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 9.
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	16 0	21 0
Brass Front	17 0	24 0

Packing Cases if required, 3d. each.

Manufactured by HART and SONS, 53, 54, 55, Wych-street, Strand, London.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S Patent Transparent Slide Valve VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed rooms, and the cure of smoky chimneys, prove their great utility. Coloured Glass of every tint at wholesale prices. Designs and estimates for church and ornamental windows forwarded on application to EDWARD BAILLIE, Glass Painter, Stainer, and Embosser, 12B, Cumberland Market, Regent's-park, London, where specimens are to be seen.

SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S newly invented SIMPLEX WINDGUARDS, which offer the following advantages over the well tried invention known as DAY'S PATENT WINDGUARD, viz., greater cheapness and durability, impossibility of derangement, and the prevention of the descent of smoke in adjoining chimneys. Price in Galvanized Iron, 25s.; Size for Kitchen Chimneys, 40s.; To be seen and tested at Mr. JEAKES' (the Sole Proprietor), 51, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country Licenses for manufacturers granted.



SMOKY CHIMNEYS.—"NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale place, Hammersmith, begs to inform architects, surveyors, builders, and others that he can guarantee a perfect cure of chimneys from smoking into rooms, and on the equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'s PATENT CHIMNEY-POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, can be forwarded to any part of the Kingdom on receipt of a Post-office order. Prices and prospectuses by return of post. Licenses granted to manufacturers.

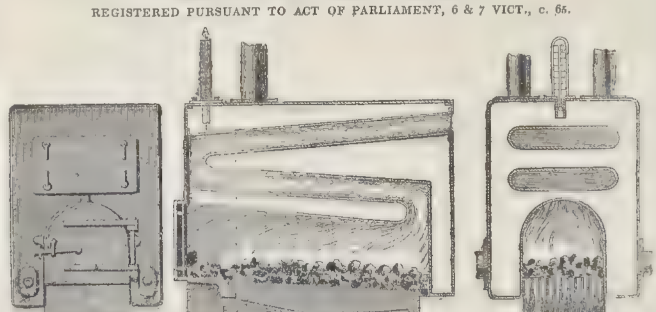
MANUFACTORY, VALE-PLACE, HAMMERSMITH, MIDDLESEX.

WILLIAM HILL'S IMPROVED FLUE BOILER AND FURNACE,

FOR

WARMING CHURCHES, CHAPELS, MUSEUMS, MANSIONS, MANUFACTORIES, HORTICULTURAL ERECTIONS, &c. &c.

REGISTERED PURSUANT TO ACT OF PARLIAMENT, 6 & 7 VICT., c. 65.



FRONT ELEVATION. LONGITUDINAL SECTION. SECTION A TO B.

The enormous waste of fuel which attends the use of many of the boilers now applied to warming apparatus, and the complicated construction of others, having led the inventor to consider the importance of the subject, he now lays the result before the public, and respectfully invites their attention to the accompanying drawings and particulars.

The peculiar excellences claimed by W. HILL for his Improved FLUE BOILER are three, viz.: simplicity, economy, and efficiency. Its simplicity of construction renders all its surfaces easy of access to clean, and which operation can be performed at any time in the space of a few minutes. Of this too much can hardly be said, as the efficiency of all boilers greatly depends upon their being kept perfectly free from soot or other deposit, the neglect of which in most cases may be attributed to the great difficulty of access, and shows their consuming power, and is a primary cause of waste in fuel, often, it is believed, to an extent of 50 per cent.

The large amount of surface exposed to the actual contact and influence of the fire, so that no heat can possibly escape until it has traversed through three times, economises the consumption of fuel to a very great extent.

The conducting power of wrought-iron as superior to cast-iron, needs no comment, and this principle is carried out in the construction of the improved FLUE BOILER, is found to raise the temperature of the water in about one half the time which it requires for any of the boilers now in use of cast iron. The sediment from the water in many instances is a fertile source of injury to boilers: facilities are here given for its frequent removal of deposit without the least interference with the brickwork or disturbance of any portion of the apparatus. The advantage of the thermometer is considerable, enabling the attendant to ascertain at a glance the temperature of the water in the apparatus, and which upon this system will soon become a great desideratum for its regulation and a criterion by which the supply of fuel may be determined. The mode of setting the boiler is exceedingly simple, care being taken to protect it from close contact with brickwork by a suitable material to prevent corrosion, a cause of premature destruction more strikingly simple than the wear and tear of actual work.

Twenty five years' experience in buildings and surveying enables W. HILL to furnish accurate plans and estimates for the adapting his improved method of warming and ventilating by means of the circulation of hot water to buildings of every description, as churches, mansions, large conservatories and ranges of horticultural erections, railway stations, manufactories, carriage depositories, &c., for all of which his improved FLUE BOILER is especially adapted.

TESTIMONIALS.

Holland House, Kensington, July 20, 1848.

Sir,—I have much pleasure in giving my testimony to the excellent working of your improved hot water apparatus. It far exceeds my expectations, both as regards its simplicity of action and its perfect efficiency, and, lastly (though by no means the least important feature), the consumption of fuel is *exceedingly moderate*, and the attention required very limited.

To Mr. Hill. (Signed) HOLLAND.

Holland Estate Office, Addison road, July 25, 1848.

Sir, The warming apparatus fixed by you at Lord Holland's, under my direction, gives me the greatest satisfaction. Your "*Improved Flue Boiler and Furnace*" are the best of their kind I have seen. I shall feel a pleasure in recommending you.

Signed J. H. BROWNE.

Brooklands, Blackheath, August 14, 1848.

Sir,—I have much pleasure in certifying to the excellence of the horticultural buildings erected for me by you five years back, and also to the completeness of the arrangements for heating the same by hot water. It has not required any repairs, and the consumption of fuel has been very moderate indeed.—Signed JAMES COOK.

Brooklands Nursery, Blackheath, August 14, 1848.

Sir,—Your "*Improved Flue Boiler and Furnace*" is a decided improvement. The facility given for cleaning the flues is of immense advantage and it is, I think, will preserve its efficiency and power. From my long experience of the old plans I am quite sure your "*Improved Flue Boiler*" will be found economical in the consumption of fuel, and very powerful in effect. Had I occasion to fix a boiler to heat a range of houses, I should select yours in preference to any I have ever seen.—(Signed) W. P. AYRES.

Haddo House Gardens, Aberdeen, August 15, 1848.

Sir, It gives me great pleasure to say by the drawings sent that your "*Improved Flue Boiler and Furnace*" is really an improvement upon those you fitted up at Fyvie Park in 1844 and 1845, although at that time I considered them perfect, and they certainly were the most powerful I have worked in any case, of and I have seen much of the working of several, each of which was *said to be "the best"*. The rapidity with which your "*Flue Boilers*" get heated is the best testimony to their economy. I always succeeded in getting a sufficient heat in *one hour* after lighting; the fire might then be banked up and left with the most perfect safety, the thermometer in the boiler indicating 165 deg., and repeated observation has shown the diminution in temperature of the water in the boiler, seven hours after banking up, to be five degrees only. The whole apparatus is indeed most efficient, and I heartily wish you the demand for them which they deserve.

Signed J. ROBERTSON.

Nursery, Leithbrooge road, Leith, September 7, 1848.

Sir, Many years' experience and observation of the several means of heating by hot water apparatus and of the major improvements which from time to time have been introduced, I have no hesitation in saying that I regard your method very efficient, and in connection with your "*Improved Flue Boiler*" will prove most economical. I request you will supply me with one of your "*Improved Flue Boiler*" at your earliest opportunity. (Signed) FINLAY FRASER.

The Countess of Buckinghamshire bears her testimony to the very satisfactory working of the Hot Water Apparatus; and also to the excellence of the neatly designed and well arranged conservatory erected for her some years since by Mr. Hill.

Charlton, September 12, 1848.

CONSERVATORIES, HOTHOUSES, PINERIES, and every other description of Building used for Horticultural Purposes, CONSTRUCTED, WARMED, and VENTILATED on SCIENTIFIC PRINCIPLES. Mr. Hill's system of heating is guaranteed by him to be *superior to any other mode*, as it affords the most perfect control over excess of evaporation, and is admirably adapted for the successful growth of the cucumber in the winter season.—Glazing with the best selected Sheet Glass, of British manufacture, warranted not to scorch in any instance where common crown glass would not do the same.

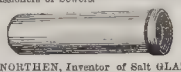
IMPROVED SUN SHADES MADE TO ANY DIMENSIONS.

Worn-out or inefficient Boilers removed, and the "Improved Flue Boiler" connected to existing apparatus.

*** Communications addressed to W. HILL, Horticultural Works, Greenwich, will meet with prompt attention.

UNION BROWN STONE POTTERY,

CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



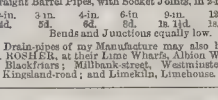
WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

3-in.	4-in.	6-in.	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B Drain-pipes of any Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Ashley Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.



JOHN DOULTON, JUN.,

(OF THE LAMBETH POTTERY, LONDON),

MANUFACTURER OF GLAZED STONE WARE, TUBES, &c.

ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH WORKS, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway without extra charge.

In 3 feet lengths.			PRICES.			In 2 feet lengths.	
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
4d.	4½d.	5d.	6d.	8d.	1s. 1½d.	1s. 8d.	2s. 6d.	3s. per foot.

BENDS AND JUNCTIONS OF ALL REQUIRED SHAPES.

The superiority of these tubular drains in glazed stone ware, for the perfect drainage of dwelling-houses and for public purposes, is established in the recent evidence before the Parliamentary Sanitary Commission. The following Testimonial is from JAMES NEWLANDS, Esq., C.E., Borough Engineer of Liverpool:—

Public Offices, Engineer's Department, Liverpool, Oct. 25, 1848.

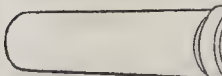
DEAR SIR,—I have pleasure in testifying to the excellence of the glazed stone ware pipes manufactured by you at the Liverpool Pottery. The specimens I have seen are straight and true, the sockets very accurately moulded. These stone ware glazed pipes are strong, smooth, and imperishable; they are readily laid; they afford an easy flow, and are not affected by the sewage matter,—and on these grounds I recommend them as eminently superior to the common brick drains. When more attention is given to sanitary matters, I believe their use will become universal.

I am, dear Sir, yours, &c.,
JAMES NEWLANDS,
Mr Doulton, St. Helens. Borough Engineer.

DRAINS, with SOCKET JOINTS,

AS USED AT

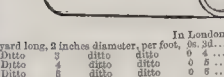
BRIDGEWATER HOUSE.



	In London. Per foot.	In Liverpool. Per foot.	At Manchester. Per foot.	At Tunstall. Per foot.
3 in. diam.	0s. 5d.	0s. 4½	0s. 4d.	0s. 3½d.
4 "	0 6½	0 5½	0 5	0 4½
6 "	0 9	0 7½	0 6½	0 6
9 "	1 3	0 10½	0 10	0 9
12 "	2 2	1 7	1 6	1 4½
16 "	4 0	2 10	2 8	2 6

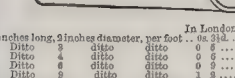
Curves and Junctions charged double

ALSO, PLAIN-JOINTED CYLINDERS.



Half-yard long, 2 inches diameter, per foot	In London. 0s. 3d.	At Tunstall. 0s. 3d.
Ditto 3 ditto ditto	0 4	0 3 3-8ths
Ditto 4 ditto ditto	0 5	0 3 3-8ths.
Ditto 6 ditto ditto	0 8	0 4
Ditto 9 ditto ditto	0 11	0 6
Ditto 12 ditto ditto	2 1½	1 2
Ditto 16 ditto ditto	3 9	2 3

ALSO, CONES TO FIT ONE WITHIN ANOTHER.



20 inches long, 2 inches diameter, per foot	In London. 0s. 3d.	At Tunstall. 0s. 3d. 3-8ths.
Ditto 3 ditto ditto	0 6	0 3
Ditto 4 ditto ditto	0 6	0 3 3-8ths.
Ditto 6 ditto ditto	0 9	0 4 3-8ths.
Ditto 9 ditto ditto	1 2	0 6

ILLUSTRATED TRADE LISTS GRATIS, containing much information useful for REFERENCE, also TESTIMONIALS respecting a MATERIAL which, when well wrought is probably superior to every other for drains or conduits as also for artificial glazes, corrode, for pulses, traps, valleys, and every part of roofs, for plain or chequered paving, for erecting sea-walls and other strong works, &c. To be had GENUINE of THOMAS PEAKE, proprietor of "Peake's Terro-Metallicum," No. 4 Wharf, City-road Basin, London; also, at the Tileries, Tunstall, Staffordshire. Articles would be supplied to any extent, and dispatched to any part of the world. The lists contain prices by measure as well as by number. Letters to be prepaid, and to say if the London or Staffordshire prices are wanted.

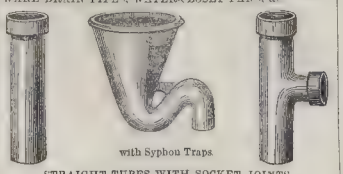
IMPORTANT to ARCHITECTS,

SURVEYORS, BUILDERS, and Others, requiring a SUPPLY of WATER.—Boring for water, Artesian wells, sinking, &c. Water Companies, towns, public buildings, brewers, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer and Patentee of Boring Tools, 10, Cumming-street, Pentonville, London; whose long experience and practical knowledge in the above enable him to give the most satisfactory and highly respectable references. Wells that are dry may be abundantly supplied. Pumps and machinery, of every description for raising water from deep wells. Men and tools supplied to bore for rail roads, minerals, &c. Boring tools and suitable pipes for exportation with instructions.

VAUXHALL POTTERY, established

upwards of 150 years.

ALFRED SINGER and Co. Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER-CLOSET PANS, &c.



with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS.

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
5d.	6d.	8d.	1s. 1½d.	1s. 10d.	3s. per foot.

Bends, Junctions, Traps, &c. &c.

Patentees and Manufacturers of MOSAIC PAVEMENTS. Close to the Surrey side of Vauxhall-bridge.

A CAPITAL PAN-CLOSET, with WHITE

BASIN complete, for 1l. 5s. 6d. for Cash.—The above may be had at M'Glashan's Foundry, 18, Clifton-street, Finsbury-square, London; likewise all kinds of Plumbers' Brass-work at equally low prices.

N.B. All kinds of Steam-cocks from the most approved patterns and warranted first-rate workmanship.

SANITARY IMPROVEMENT. — Perfect

freedom from Stench or Noxious Vapours arising from Sewers, Drains, &c., is insured by the use of

BURNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS,

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BURNETT and CORFE, ENGINEERS, 98, Lombard-street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF ACTING DOUBLY TRAPPED PAN AND VALVE WATER-CLOSETS;

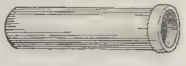
(A most successful combination of the above principle, with other patented improvements.)

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,

JOHN PHILLIPS'S REGISTERED SINK TRAP.





REGISTERED AIR-TIGHT STONE WARE TRAP.



In 3 feet lengths	2 in. 4d.	3 in. 5d.	In 2 feet lengths	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s.	18 in. bore. 4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE



No. 3 is similar to No. 2, but with the discharge-hole in a horizontal direction.
No. 4 in three pieces.

CHEAP WATER-CLOSET

PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE,

PRICE 7s. 6d. EACH,

Manufactured by

DOULTON AND WATTS,

LAMBETH POTTERY,

HIGH-STREET, LAMBETH,

LONDON.

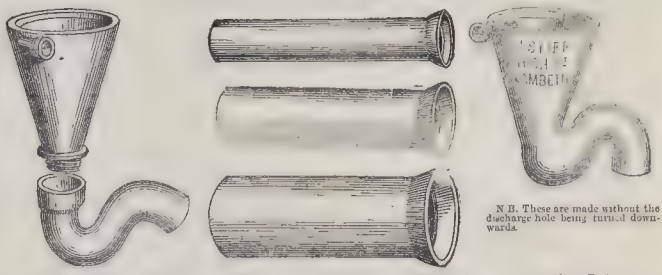
The annexed Pans are of the most simple yet perfect construction, they are cleanly and imperishable, require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,

BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1731.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge hole being turned downwards.

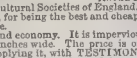
3 in. bore, 5d. 4 in. 6d. 6 in. 8d 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and superior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, Kingsroad, Camden New Town.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and

ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.,

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 29 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the only works in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL ROW.

Roofs covered with the felt to be seen at the Factory, also the new Vice Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

SALES BY AUCTION.

TO MASONS, BUILDERS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at No. 8 Wharf, City-road Basin, on TUESDAY, November 21, at Ten for Eleven precisely, by order of the consignee, a consignment of MARBLE, consisting of statuary, vein, Sicilian, Bardilla, and Sienna, in block and scantling; also, a large quantity of Marble slabs, of all the above varieties, in various thicknesses. The above will be on view the day previous to the sale, and catalogues had on the premises, and of the Auctioneers, Coal Exchange; or No. 1, Little Smith-street, Westminster.

BUILDING MATERIALS FROM THE REGENT-STREET QUADRANT.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, at the vacant ground, Charlotte-street, Bloomsbury, on THURSDAY, November 23, at Twelve, by order of Mr Kelk, the Contractor for the Quadrant Improvements, a large quantity of iron railing and panelling, metal skylights useful iron sheers, sashes, framing, &c. May be viewed two days prior to the sale, and catalogues had at the office of the Contractor, Mr. KELK, 13, South-street, Grosvenor-square; on the Premises; and of the Auctioneers, Coal Exchange, or 1, Little Smith-street, Westminster.—N.B. A number of the Quadrant Columns still remain unsold.

WANDSWORTH COMMON.—To Noblemen, Gentlemen, Nurserymen, Builders, Railway Contractors, Timber Merchants, and Public Companies engaged in Planting.

MESSRS. PROTHEROE and MORRIS are instructed to SELL BY PUBLIC AUCTION, on the Premises, Wandsworth Common, on WEDNESDAY, November 22, and following days, at Eleven precisely each day, in consequence of the number of Lots, by order of the Assignees of Mr. Robert Neal, a bankrupt, the whole of the valuable NURSERY STOCK, particularly worthy the attention of noblemen and gentlemen laying out their grounds, as well as the trade, from its excellence, consisting of a considerable quantity of very fine evergreens, new ornamental and deciduous shrubs, a rich assortment of American plants; also the whole of the greenhouse plants, a quantity of useful timber, a capital stone waggon, two-horse iron roller, a theodolite, drain pipes and tiles, fire-wood, silver sand, garden-pots, a light spring cart, three stands of bees, barrows, stoves, a quantity of tools and other utensils. May be viewed prior to the sale. Catalogues (which may be had on the premises); and may be had on the premises; of the principal seedsmen; of Messrs. FLETCHER and ROBERTS, Solicitors, Wandsworth; ED. WARD EDWARDS, Esq., official assignee, 7, Frederick-place, Old Jewry; and of the Auctioneers, American Nursery, Leytonstone, Essex.

VALUABLE FREEHOLD INVESTMENTS in a Nobleman's Residence and an extensive old-established Mews, contiguous to BERKELEY-SQUARE.

MR. JOHN DAWSON will SELL BY AUCTION, at the Mart, near the Bank of England, on TUESDAY, December 12th, at Twelve o'Clock, by order of the Trustees, an unusually desirable FREEHOLD ESTATE, consisting of a capital residence in Dover-street, in the occupation of Lord Gardener, on a lease; and the extensive stabling, coachhouses, and residences, known as Duvert's-yard, opening by carriage way into Berkeley-street, let at very low rents on well secured leases, and producing an aggregate rental of nearly 700*l.* per annum.

Note. Unless an acceptable offer should be made in the meanwhile, the estate will be sold in two lots, viz.—Lot 1, the mansion in Dover-street; and Lot 2, the entire mews; the latter especially offering a present and future investment, with facilities very much in hand for most important and lucrative improvements.—To be viewed, only with permission, by application to the Auctioneer. Particulars, with plans and conditions of sale fourteen days before the Auction, at the Mart; of Messrs HARRISON and BEAL, Solicitors, 19, Bedford-row; and of Mr JOHN DAWSON, Auctioneer and Surveyor, Marlborough-chambers, 18, Pall-mall.

TO BUILDERS, GLAZIERS, &c.—3,000 feet of ROUGH PLATE GLASS.

PULLEN and SON will SELL BY AUCTION, at Euston Station, on TUESDAY next, November 21, being a portion of their extensive sale of surplus materials, 3,000 feet of ROUGH PLATE GLASS, of excellent quality, from ½ to ¾ inch thick. May be viewed, and catalogues had of PULLEN and SON, 89, Fore-street, Cripplegate.

To Railway Contractors, Builders, Ironfounders, and others.—Extensive Sale of Surplus Materials, Euston and Camden Stations.

PULLEN and SON are directed to SELL by AUCTION, at Euston and Camden Stations (entrance in Seymour-street and at Hampstead-road gate), on TUESDAY, November the 21st, and following day, at Eleven o'clock, in lots, a vast quantity of SURPLUS MATERIALS, part new and the remainder taken down in the recent extensive alterations at Camden and Euston; comprising about 150 loads of prime timber, consisting of well seasoned deal scantling, in 10 to 20 feet lengths, several thousand feet of deals, one and a half floor boards and battens, 20 framed principals from 17 to 34 feet long, 300 rafters, 2 lots of wrought and cast-iron, 23 iron girders from 15 to 21 feet long, iron columns, 17 large wrought-iron principals, 500 feet of iron railing, 200 feet gratings, iron sashes, new rod and bar iron, &c., 1,000 feet run of capital Portland coping and cills, stone steps, York paving, granite and other blocks and useful stone, 30 doors, 40 glazed skylights and sashes, erection of sheds and workshops, four pair of nearly new entrance gates, crab crane, forge and bellows, anvils, smiths' tools, &c., and a great variety of valuable materials. May be viewed on Saturday and Monday. Catalogues had on the premises; and of PULLEN and SON, 89, Fore-street, Cripplegate.

CAPITAL OAK TIMBER.—To Builders and Others. MONKS HALL, SAFFRON WALDEN. 202 OAK TREES and 150 SAPLINGS, to be Sold by Auction, by

MARTIN NOCKOLDS, upon the Premises (adjoining the road leading from Walden to Linton), on MONDAY, the 20th of November, 1848.

ORCHARD, near the Farm House.

LOT	LOT	LOT
1 One oak tree.	10 Ditto	19 One ditto.
2 Two ditto.	11 Ditto.	20 Ditto.
3 One ditto.	12 Three ditto.	21 Two oak trees.
4 Seven ditto hobbins.	13 Four ditto.	22 Ditto.
5 Ditto	14 Six ditto.	23 Ditto.
6 Eight ditto.	15 Seven ditto.	24 Ditto
7 Ditto	16 Five ditto.	25 Three ditto.
8 Six ash seconds.	17 Four ditto.	26 Four ditto.
9 Four oak trees.	18 Ditto.	27

ON THE GREEN.

LOT	LOT	LOT
28 Two oak trees.	51 Six ditto.	78 Eight ditto saplings
29 One ditto.	52 Two ditto.	79 Three ditto trees.
30 Two ditto.	53 One ditto.	80 One ditto.
31 Four ditto	54 Two ditto.	81 Five ash ditto.
32 One ditto.	55 Eight poplar seconds	82 One oak tree.
33 Five ditto.	56 Eight oak hobbins	83 Ditto.
34 Two ditto.	57 One ditto tree.	84 Ditto
35 Ditto.	58 Four oak trees.	85 Five ditto saplings
36 Three ditto.	59 Five ditto saplings	86 Four ditto trees.
37 Ditto.	60 Seven ditto saplings	87 Three ditto.
38 Two ditto.	61 Four ditto trees.	88 Two ditto
39	62 Five ditto saplings	89 One ditto.
40	63 Four ditto trees.	90
41 Seven oak hobbins.	64 Three ditto.	91
42 Eight ditto	65 Two ditto.	92 Four oak trees.
43 Four ditto trees.	66 One ditto.	93 Three ditto.
44 Nine ditto saplings	67 Four ditto	94 Four ditto.
45 Four ditto trees.	68 Seven ditto saplings	95 Three ditto.
46 Three ditto	69 Two ditto.	96 Two ditto.
47 Four ditto.	70 Ten ditto.	97
48 Six ditto saplings.	71 Five ditto trees.	98
49 Two ditto trees.	72 Four ditto.	99
50 Seven ditto saplings.	73 Two ditto trees.	100
51	74 One oak saplings	101
52 Five ditto trees.	75 Three ditto.	102
53 One ditto.	76 Nine poplar seconds	103
	77 One oak tree.	104

Six months' credit upon approved joint security. Many of the trees are of large dimensions, long lengths, and excellent quality, and are lying close to a good road. Catalogues may be had at the office of Mr. NOCKOLDS, Saffron Walden, Essex. Sale to commence at Eleven o'Clock.

TO BUILDERS

WANTED to RENT for a term of years, for manufacturing purposes, SHED BUILDINGS to the extent of 60 square feet. A supply of water and yard will be requisite. A few miles out of town would be preferred.—Address, with particulars, J. B., Field House, London-fields, Hackney.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

TO BUILDERS.

HAGGERSTONE BRICKFIELDS.—GROUND TO LET for fourth-rate houses, adjoining the intended new Church. Apply to Mr PALMER, Shrubland-road, Queen's-road, Dalston.—Bricks advanced, and for sale as usual.

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A GOOD BUSINESS TO BE DISPOSED OF, at the West-end, in a commanding situation, among first-class houses. Any person wishing to embark in the above business would find the present a desirable opportunity. Satisfactory reasons will be given for disposing of the business.—For particulars, apply to Messrs. LOVELL, solicitors, 34, South-square, Gray's Inn.

FOR SALE, at Little Bramble-hill, Walton-on-Thames, near the South-Western Railway, Surbury, Mousey, and Esher, about 14 Acres of FREEHOLD GROUND, Land-tax redeemed, with a frontage of 360 feet.—For particulars, apply to Mr. MILLBIRD WATSON, or Mr. J. BELL, 12, Sutton-street, Commercial-road East.

FREEHOLD BUILDING GROUND, CHILD'S-HILL, HAMPSTEAD, TO BE LET, on BUILDING LEASES, for Ninety-nine Years, or SOLD in Lots, 700 feet south frontage by 250 in depth, full of valuable BRICK and POTTERY EARTH, 2 miles from Regent's park, and near Hampstead Heath.—For particulars and plans apply to Mr. SANDERS, Builder, Tottenham; or to Mr. WHYBRO, Surveyor, Tottenham green.

TO BUILDERS, BUILDING SOCIETIES, AND OTHERS.

FREEHOLD BUILDING GROUND, adjoining Victoria Park, TO BE LET on a long lease, and an advancement made by supplying bricks of a superior quality, by the freeholders. Several portions are already covered, but the most eligible plots remain to be disposed of. Apply to Messrs. ROBINSON and OUVRY, Solicitors, No. 13, Tokenhouse-yard; or to Mr. HENRY FLOWER, Architect, London House, London-street, Stepney.

BROXBOURN, HERTS.—BUILDING GROUND TO BE LET on lease, for 99 years, at low ground rents, being sites for semi-detached cottages, with a frontage to each pair of upwards of 100 feet by a depth of 100 feet. The situation is in all respects desirable and healthy; close to the station at Broxbourn, and the demand for houses in the neighbourhood considerable. Leases will be granted direct from the freeholder. Further particulars may be obtained at the offices of Messrs. DENT and SON, Surveyors, No. 31, Southampton buildings, Chancery-lane, and 38, High-street, Camden Town.

HIGH-STREET, CAMDEN TOWN.—TO MANUFACTURERS, SOCIETIES, and Others, requiring extensive Premises.—TO BE LET or SOLD, very substantial and commodious PREMISES, formerly occupied by Messrs. Collard as a piano-forte manufactory, for which they are particularly adapted, but lately used as a temporary place of worship and schools, during the restoration of the Chapel, at Camden Town. The building contains four stories, of large superficial area, spacious yard, and drying sheds, with additional carriage entrance behind. Full particulars may be obtained at the office of Messrs. DENT and SON, Surveyors, No. 11, Southampton-buildings, Holborn, and 38, High-street, Camden-town.

TO ENGINEERS, RAILWAY CONTRACTORS, DISTILLERS, AND OTHERS.

TO BE SOLD, at a Low Price, the Moulded-Base, Sub-Base, and Cap of a CHIMNEY SHAFT, standing at the Railway, New-cross. Also, a large quantity of York and Portland coping, from 14 inches to 2 feet wide, and 7 to 8 thick, in long lengths.—Apply to Mr. WALBUTTON, Builder, No. 44, Great Trinity-lane, City; or on the works at New-cross.

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HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brick-work, may be seen in action upon the premises.—BENJAMIN FOWLER, 6, Dorset-street, Fleet-street.

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Elliptic Stoves, 2½ per inch.
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Self-acting Range, with Oven and Boiler, bright fittings, 3 ft. 6 in., 3*l.* 8s.
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All Goods Warranted.
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Black Registers, from 6d. per in. and upwards.
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Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3 ft. 6 in.	4 ft.
2*l.* 18s.	3*l.* 7s.	3*l.* 15s.

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All articles made on the premises and warranted, and delivered free of charge to any part of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

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Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
£5. £5. 15s. £6. 5s. £6. 15s. £7.

Best Register Stoves, at 7*d.*, 8*d.*, and 9*d.* per inch.
Do. Elliptic do., at 3½*d.*, and 4*d.* do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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Self-acting Ranges, with oven and boiler and revolving shelves complete.

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4d., 5d.; 6d., 7d.; 10d., 1s. 3d.; 20d., 1s. 7d.

Every description of ironmongery, brass-foundery, &c., adapted to the use of builders, upholders, cabinet-makers, bell-hangers, smiths, wheelwrights, and others, of quality and at prices that defy competition. Iron and spring steel.

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Best Patent Cut Chasp.

4½d.	5½.	7d.	8s. 9d.	1s. 8d. per 1,000.
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Best Sheet Floor Brads 13s. per cwt. Best Tower Glue 33s. per cwt. Best Patent Sash Line.

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1	2	3	4	5	6

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RAIN-WATER PIPES, heads, shoes, and elbows, half-round and O G gutters, sash weights, railing bars, sink and stable traps and gratings, air bricks, close and open coal plate, copper, lead, and iron coverings, balcony rails, narrow wheels, &c. GAS and WATER-PIPES, bends, branches, Tee pieces, syphons, and lamp columns; also hot-water pipes for heating buildings and hot-houses, and FLUE-PIPES, with all the usual connexions. A large stock of the above CASTINGS at very low prices, at JONES'S, Iron Bridge Wharf, No. 8, Bankside, Southwark.

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London Terminus, 21st November, 1848.

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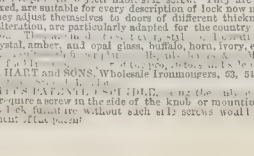
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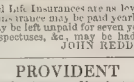
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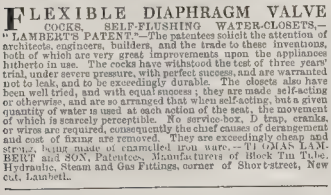
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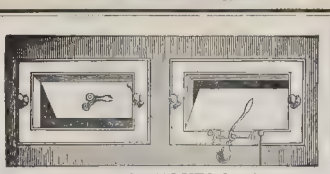
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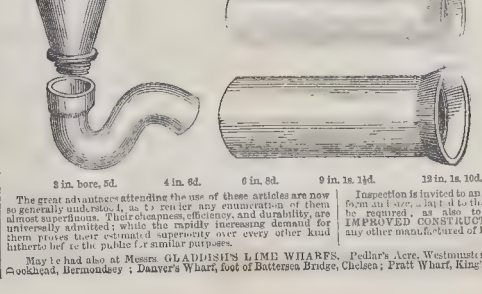
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The Builder.

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

C. E. LAING, Sc.

VOL. VI.—No. 304. DECEMBER 2, 1848. PRICE FOURPENCE. Stamped 5d.

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TO PARENTS AND GUARDIANS.

WANTED, by a Surveyor, Builder, and Auctioneer, practising in a country town, a respectable and well-educated Youth as ARTICLED CLERK.—Address A. B., Belle Vue Hotel, Cheltenham.

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION by a Builder's Surveyor, thoroughly versed in the office routine, and with good reference to his last place.—Address (post-paid) to M. E., 33, Clarendon square, New-road

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WANTED, a PRACTICAL MAN to take the MANAGEMENT of a BRICK-FIELD in the neighbourhood of Hackney, and to make a given quantity of bricks by contract. Applications to be made, in writing, to A. B., at Mr. Davis's, 7, Old Broad-street.

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WANTED, by a Gentleman who has had some years' experience in the offices of large Contractors for Public Works, and has since had the chief direction in that of an Architect, a similar SITUATION, where there might be a probability at some future period of a share in the business. The most satisfactory reference will be given as to his qualification, &c. —Apply to A. Z., at Mr. Kimpton's Library, Great Russell street, Bloomsbury.

YOUTH WANTED.—A Civil Engineer, about to establish himself at the west-end of London, wishes to meet with a well-educated Youth who would consider the office advantages a consideration for his services for a time. A taste for drawing desirable.—Apply by letter, in own hand-writing, to Z. Z., Tavistock Hotel, Covent Garden.

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A YOUNG MAN is desirous of obtaining an ENGAGEMENT in the capacity of DRAUGHTSMAN in either of the above offices. He can shew specimens of qualifications, and can furnish references of the highest respectability from late employers.—Address, post-paid, to Q. P., Post-office, Queen's-road West, Chelsea.

SMITHFIELD CLUB (1848) CATTLE SHOW.—The Annual Exhibition of PRIZE CATTLE, SEEDS, ROOTS, IMPLEMENTS, &c., 6th, 7th, 8th, and 9th of DECEMBER, Bazaar, King-street, Portman square. The arrangements are marked by the usual attention to the general comfort of visitors, thereby enabling ladies to view this National Exhibition with perfect facility.—Open from Daylight till Nine o'clock in the evening. Admittance, One shilling.

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Lists of the Sliders and Prices upon application to the Manufacturers, CARPENTER and WESTLEY, Opticians, 24, Regent-street, Waterloo-place, London.

ARCHITECTURAL PUBLICATION SOCIETY.—The Committee having made a selection of works for publication, the list can be obtained of the Honorary Treasurer, Mr. THOS. L. DONALDSON, Bolton Gardens, Russell-square, or of the Honorary Secretary, Mr. WYATT PAPWORTH, 10, Caroline-street, Bedford-square.

Members are requested to take notice, that in order to determine the number of copies to be printed, the subscription books will be closed on the 1st of January next.

NOTICE IS HEREBY GIVEN, that a SPECIAL GENERAL MEETING of Members of the INSTITUTION of BUILDERS' FOREMEN will take place on WEDNESDAY EVENING next, December 6th, at the "Bay Tree" Tavern, St. Swithen's-lane, when the attendances of members is respectfully requested on business of considerable importance.

W. ALLARD, Secretary.

A CATALOGUE, with Engravings, Prices, and ample Particulars of COMMUNION LINENS, ALTAR-CLOTHS, SURPLICES, ROBES, ECCLESIASTICAL CARPETS, &c. &c.

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TO BUILDERS AND OTHERS.

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TO LET, on Building Leases, a very eligible PIECE of LAND, in Kensington-park, Notting-hill, situate on the north side the road leading from the Church in Ladbroke-grove to Westbourne-terrace.—For particulars, apply to Mr. WILLIAM CADOGAN, Surveyor, 4, Pickett-place, Temple-bar.

TO BUILDERS AND MANUFACTURERS.

TO BE LET, on Lease, the capital PREMISES, being 69, Welbeck-street, and 94, Marylebone-lane, consisting of Dwelling-house, Offices, and Shew-rooms, and large Manufacturing premises in the rear, with a small house, which would serve admirably for the residence of a foreman. The premises, from back to front, are about 256 feet. Also the PREMISES No. 5, Seymour-place, Bryanstone-square, which are upwards of 80 feet long and 33 feet wide, together with a small Dwelling-house communicating. The above premises would be let all together, or such portions only as might be required.—Apply to Mr. DOWSON, Stingo from Works, Stingo-lane.

GUILDHALL, 27th November, 1848.

THE COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 13th day of December next, at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for Twenty-one Years from Christmas next, a HOUSE, No. 14, on the north side of Broad-street-buildings; a House, No. 38, on the south side of Broad-street-building; a House, No. 8, on the west side of New Broad-street; Premises, Nos. 1 and 2, on the south side of Liverpool-street, at the corner of Bloomfield-street; and a House, No. 38, on the south side of Upper Thames-street. Also, to receive Tenders for Letting on Lease for Nineteen Years (less three days) from Christmas next, a House, No. 89, on the south side of Chiswell-street. Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall.

THOS. SAUNDERS, Comptroller.

BUILDERS' BENEVOLENT INSTITUTION.—At a meeting of the Committee of the above Institution, it was resolved, that a BALL shall take place on TUESDAY, the 9th of January, 1849, at Freemasons' Tavern, Great Queen-street, in aid of the Funds.

November 30, 1848. JOSEPH BIRD, Hon. Sec.

CONTRACTS.

TO BUILDERS.

THE Directors of the North Staffordshire Railway Company will meet at this Station on SATURDAY, the 16th December, to receive TENDERS for the ERECTION of TWENTY COTTAGES at STOKE-UPON-TRENT. Plans and Specifications may be seen on and after the 1st December at this station, or at the offices of Mr. H. A. HUNT, No. 4, Parliament-street, Westminster. The Directors do not bind themselves to accept the lowest or any tender.—By order,

Stoke Station, Nov. 28, 1848. J. SAMUDA, Secretary.

ST. MARK'S SCHOOLS, WOLVERHAMPTON.—TO BUILDERS AND OTHERS.—The committee of the above schools are now prepared to receive TENDERS for their erection. Plans and specifications may be seen at the office of the Clerk of the Works of St. Mark's Church, Mr. HAMPTON, on and after the 29th instant, at which Tenders must be sent in addressed to the architect, C. W. ORFORD, Esq., 12, Waterfoo-street, Birmingham, before or on the 12th day of December next. The committee do not bind themselves to accept the lowest tender.

TO BUILDERS AND OTHERS.

THE GUARDIANS of the WATFORD UNION are willing to receive TENDERS for the ERECTION of CLOSETS, WASH-HOUSES, &c. and for ALTERATIONS and ADDITIONS to the DRAINAGE of the Watford Union Workhouse, situate at Watford, Herts, according to plans and specifications deposited with Mr. LAVENDER, Surveyor, Watford, on application to whom the same may be seen. Tenders to be sent to me (free of expense) on or before Tuesday, the 12th day of December next, and the same will be opened and determined on at the Board to be held the next day. The guardians do not bind themselves to accept the lowest or any other tender.—By order of the Board,

RICHARD PUGH, Jun., Clerk.

Watford, 29nd November, 1848.

SAINT PANCRAS, MIDDLESEX.—TO CIVIL ENGINEERS.—The Directors of the Poor of the said parish will meet at the Vestry-rooms, Pancras road, on TUESDAY, the 5th day of December next, at ten o'clock in the forenoon, to receive TENDERS, and to CONTRACT for the supply of a STEAM-ENGINE and works connected with the Workhouse Well, and erecting Engine-house, &c. Plans, drawings, and specifications may be seen at the Vestry-rooms between the hours of nine in the morning and six in the evening. Tenders to be sealed and endorsed—"Tender for Steam-engine, &c." to be sent in not later than the above hour of meeting. The Directors will not be bound to accept the lowest tender, and some person must attend on behalf of each.—By order of the Directors.

JOHN M'GAHEY, Clerk to the Directors.

Vestry Office, Nov. 18th, 1848.

HULL CORPORATION WATERWORKS.—TO STEAM-ENGINE MANUFACTURERS. —The Mayor, Aldermen, and Burgesses of the Borough of Kingston-upon-Hull, are ready to receive TENDERS for the Manufacture, Erection, and setting to Work of an EXPANSIVE CONDENSING PUMPING ENGINE, PLUNGER POLE, TUBULAR BOILERS, &c., to be erected upon their Water-works, at Stone-Ferry, near Hull. The specification and a drawing (describing the sizes and general arrangement of the engine and boiler) signed by THOMAS WICKSTEED, Consulting Engineer, may be seen at the Resident Engineer's Office, Water-works, Hull, on any day from December 1st to December 28, 1848, Sundays excepted, between the hours of Ten a.m. and Four p.m.

Tenders, drawings, &c., according to the terms of the specification, are to be delivered on or before December 29th, 1848, at Eleven o'clock in the forenoon, sealed and addressed to THOMAS THOMPSON, Esq., Town Clerk, Hull, and labelled outside "Tender for Contract No. 1," and the contractor's name and the detailed estimate and schedule of prices shall be delivered at the same time, sealed and addressed to THOMAS WICKSTEED, Esq., Consulting Engineer, with the name of the contractor written on the outside, to be sent under cover to the Town Clerk.—The corporation do not bind themselves to accept the lowest tender.

(Signed) THOMAS THOMPSON, Town Clerk.

Hull, November, 1848.

TO SCAVENGERS.

MANOR of SOUTHWARK or CLINK LIBERTY.—NOTICE IS HEREBY GIVEN, that the Commissioners of Pavements of the Clink Liberty, Saint Saviour, Southwark, will hold a GENERAL MEETING at their Committee Room, Emerson-street, Southwark, on WEDNESDAY, the 6th day of December next, at Six o'clock in the evening precisely, to receive PROPOSALS for CLEANSING the STREETS and PUBLIC PASSAGES, and other places within the said Manor or Liberty, under contract, for three years, commencing on the 25th day of January next, with power for the commissioners to determine the same at the end of the first year or second year at their own option. Such proposals to comprise separate Tenders for performance of the said work, either on three days or on two days in every week the commissioners reserving to themselves the right to determine which of the alternate Tenders they will adopt. The person contracting is entitled to all the dust and ashes, as provided by the Act of Parliament of 7 & 8 Geo. III. The draft contract may be seen on applying at the office of Mr. EDMONDS, Surveyor, Bridge-street, Southwark, or at the office of the Clerk, at which places all necessary information may be obtained. The person wishing to contract will have to execute a contract in accordance with such draft contract, and he and two sureties will also be required to enter into a bond jointly and severally in the penal sum of £30, conditioned for the performance of such contract. All persons desirous of contracting must send proposals, sealed up, and endorsed, "Scavenging Contract," addressed to the commissioners, and to be delivered at the Surveyor's Office, No. 2, Bridge-street, by or before Five o'clock in the evening of the said day, and must in such proposals nominate two responsible persons as his sureties, and each party tendering must be in attendance at the Committee Room, at half-past Six, when the tenders will be opened. The contractor will be required to pay for the stamps of such contract and bond. The commissioners do not bind themselves to accept the lowest tender. Dated the 25th day of November, 1848. By order of the Commissioners.

25, Bridge-street, Southwark, GEORGE HOLMER, Clerk.

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A large [illegible] of Gothic [illegible] various [illegible] and panel [illegible] each.

The general decorations of Drawing and Dining Rooms, Libraries, &c., of very considerable [illegible] the whole range [illegible] GEORGE JACKSON and SONS to announce the execution of works of the above descriptions in these advantageous materials at a cost [illegible] quality, relief, and finish, they flatter themselves [illegible]

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CUNDY'S PATENT IMPROVED OPEN FIRE-PLACE, HOT-AIR, VENTILATING STOVE.

TESTIMONIALS AFTER LENGTHENED TRIAL.

From the Rev. WM. ROGERS, B.A., Incumbent of St. Thomas's, Charterhouse.

[illegible] Charterhouse-square, Monday, Feb. 17, 1848.

Dear Sir,—The stoves which you have recently erected in my chapel [illegible] testimony to the excellency of your stoves, and I will endeavour, to the best of my power, [illegible] recommend them to my friends. I remain, Dear Sir, yours faithfully,

WM. ROGERS.

From the Rev. W. GARRATT, Incumbent of St. John's, Fulham.

St. John's, Fulham, [illegible] 1848.

My Dear Sir,—I have very great pleasure in giving my public [illegible] theory all that could be desired, and I can honestly say that I have [illegible] cubical feet, and though a second stove will be required, the one [illegible] realised all that you had given me to expect. If confirmation were needed, for evidence of its efficiency, [illegible] I was exposed to the charge of [illegible] baffled others; but that [illegible] the power, the efficiency, and the [illegible] yours, so that I know not of a dissentient voice, and have heard only of approval [illegible] I might add that I was first led to making inquiry respecting your stove, having gathered indirectly, that a disposition not unfavourable towards it was entertained in a certain high quarter, where, on account of ability of discernment, the smallest approach to approval must carry with it great weight.—I remain, [illegible]

WILLIAM GARRATT.

[illegible]

Letter from the Rev. MATTHEW O'BRIEN (Professor of Natural Philosophy and Astronomy, M.A., F.R.S., King's College).

Upper Norwood, 23rd June, 1848.

I beg to certify that one of Mr. Cundy's patent stoves was put up in my lecture-room at King's College, last year, in place of a common stove (of Arnott's construction, I believe). I have no [illegible] store is far superior both in producing warmth over the whole room, and in promoting ventilation, without [illegible]

MATTHEW O'BRIEN.

Letter from Professor BRADLEY.

King's College, London, July, 1847.

Sir,—I am happy to be able to bear testimony to the efficiency of your stove, which is fixed in my lecture-room at this institution. It seems to have all the essential requisites of a good stove, a rapid draught, freedom from all smoke, and from that smell which arises from iron, heated in contact with the air of a dwelling room; which is entirely avoided by your arrangement.

I am, Sir, your obedient servant,

THOMAS BRADLEY.

From the Rev. Dr. THOMPSON, Incumbent of All Saints', St. John's Wood.

Gothic Villa, St. John's Wood, Oct. 22, 1846.

Sir,—Perhaps there are few private individuals who have had more experience in stoves than I have had; I have tried most of the newly invented ones, and rejected all but yours, two of which I have tried in my Temporary Church, and found them to succeed so well that I have introduced them into All Saints' Church, St. John's Wood. The following reasons induce me to approve of them:—Exemption of effluvia, the emission of a great body of *pure* warm air, the perfect system of ventilation, the sight of the fire, the consumption of vitiated air, the little attention requisite, the cleanliness, [illegible] *economy of fuel.* All more I can say in favour of your stoves is, that whenever I require a stove, either for my house or church, I shall [illegible] ED. THOMPSON, D.D.

From the Rev. W. H. DOTSON, B.A., Incumbent of St. James, [illegible]

St. James's, [illegible] February 21st, 1848.

Sir,—I have much pleasure in certifying that [illegible] greatest satisfaction. By proper attention to doors and windows [illegible] which contains about 190,000 cubic feet. The fires are very cheerful and agreeable [illegible] by them is most pleasant and healthful.—I am, yours truly,

W. H. DOTSON.

From the Rev. J. D. FROST, Minister of St. Paul's, Winchmore-hill.

Winchmore hill, October 23rd, 1848.

Dear Sir,—After [illegible] St. Paul's Chapel, I feel no hesitation in saying that it may fairly claim a place in the first rank, among the inventions for warming churches. Before adopting your stove, I made extensive inquiries [illegible] to the hot water system. Inconveniences of one kind or other I found practically experienced under the various systems which I witnessed; but I really have not one inconvenience or objection to allege against your stove. I believe it to be more powerful than any other stove of the same dimensions and expense; and it is far more agreeable in a church than any other with which I am acquainted.—I remain, dear Sir, yours truly, J. D. FROST.

P.S.—I should strongly recommend those who adopt your stove, to use the Derbyshire coal. The "Fresh Air Channel" with which your stove is supplied, serves a very useful purpose during the summer months in assisting the ventilation of the church, without occasioning any unpleasant draught.

From the Rev. A. BRANDRAM, M.A., Rector of Beckenham, Kent.

Dear Sir,—I have much pleasure in stating to you that I consider your stove to have answered, and very satisfactorily to every reasonable expectation; and I do not hesitate to recommend it strongly to the attention of those who are intending to introduce a warming apparatus into their churches, or other large buildings, for the first time, [illegible] assisted with stoves hitherto employed. I am, yours faithfully,

A. BRANDRAM.

From the Rev. DR. VIVIAN, Minor Canon of St. Paul's, and Rector of St. Peter le Poor, Old Broad street.

Sir,—I have no hesitation in bearing testimony to the excellency of your stove, in [illegible] warmth over the whole of a large building, and in promoting ventilation, I consider them unrivalled. They are also the most economical I have ever met with. [illegible] and comfortable.—I am, Sir, your faithful and much obliged servant,

J. W. VIVIAN, D.D.

From the Venerable Archdeacon SINCLAIR.

Vicarage, Kensington, 1st Nov., 1848.

Dear Sir,—Having suffered much inconvenience on various occasions from hot water apparatus and other plans for heating large buildings, I had much satisfaction in hearing of your stove. I considered it to be constructed upon sound scientific principles, [illegible] with success, I recommended it to the churchwardens of this parish. In Kensington Church you had great difficulty in obtaining a sufficient draft in the flues, but your stoves have been a great improvement upon the one previously in use; and I am confident that the alterations you now propose will give the church, in respect to warmth and ventilation, every advantage we can desire.—Believe me to be, yours faithfully,

JOHN SINCLAIR.

PATENT TORRENT WATER-CLOSET.

AUSTIN'S PATENT.

This much approved and admired Closet is strongly recommended to those Architects and Builders who have not yet tried it: it is SELF-ACTING, THOROUGHLY CLEANSES the basin, is always TRAPPED, and requires no CISTERN if it can be connected with the water-main.

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HOT-WATER APPARATUS.—The [illegible] BENJAMIN FOWLER [illegible] greenhouses, manufactories and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial [illegible] BENJAMIN FOWLER, 63, Dorset-street, [illegible]

TO BUILDERS and CARPENTERS.—[illegible] Registers, 5½d [illegible]

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in., 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circulating Oven and Back Boiler, [illegible] Wrought Bars and Bright Fittings, 3 ft., £3. 3s. 3 ft. 6, £3. 12s. 6d. 4 ft., £4.

Best Patent Cut Clasp. [illegible]

[illegible] Floor Brads 13s. per cwt.

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Best Patent Sash Line. [illegible] 18s. per gross.

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, [illegible] Chiswell-street, Finsbury-square [illegible]

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[illegible]

2 inch, 10d. 2½ inch, 1s. 3d. 3 inch, 1s. 9d.

Best [illegible] 4d., 5½d.; 6d., 7d.; 10d., 1s. 3d.; 20d., 1s. 7d.

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[illegible]

RAIN PIPES, &c. F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, [illegible] —Prices equal to all competition. Contracts taken to any [illegible]

NOTT'S PATENT STOVES.

J. L. BENHAM and SONS beg to recommend these STOVES to Architects, Builders, and Ironmongers, as the best with which they are acquainted for HALLS, SHOPS, WAREHOUSES, &c. They are [illegible] six or eight hours. For CHURCHES and CHAPELS they are particularly adapted, as a cheap, simple, and effectual mode of warming them. [illegible] from ten to fifteen years.

MANUFACTORY AND WAREHOUSE REMOVED FROM GREAT QUEEN-STREET TO 19, WIGMORE-STREET, CAVENDISH-SQUARE.

PIERCE'S ECONOMICAL RADIATING STOVE GRATES.—Families furnishing are solicited to examine the large and extensive assortment of Drawing-room and other GRATES, recently completed from the most [illegible] FENDERS AND FIRE IRONS [illegible] always on show at the manufactory.

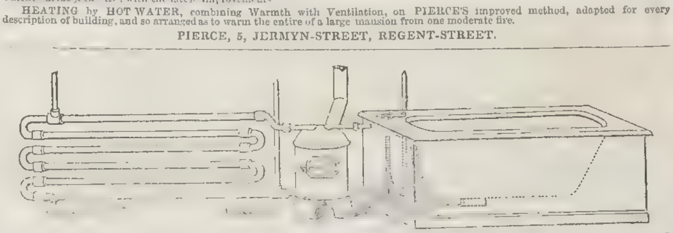
The [illegible] a PERFECT CURE FOR SMOKY CHIMNEYS.

[illegible] BED-ROOMS and NURSERIES [illegible] many hours after the fire is out.

KITCHENS and LAUNDRIES fitted up in the most complete manner with Ranges, Ovens, Boilers, Hot-plates, Broiling-plates, Patent [illegible] &c., with the latest improvements.

HEATING by HOT WATER, combining Warmth with Ventilation, on PIERCE'S improved method, adapted for every description of building, and so arranged as to warm the entire of a large mansion from one moderate fire.

PIERCE, 5, JERMYN-STREET, REGENT-STREET.



J. TYLOR and SON'S IMPROVED COPPER CIRCULATING BATH and CONSERVATORY APPARATUS.—The copper boiler is double cased, and answers for the two purposes of BATH and CONSERVATORY [illegible] ECONOMICAL in FUEL and TIME (heating a bath in twenty-five minutes)—can be easily detached, and is less in original cost than any other boiler. The bath can be filled with Tylor's three-way cock, with only ONE [illegible] the usual plan of fixing THREE separate cocks and levers for the HOT, COLD, and WASTE water.

MANUFACTURERS of COPPER and GALVANIZED IRON BATHS. ENAMELLED WHITE MARBLE INSIDE.

Apply to the Ironmongers or Plumbers in town and country.—Warwick-lane, Newgate-street.

TOZER'S PATENT SUN STOVE, for CHURCHES, HALLS, PUBLIC BUILDINGS, &c.—The Sun Stove is self-feeding and requires fuel but once a day; it can be erected with an ascending or a descending flue. To be seen [illegible] Dean street, Soho. N.B. [illegible]

JULLIEN'S CONCERTS, DRURY-LANE THEATRE. RICKET'S PATENT CALORIFERE GAS STOVES for warming churches, halls, [illegible] ries, or any description of building where a gas-light can be obtained. [illegible] Lane Theatre, Italian Opera House, Haymarket, Coliseum, Regent's Park, Polytechnic Institution, Chamberlain's-office, Guildhall, [illegible] England. Manufactory, 5, Agar-street, Strand, opposite Charing Cross Hospital.

GALVANIZED IRON FOR ROOFING, &c.—The Galvanized Iron Company beg to direct the attention of architects, surveyors, builders, and others, to their Patent Galvanized Iron, which is peculiarly adapted for ROOFING and BUILDING PURPOSES, especially for Tropical climates, being cheaper and more durable than zinc, lead, tin or any other metal, calculating weight and strength. This fire-proof material has been used in roofing the new Houses of Parliament, ship-building [illegible] Majesty's dock yards of Deptford, Woolwich, Chatham, and Portsmouth; and at many of the principal Railway stations, goods warehouses, &c. &c. This material is also admirably adapted for the construction of conservatories, fire-proof buildings [illegible] bridges, corrugated doors, shutters, &c. &c. Specimens may be seen, and every information obtained at the Offices of the Company, No. 3, Mansion House Place, City—London. Works at Millwall, Poplar, Middlesex; Broad-street, Birmingham; Cobyn's Hall, near Dudley.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers Drains, &c., is insured by the use of

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS,

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The simplicity, efficiency, and economy of this invention have been extensively tried in the City, and many large provincial towns, with perfect success. The Traps are entirely SELF WORKING and SELF CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and COUPE, ENGINEERS, 23, Leadenhall-street, London; where specimens may be seen in action, and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING DOUBLY TRAPPED

PAN AND VALVE WATER-CLOSETS;

A most successful combination of the above principle, with other patented improvements.

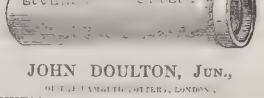
SELF-FLUSHING WATER-CLOSETS. —FLEXIBLE DIAPHRAGM VALVE COCKS. "LAMBERT'S PATENT."

The patentees solicit the attention of architects, engineers, builders, and the public to the inventions, both of which are very great improvements upon the appliances hitherto in use. The cocks have withstood the test of three years' trial, under severe pressure, with perfect success, and are warranted to work clear and properly for that period. The closets also have been well tried, and with equal success; they are made self-acting or otherwise, and are so arranged that when self-acting, but a given quantity of water is used at each flush of the basin, the amount of which is scarcely perceptible. No service-box, D trap, cranks, or wires are required, consequently the chief causes of derangement and cost of fixing are removed. They are exceedingly cheap and strong, but not ornamental ware.

THOMAS LAMBERT and SON, Patentees, Manufacturers of Bent Tin, Tin Hardware, Steam and Gas Fittings, corner of Short-street, New-cut, Lambeth.

RETTIE'S NEW PATENT AIR-TRAP,

for the prevention of EFFLUVIA from URINALS, STABLES, CESSPOOLS, OUTLETS, and DRAINS.—Mr STEPHEN GREEN, Hydraulic Engineer, London-street, Fenchurch-street, begs to call the attention of Builders, Plumbers, Joiners, Hotel and House Proprietors, that he is ready to supply the above simple and useful Patent Machine, which is found to be the most effectual Trap yet produced for preventing the nauseous smell arising from public and private Urinals, &c. Made of terra cotta stone, double glazed. Round, 8s. each; triangle, 11 counces, and other shapes, and each approved by Mr. Rettie's invention. The Patent Terra Cotta Air-tight Inlaid Drain Pipes and Syphon Closet Basins, much approved by the Metropolitan Commissioners of Sewers, and the Metropolitan Commissioners of Woods and Forests, and the Metropolitan Commissioners of Sewers.



JOHN DOULTON, Jun.,

OF THE LAMBETH POTTERY, LONDON,

MANUFACTURER OF GLAZED STONE WARE, TUBES, &c.

ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description as those manufactured at the LAMBETH WORKS, LONDON, and received PRIZE ON BOARD IN THE PORT OF LIVERPOOL, after a trial in the Liverpool Mud Machine Rake, as not exceptionable.

In 3 feet lengths.	PRICES.	In 2 feet lengths.
3 in. 3 in. 4 in. 6 in. 9 in. 12 in. 15 in.		3 in. 4 in. 6 in. 9 in. 12 in. 15 in.
4d. 5d. 6d. 8d. 1s. 1½d. 2s. 0d.	per foot.	3d. 4d. 5d. 7d. 1s. 0d. 1s. 6d. per foot

BENDS AND JUNCTIONS OF ALL REQUIRED SHAPES.

For particulars see "The Builder" of November 11.

The superiority of these tubular drains in glazed stone ware, for [illegible] purposes of public sewerage, as established beyond a question by the Public Health Act, is fully confirmed by the following Testimonials from JAMES NEWLANDS, Esq., C.E. Borough Engineer of Liverpool:—

Public Offices, Engineer's department, Liverpool, [illegible]

Dear Sir,—I have pleasure in testifying to the excellence of the glazed stoneware pipes manufactured by you at the Liverpool Potteries. They have been in use [illegible] and have the effect of completely removing the [illegible] from the [illegible] are strong, smooth, and impervious; they are readily laid; they [illegible] and are cheap; and for these and other reasons, and on these grounds I recommend them as eminently superior to the [illegible] With respect to their [illegible] matters, I believe their use will become universal.

I am, dear Sir, yours, &c., JAMES NEWLANDS.

Borough Engineer.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES,

in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and others to the following lists of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

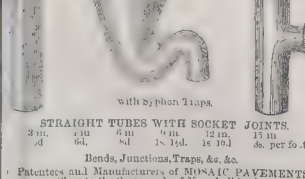
2 in.	3 in.	4 in.	6 in.	9 in.	12 in. bore.
4d.	5d.	6d.	8d.	1s. 1d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain-pipes of the Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharf, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Ringsland's, Ringsland-road, and Limekiln, Limehouse.

VAUXHALL POTTERY, established upwards of Fifty Years.

ALFRED SINGER and Co., Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER CLOSET PANS, &c.



with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS.

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
4d.	6d.	8d.	1s. 1½d.	1s. 10d.	2s. per foot.

Bends, Junctions, Traps, &c. &c.

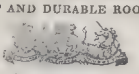
Patentees and Manufacturers of MOSAIC PAVEMENTS. Close to the Surrey side of Vauxhall Bridge.

IMPORTANT to the SANITARY MOVEMENT.—It is admitted by all that nothing is more required than a trapped water-closet—simple, cheap, effective, and free from the [illegible] of the Syphon. The Patent of the SYPHON FLUSHING BASON and CLOSET [illegible] fulfils and [illegible] the above; the essential features, and [illegible] surveyors, builders, and the public to inspect His invention at the Lambeth Pottery, Vauxhall, Lambeth. It is complete in itself, [illegible] by the pressure of steam, the [illegible] of water, and [illegible] nothing to do but to attach a half-inch pipe from his water supply. It must not effectually every time it is used. It is [illegible] and with great force, insuring the cleansing of the basin. It is in all respects self-acting, and is so simple in its construction that it cannot possibly get out of order. It is entirely free from all valves, cranks, metal-work, metal, trap, &c., which render the ordinary closet so expensive in the first cost, and a constant expense and annoyance afterwards. This simple invention is particularly suited for asylums, hospitals, workhouses, manufactories, railway stations, and all public institutions. Also may be seen Stephen Green's noted TERRA COTTA STONE GLASS LINED DRAIN PIPES and Rettie's PATENT AIR-TRAP for sinks, sewers, urinals, &c. &c.

MESSRS. WOOD & Co., DECORATIVE ARTISTES, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 93, Cross-street, Blackfriars-road.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.,

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S CUSTOMS,
HONORABLE EAST-INDIA COMPANY.
HONORABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

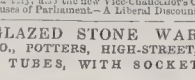
And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZES, for being the best and cheapest article for roofing; also used for under slates at the Royal Agricultural Society's House, in Hanover-square

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 23 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions for use and fixing in the manner supplied with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as the only works in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S BUILDINGS, BUNHILL ROW

Roofs covered with the felt to be seen at the Lady Chapel, the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,



In 3 feet lengths.	3 in.	4 in.	In 2 feet lengths.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
	4d.	5d.		6d.	8d.	1s. 1½d.	1s. 10d.	2s.	2s. 6d. per foot

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in figure to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for there not being them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

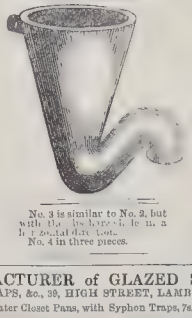
DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly.

Mr. H. Doulton. JOHN ROE.



No. 1, in Two Pieces.



No. 2 in One Piece.

No. 3 is similar to No. 2, but with the backpiece in a horizontal direction.
No. 4 in three pieces.

CHEAP WATER-CLOSET

PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE,

PRICE 7s. 6d. EACH,

Manufactured by

DOULTON AND WATTS,

LAMBETH POTTERY,

HIGH-STREET, LAMBETH,

LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly and impervious, require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES,

BENDS, JUNCTIONS, TRAPS, &c., 32, HIGH STREET, LAMBETH, LONDON. Established 1751.

Water Closet Pans, with Syphon Traps, 7s.6 d. each.

STRAIGHT TUBES, with Socket Joints, in 2 ft. lengths.



3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½ d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

N.B. These are made without the discharge-hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dock-road, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

SALES BY AUCTION.

HYDE PARK.—WESTBOURNE TERRACE AND GLOUCESTER-TERRACE.

MR. FRED. GODWIN will SELL by AUCTION, at the Mart, on THURSDAY, December 7th, at Twelve for One, by order of the mortgagee, FIVE SUBSTANTIAL CARCASSES, more or less advanced toward completion, with above eligible positions. Held for 99 years and upwards, at ground rents varying from 37 to 122 per annum. The carcasses may be viewed on application, and particulars had of Messrs. THOMPSON and MORGAN, architects, 2, Conduit-street West; of Messrs. KING and ATTWATERS, solicitors, 21, Earl-street, Blackfriars; at the Mart; and at Mr. GODWIN'S offices, 3, Halkin-terrace, Belgrave-square.

TO BUILDERS.—A Variety of Superior MARBLE CHIMNEY PIECES, quite new, and ready for fixing.

MESSRS. ROBINS will SELL BY AUCTION, at their Rooms in Covent Garden, on FRIDAY NEXT, at Twelve, superior Marble Chimney Pieces of modern and Italian designs, in every variety of marble, including several of beautiful statuary, with rich sculpture, for drawing rooms, black and light siennas, dove and French marbles for dining rooms and libraries, and many of capital vein marble for dining rooms and bed chambers. May be viewed two days prior in Covent Garden

PIMLICO: HALKIN WHARF.—TO BUILDERS, SLATERS, UPHOLSTERERS, AND OTHERS.

MESSRS. BARTON and SON will SELL by AUCTION, on the Premises, Belgrave-road, Pimlico, on TUESDAY, December 12th, 1848, without reserve, at Twelve, the STOCK, comprising about 150 enamelled chimney-pieces, of various colours and designs, in imitation of the most costly marbles; 50 enamelled washstands, long plan slate chimney-pieces, cisterns, filterers, &c.; 30,000 roofing slates, sawing machines, spring cart and trucks, rubbing beds, 1 sliding gates, slate slabs, and slips for chimney-pieces, work-benches, and other implements of the trade. May be viewed at any time previous to the day of sale, and catalogues had on the premises, or of the Auctioneers, Westminster-road.

THE THIRD AND FINAL SALE OF STOCK, &c., new Materials for two Houses, Library Tables, Desks, Ironmongery, Harness, Weighing Machine, and effects, the property of Mr George Flowers, declining the Brickmaking and Building Business, by

MR. RICHARDS, on the premises, near the Great Northern Railway, Queen's-road, Holloway, on TUESDAY, December 5, at Eleven, a new pug mill box, off bearing and crowding barrows, planks, and brickmaking implements, 600 long scaffold poles, putlogs and boards, ladders, sashes, and frames, doors, prepared floor boards, battens, elm boards, slabs, quartering, coach-house gates, stable doors, stalls, work benches; 30, 20, 15, and 10 quarter corn bins, useful materials, 100 loads of dung, 300 ditto of road drift, &c.—View day prior to sale. Catalogues on the premises, and of the Auctioneer, Tottenham

Osnaburgh-street, Regent's-park. The excellent Stock of Mr. Charles Thompson, Statuary, deceased.

MR. HAMMOND will SELL BY AUCTION, on the premises, 1, Osnaburgh-street, on TUESDAY, December 5, at Eleven for Twelve precisely, the capital STOCK of a STATUARY, comprising chimney-pieces in the best taste and suitable for the various classes of houses; also polished slabs, table tops, &c., in statuary rouge royale, Egyptian, green, black, and gold, Belgian black, Griolle, dove, Sienna, and Bardiglio marbles, funereal monuments and tablets, slabs, sawtling and blocks of the above-named and other marbles, Portland and other stone, plaster models, and trade utensils. On view two days prior, and Catalogues had on the premises, of Messrs. SMART and BULLER, Solicitors, 56, Lincoln's-Inn-fields; and at the Auctioneer's Offices, 28, Chancery-lane.

TO BUILDERS, CONTRACTORS, AND OTHERS 200,000 Capital Stock Bricks, at Witham, Essex.

MESSRS. BEADEL, SON, and CHANCELLOR have received instructions to SELL BY AUCTION on the Premises, on TUESDAY, the 12th of December, 1848, at Twelve o'Clock, the following Lots of very superior, hard, well-burnt STOCK and FACING BRICKS:—10 Lots, containing in each Lot, 12,000 Grey Stand Bricks, and 3,000 picked Stocks for Facings; and 10 Lots, containing 3,000 capital Stocks in each lot. The whole of the bricks are stacked in the several lots, and are in the field adjoining the Witham station, on the Eastern Counties Railway, at which station and the branch lines from Maldon and Braintree join the main line, this would render the cost of their transit to most parts of Essex comparatively trifling. There is a great demand for houses in the immediate vicinity of the railway, and each of the first 10 lots are calculated to contain sufficient bricks to build a cottage.—Catalogues and conditions may be had (on the 1st of Mr BEADEL, 25, Gresham-street, London; and at the Offices of the Auctioneers, Duke-street, Chelmsford, Essex.

VALUABLE FREEHOLD INVESTMENTS in a Nobleman's Residence and an extensive old-established Mews, contiguous to BERKELEY-SQUARE.

MR. JOHN DAWSON will SELL BY AUCTION, at the Mart, near the Bank of England, on TUESDAY, December 12th, at Twelve o'Clock, by order of the Trustees, an unusually desirable FREEHOLD ESTATE, consisting of a capital residence in Dover-street, in the occupation of Lord Gardener, on a lease; and the extensive stabling, coachhouses, and residences, known as Dover-yard, opening by carriage way into Berkeley-street, let at very low rents on well secured leases, and producing an aggregate rental of nearly 700l. per annum.

Note. Unless an acceptable offer should be made in the meanwhile, the estate will be sold in two lots, viz.—Lot 1, the mansion in Dover-street; and Lot 2, the entire mews; the latter especially offering a present well secured investment, with facilities open to build for great important and lucrative improvements. To be viewed only with permission, by application to the Auctioneer. Particulars, with plans and conditions of sale fifteen days before the Auction, at the Mart; of Messrs. HARRISON and BEAL, Solicitors, 19, Bedford-row; and of Mr. JOHN DAWSON, Auctioneer and Surveyor, Marlborough-chambers, 49, Pall-mall.

PALL MALL.—Collection of WATCHES, CHRONOMETERS, REPEATERS, and REGULATORS, of exquisite Workmanship.

MESSRS. FOSTER and SON are directed to SELL BY AUCTION, at the Gallery, 54, Pall Mall, on MONDAY, 11th December, and following day, at One precisely each day, the FIRST PORTION of the STOCK in TRADE removed from the manufactory, No. 29, St. Martin's-lane, well known for the superior workmanship of Mr Harwise, whose name is a guarantee for the perfection and finish of the watches and clocks, including gold watches, in fashionable cases, with 4 plate, horizontal, duplex, lever, and chronometer balance movements, mostly jewelled in eight and six holes; minute and seconds watches; racing watches, with dead centre seconds; some highly finished and ornamental ladies' watches; silver watches; a library and a hall regulator, with mercurial pendulums, now keeping time with an annual variation of a few seconds; carriage or boudoir clocks, with lever and more elaborate movements, in gilt cases, enriched with malachite, cornelian, and lapis, the forms modelled and chased in mediæval and other designs; a skeleton clock, with bell movement, &c., &c.—May be viewed two days prior, and catalogues had of Messrs. FOSTER and SON, 14, Greek-street and 54, Pall Mall.

City Improvements.—Cannon street widening and the new street.—EXTENSIVE SALE of BUILDING MATERIALS of the first portion of the property to be taken down for the above purpose.

PULLEN and SON have the honour to announce that they will SELL BY AUCTION, on the Premises, on TUESDAY, December 5, and following day, at Twelve, in Lots, by order of the Improvements Committee of the Corporation of the City of London, the whole of the valuable BUILDING MATERIALS, FIXTURES, and FITTINGS of several Houses, Shops, Warehouses and premises on the south side of Cannon street, as fast as side of Bowgate hill, including about 500,000 capital stock bricks, prime oak and fir timber in strong roofs, floors and quartering, 12,000 plain and pan tiles, good slating, 150 pair glazed sashes, an infinity of doors, partitions, chimney-pieces, cupboard fronts, and interior fittings, 10 tons of lead in gutters, kitchen cisterns, and pipes, shop and warehouse skylights, York paving, stone coping and cills, iron cranes and jibs, stoves, and ranges, mahogany counters, desks, and drawers, and a great variety of useful fixtures and materials of every description.—May be viewed two days prior, and Catalogues had at the Office of Wicks, Guildhall, and of PULLEN and SON, 30, Fore-street, Cripplegate.

ARCHITECTS', BUILDERS', and GENERAL INSURANCE COMPANY, 69, Lombard-street, London.

CHAIRMAN—SIDNEY SMIRKE, A.R.A.

The rates for Fire and Life Insurances are as low as can safely be taken. Those for life insurance may be paid yearly, half yearly, or quarterly; one-half may be left unpaid for seven years, or one-third to the end of life.—Prospectuses, &c., may be had at the office, or of any of the agents. JOHN REDDISH, Manager.



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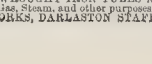
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Members are requested to take notice, that in order to determine the number of copies to be printed, the subscription books will be closed on the 1st of January next.

THE ARCHITECTURAL ASSOCIATION having made arrangements for holding an ARCHITECTURAL EXHIBITION in March next, at one of the public galleries, invite the co-operation of architects and the fine-art professions. The proposed exhibition will be annual; and all particulars respecting the same, together with due notice for the delivery of works for exhibition, will be communicated by circulars and through the usual channels of advertisement.—Any further information may be obtained from the secretaries for the exhibition.

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CONTRACT for IRON RAILING.—The Committee for erecting Christ Church, at Greenwich, invite TENDERS for about 270 feet of IRON RAILING, according to a plan and specification, to be seen at the Clerk of the Works Office, on the church site, on and after the 9th December instant.—The tenders to be sent to the Secretary, Mr. C. A. SMITH, Crooms-hill, Greenwich, on or before the 18th instant.

WANTED, STONE WARE and other PIPES.—The Metropolitan Commissioners of Sewers will shortly require DRAINAGE PIPES, of various sizes, in very large quantities. Models will be ready for inspection by the 11th December, and Drawings, with full particulars, are in preparation, and will be forwarded in reply to applications addressed to me, at this office, on or before the 18th December.—By order,

LEWIS C. HERTSLET, Order Clerk.

Sewers Office, 1, Crook-street, Soho-square, Dec. 4, 1848.

COMPETITIONS.

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CONTRACTS.

TO BUILDERS

PERSONS desirous of TENDERING for the ERECTION of a HOUSE in Halsey-street, Chelsea, can see the drawings and specification at the office of the London Sacred Harmonic Society, 376, Strand, on Tuesday and Wednesday next.—The parties do not bind themselves to accept the lowest tender.

ST. MARK'S SCHOOLS, WOLVERHAMPTON.—TO BUILDERS AND OTHERS.—The committee of the above schools are now prepared to receive TENDERS for their erection. Plans and specifications may be seen at the office of the Clerk of the Works of St. Mark's Church, Wolverhampton, on and after the 20th instant, and Tenders must be sent in addressed to the architect, C. W. ORFORD, Esq., 12, Waterloo-street, Birmingham, before or on the 17th day of December next. The committee do not bind themselves to accept the lowest tender.

TO BUILDERS

THE Directors of the North Staffordshire Railway Company will meet at this Station on SATURDAY, the 16th December, to receive TENDERS for the ERECTION of TWENTY COTTAGES and STOKE-UPON-TRENT. Plans and Specifications may be seen on and after the 1st December at this station, or at the offices of Mr. H. A. HUNT, No. 4, Parliament-street, Westminster. The Directors do not bind themselves to accept the lowest or any tender.—By order,

Stoke Station, Nov. 28, 1848. J. SAMUDA: Secretary.

TO GAS FITTERS AND OTHERS.

NOTICE IS HEREBY GIVEN, that the Guardians of the Poor of the parish of Kensington, will meet in the Board-room, at Kensington workhouse, on Saturday, the 16th inst., at Eleven o'clock in the forenoon, to receive TENDERS from persons who may be willing to contract with the Board to furnish and fix GAS FITTINGS, and to hang the bells at the new workhouse at Kensington.—Plans and specifications of the work required to be done, may be seen on application at the office of Messrs. ALLOM and CRISS, Architects, 1 and 2, St. Martin's-lane. The guardians do not bind themselves to take the lowest tender.

S. CORNELL, Clerk to the Guardians.

1, Canning-place, Kensington, Dec. 7, 1848.

TO BUILDERS AND OTHERS

THE GUARDIANS of the WATFORD UNION are willing to receive TENDERS for the ERECTION of CLOSETS, WASH-ROOMS, &c., and for ALTERATIONS and ADDITIONS to the DRAINAGE at the Watford Union Workhouse, situate at Watford, Herts, according to plans and specifications deposited with Mr. LAVENDER, Surveyor, Watford, on application to whom the same may be seen. Tenders to be sent to me (free of expense) on or before Tuesday, the 12th day of December next, and the same will be opened and determined on at the Board to be held the next day. The guardians do not bind themselves to accept the lowest or any other tender.—By order of the Board, RICHARD PUGH, Jun., Clerk.

Watford, 22nd November, 1848.

TO IRON FOUNDERS AND OTHERS

THE Commissioners of Public Baths and Washhouses for the parish of St. Marylebone are desirous of receiving TENDERS from persons willing to undertake the execution of the boilers, pipes, and fittings connected with the baths and washhouses now erecting on the south side of the New-road, adjoining the Yorkshire Stingo Tavern. As also from persons willing to supply the baths, to execute the asphalte or other material for flooring, the lining of the plunge baths, &c. The plans, specification, and condition under which the tenders are to be made may be seen at the office of Mr. EALES, Architect, Chapel-place, Cavendish-square, after TUESDAY, the 12th instant, until the 30th instant, each day between the hours of Eleven and Three. The tenders are to be delivered, sealed, and endorsed, "Tenders for ——" (mentioning the work), addressed to the Commissioners of Baths &c., who will meet at the Court House, St. Marylebone, on Tuesday, the 2nd of January, 1849, at Eleven o'Clock in the forenoon, and each person making a tender must attend personally, and be prepared with the names of two persons to be approved, who will join them as sureties for the due performance of the works. The Commissioners do not pledge themselves to accept the lowest tender.—December, 1848.

GUILDHALL, 27th November, 1848.

THE COMMITTEE for LETTING the CITY'S LANDS will meet at Guildhall, on Wednesday, the 13th day of December next, at One o'Clock precisely, to receive TENDERS for LETTING on LEASE, for Twenty one Years from Christmas next, a HOUSE, No. 14, on the north side of Broad-street buildings; a House, No. 22, on the south side of Broad-street-building; a House, No. 8, on the west side of New Broad-street; Premises, Nos. 1 and 2, on the south side of Liverpool-street, at the corner of Bloomfield-street; and a House, No. 36, on the south side of Upper Thames-street. Also, to receive Tenders for Letting on Lease for Nineteen Years (less three days) from Christmas next, a House, No. 22, on the south side of Chiswell-street. Further particulars may be obtained, and plans seen, by applying at the Office of Works, Guildhall. THOS. SAUNDERS, Comptroller.

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MR. LEREW will SELL by AUCTION, on the Premises, in ST. JAMES'S-ROAD, Kent-road-bridge, on the [illegible] on THURSDAY, December 14th, at [illegible] [illegible] deals, [illegible] a quantity of [illegible] two days prior to the sale, and [illegible] in the neighbourhood; at Garraway's; and of the Auctioneer, 2, Cardington-street, Hampstead-road, near the [illegible].

TO BUILDERS, H[illegible], DECORATORS, PAPER STAINERS, [illegible], AND OTHERS.

MR. BRAY, jun., is instructed to remove for absolute SALE to his Rooms, 259, HIGH HOLBORN, on WEDNESDAY [illegible] an entire new Stock of modern PAPERHANGINGS, comprising 1,500 pieces, including dining-room, Elizabeth and bouquet satins, parlour and bed-room papers, [illegible] oaks, gothics, washable and [illegible] marbles. May be viewed the day prior and morning of sale; and catalogues had at the rooms as above.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS are instructed to SELL by AUCTION, on the Premises, the ARBORETUM, [illegible], Brompton, on WEDNESDAY, December 13th, and two following days, at Eleven o'clock precisely (by order of the Sheriff of Middlesex), the valuable NURSERY STOCK, consisting of a very large quantity of fine evergreens, standard and dwarf roses, fruit and forest trees, ornamental and deciduous shrubs, &c. May be viewed prior to the sale; catalogues had on the premises; of the principal Seedsmen, and of the Auctioneers, [illegible].

PIMLICO, HALKIN WHARF.—TO BUILDERS, SLATERS, UPHOLSTERERS, AND OTHERS.

MESSRS. BARTON and SON will SELL BY AUCTION, on the Premises, Belgrave-road, Pimlico, on TUESDAY, December 12, 1848, at Twelve, the STOCK [illegible] designs in imitation of the most costly marbles, 50 enamelled [illegible] May be viewed [illegible] and catalogues to be had on the premises, and of the Auctioneers, Westminster-road. Approved bills [illegible].

TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE beg to announce that they will SELL BY AUCTION, on the [illegible] New Houses of Parliament, on THURSDAY, December 14, 1848, [illegible] a large quantity of SOUND TIMBER AND PILING, used in the formation of the coffer dam; the wood and iron erection of work-sh[illegible] [illegible] at the Auctioneers, Coal Exchange; or 1, Little Smith-street, Westminster.

TO BUILDERS, CONTRACTORS, AND OTHERS.—200,000 [illegible] Stock Bricks, at Witham, Essex.

MESSRS. BEADEL, SON, and CHANCELLOR have received instructions to SELL BY AUCTION, on the Premises, on TUESDAY, the 12th of December, 1848, at Twelve o'Clock, the following Lots of very superior, hard well-burnt STOCK and FACING BRICKS: 10 Lots comprising in each Lot, 12,000 good sound Stocks, and 3,000 picked Stocks for Facings; and 10 Lots, containing 5,000 capital Stocks in each lot. The whole of the bricks are stacked in the several lots, and are in the field adjoining the Witham station on the Eastern Counties Railway, at which station also the branch lines from Maldon and Braintree [illegible], this would render the cost of their transit to most parts of Essex comparatively trivial. There is a great demand for houses in the immediate vicinity of the railway, and each of the first 10 lots are calculated to contain sufficient bricks to build a cottage.—Catalogues and conditions may be obtained of Mr. BEADEL, 25, Gresham-street, London; and at the Offices of the Auctioneers, Duke-street, Chelmsford, Essex.

STOCK IN TRADE, PLANT AND UTENSILS OF A CHEMICAL MANUFACTORY.

MR. W. H. DEAN will SELL BY AUCTION, on MONDAY, December 11, and following days, in consequence of the death of the principal partner, without reserve, the sale to commence at [illegible] o'Clock [illegible] the STOCK IN TRADE, Plant, and Utensils of the CHEMICAL MANUFACTORY [illegible] Manufacture of Oxalic Acid, comprising a six-horse power high-pressure steam-engine, nearly new, a pair of capital five-feet granite-edge runners, fitted in a superior style, and various machinery, five wrought iron steam boilers, and a Juckes' patent furnace, 30 coolers lined with [illegible], 70 lead balloons, six oxalic acid baths lined with lead, 70 sorrel pots, [illegible] pans, 8,000 jars, 10,000 feet of York paving, five coke ovens; two [illegible] cart on springs, tumbrel cart, fire engine, and a variety of effects. [illegible] on the Premises; at the Red Lion Inn, Whitechapel; and of the Auctioneer, [illegible], Essex.

VALUABLE FREEHOLD INVESTMENTS in a Nobleman's [illegible] Mews, contiguous to Berkeley-square, peculiarly worthy the notice of guardians or [illegible] first rate security, for the present [illegible] and important increase, as the leases [illegible].

MR. JOHN DAWSON will SELL BY AUCTION, at the Mart, on TUESDAY, December 19th, at [illegible] FREEHOLD ESTATE, consisting of a capital residence in Dover-street, in the occupation of Lord Gardener, on a lease; and the extensive stabling, coachhouses, and [illegible] in Dover-street; and Lot 2, the entire mews; the latter especially offering a present well secured investment, with facilities, when in [illegible] improvements. To be viewed only with [illegible] to the Auctioneer. Particulars, with plans and conditions of sale, at the Mart; of Messrs. HARRISON and BEAL, Solicitors, 19, Bedford-row; and of Mr. JOHN DAWSON, Auctioneer and Surveyor, Marlborough-chambers, [illegible], Pall-mall.

ROYAL POLYTECHNIC INSTITUTION.—Lectures on Agricultural Chemistry by Dr [illegible] on the evenings of Monday, Wednesday, and Friday, at Nine o'Clock. A Lecture on Voltaic Electricity [illegible] on the Evenings of [illegible], Thursday, and Saturday, at Nine o'clock, by Dr. Bachhoffner. [illegible] The Dissolving Views, with Historical Descriptions [illegible] Models explained.—Admission, 1s.; Schools, half price.

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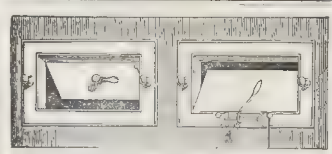
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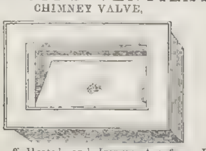
Any further information may be obtained of the Secretary, 6, [illegible], Haverstock-hill.

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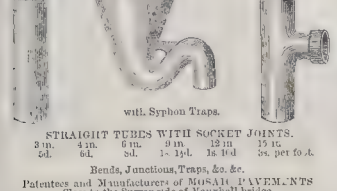
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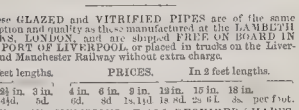
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All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in scores, 8s. per pull.

TO ARCHITECTS, BUILDERS, &c.
REDUCED LIST of PRICES.—HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN RANGES, STOVES, &c., 196, Blackfriars-rd. and 117, Union-street, Borough.
Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 15s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—3 ft. 3 ft. 3 in. 3 ft. 6 in. 3 ft. 9 in. 4 ft.
£5. £5. 15s. £6. 5s. £6. 10s. £7.
Best Register Stoves, at 7d., 8d., an 10d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.
Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.
Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

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BENJAMIN WALMSLEY, Wholesale Ironmonger, Brass-founder, Stove-grate, and Kitchen range Manufacturer, at the Paddock, 327, Leeds-road, Southwark.
Self-acting ranges, with oven and boiler and register; shelves complete.

3 feet, 2l. 10s.	3 feet 6 inches, 3l.

Register-stoves, from 6½ an inch and upwards
Elliptic-stoves, with double backs, 3d. an inch.
Washing-coppers, 1s. 2d. per lb.
Sash-pullies from 1½ to 5 per gross. Sash weights, 6s. per cwt.
Cast butts, per dozen pair

2 inch, 10d.	2½ inch, 1s. 3d.	3 inch, 1s. 9d.

Best cut clasp, per thousand

4d., 5½d.	6d., 7d.	10d., 1s. 3d.	20d., 1s. 7d.

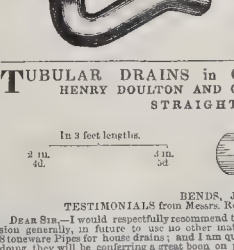
Every description of ironmongery, brass foundry, &c., adapted to the use of builders, upholders, cabinet-makers, bell hangers, smiths, wheelwrights, and others, of quality and at prices that defy competition. Iron and spring steel.

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Cut	4d.	6d.	10d.	20d.
Clasp	5½d.	7d.	1s. 2d.	1s. 8d.	1,000.

Nos.	3	4	5	6	
Patent Line	6s. 6d.	7s. 3d.	9s. 10d.	12s.	per gross.
	2	2½	2 Inches		
Rain Pipe	1s. 1d.	1s. 3d.	1s. 5d.	per yard.	

PATENT TOUGHENED CAST-IRON.
Messrs. GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Iron founders, &c., to the above description of IRON (Mr. Morries Stirling's patent), which, after numerous trials, experimental and practical, is found greatly to exceed all other cast-iron in tenacity and transverse strength, as well as in resistance to crushing forces. Several of the most extensive iron masters have been licensed, and from them, or their brokers, the patent iron can be procured. Messrs. GARDEN and MACANDREW have always a stock of this iron in pigs, and are ready to execute orders to any extent on the shortest notice
27, Queen-street, Cheapside, November, 1848



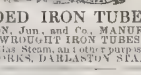
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JOHN and EDWIN YOUNG, Proprietors.



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A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.
A very superior description of Soot Door, particularly suitable for internal work, being perfectly secure, and not unsightly.
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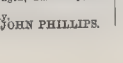
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PANS, WITH SYPHON TRAPS, IN
GLAZED STONE WARE,
PRICE 7s. 6d. EACH,
Manufactured by
DOULTON and WATTS,
LAMBETH POTTERY,
HIGH-STREET, LAMBETH,
LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly and imperishable, require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,

In 3 feet lengths.		In 2 feet lengths.				
2 in.	3 in.	4 in	6 in.	9 in	12 in	15 in.	Is much bore
4d.	5d.	6d.	8d.	1s. 1½d.	1s 9d.	3s.	4s. per Foot.



BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.
TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.
DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE.

HENRY DOULTON AND CO.,

MANUFACTURERS OF TUBULAR DRAINS IN GLAZED STONE WARE,

HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES WITH SOCKET JOINTS.

In 3 feet lengths.

1½ in.	2 in.	2½ in.	3 in.
3½d.	4d.	4½d.	5d.



In 2 feet lengths.

4 in.	6 in.	9 in.	12 in.	15 in.	18 in. bore.
6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s. per foot.

BENDS.

Fig. 1.



2 in.	3 in.
1s.	1s. 3d.

Fig. 2.



4 in.	6 in.	9 in.
1s. 9d.	2s. 3d.	3s. 6d.

Fig. 3.



12 in.	15 in. bore.
5s. 6d.	8s. each.

JUNCTIONS.

SINGLE.

Fig. 4.



Fig. 5.



Fig. 6.



2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in. bore of main tube.
1s.	1s. 3d.	1s. 6d.	2s.	3s. 6d.	5s. 6d.	8s. each.

DOUBLE.

Fig. 7.

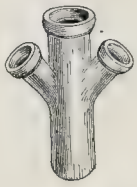


Fig. 8.

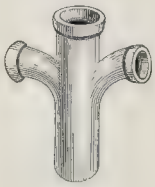
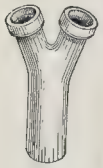


Fig. 9.



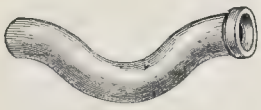
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in. bore of main tube.
1s. 4d.	1s. 8d.	2s.	2s. 8d.	4s. 6d.	7s.	12s. each.

THE JUNCTIONS MAY BE HAD OF ANY DIAMETER.

TRAPS.

SYPHON TRAP.

Fig. 10.

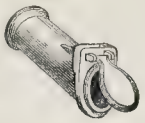


2 in.	3 in.	4 in.	6 in.	9 in.	12 in. bore.
2s.	2s. 6d.	3s. 6d.	5s.	7s. 6d.	10s. each.

REGISTERED TRAPS,

With flat surfaces ground perfectly air-tight, and composed entirely of glazed stone ware, thus effectually preventing all corrosion.

Fig. 11.



(Registered 1379).

2 in.	3 in.	4 in.	6 in.	9 in. bore.
4s. 6d.	5s.	5s. 6d.	6s. 6d.	8s. each.

SYPHON TRAPS, FOR GULLY DRAINS AND SINKS.

Registered No. 1519.

Fig. 12.



Fig. 13.

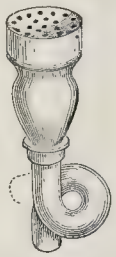
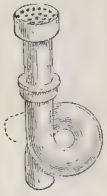


Fig. 14.



These may be had with the discharge hole as shewn by the dotted lines.

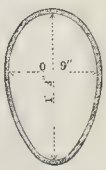
1 in.	1½ in.	2 in.	3 in.	4 in.	6 in.	9 in. bore.
2s.	2s. 6d.	3s. 6d.	4s. 6d.	6s.	9s.	14s. each.

EGG-SHAPED TUBES, in 2-feet lengths, with **SOCKET JOINTS.**

(REGISTERED No. 1217.)



20 by 12 in. 3s. 6d. per foot.



15 by 9 in. 2s. 3d. per foot.



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6 by 4 in. 8d. per foot.

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The Builder

A JOURNAL FOR THE

Architect, Engineer, Operative & Artist.

VOL. VI.—No. 306. DECEMBER 16, 1848. PRICE FOURPENCE. *Stamped 5d.*

ILLUSTRATIONS.

Design for Labourers' Cottages: Elevation and plan 606
Dome-Construction of S. Isaac's Church, St. Petersburg 607

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SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of rag wheel worm an I screw gear, or any other complicated machinery employed by other makers.

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SALES BY AUCTION.

BUILDING MATERIALS FOR SALE
Woolwich Yard, 7th Dec., 1848.

NOTICE is hereby given, that there will be offered for SALE BY AUCTION, by Mr. G. HUDSON in the presence of the Commodore Superintendent, in the Pay Office at the above Yard, on TUESDAY, the 19th instant, at Two O'Clock precisely, a quantity of BUILDING MATERIALS and good Sound BRICKWORK arising from certain buildings, and a boundary wall in the said yard

OLD KENT ROAD. TO BUILDERS, CARPENTERS, CABINETMAKERS, AND OTHERS

MR. LEREW will SELL BY AUCTION, on the Premises, in St. James's road, Kent-road bridge, on the banks of the Surrey Canal, on WEDNESDAY, the 20th inst., at Eleven for Twelve, 4,000 Yellow and Spruce DEALS, PLANKS, and BATTENS, 300 dry pine deals and battens, a quantity of dry Honduras mahogany, wrought moulds, &c. To allow time to inspect the deals and battens laid at the Inspector's Office, Deptford, at Greenwich, and at the Auction Yard, 2 Yard police station, Hampstead Road, near the East end of Seabank.

PLUMSTEAD ROAD, NEAR WOOLWICH, KENT

MR. G. HUDSON will SELL by AUCTION, on the Premises, BURRAGE HOUSE, PLUMSTEAD, on WEDNESDAY, December 20th, 1848, at One o'clock precisely, 20 capital large Walnut Trees, 5 Spanish Chesnuts, 9 Elms, 2 Yew Trees, and sundry Fruit Trees, the estate being partially laid out in building lots. Catalogues may be had at the Office of the Estate; of J. PATTISON, Esq., M.P., Plumstead road; of G. F. HUDSON, Esq., Solicitor, Bucklersbury, London; and of the Auctioneer, Woolwich.

PERIODICAL SALES FOR 1849

MESSRS. BURR and SON respectfully announce that they have arranged their PERIODICAL SALES of ESTATES, &c., to take place on the last THURSDAY in each month during the year. Upwards of 20 years' experience has proved that this plan is effective and economical to the vendor and the clients of such Firm, both professional and others; and it should be borne in mind that the Sales are not confined to any particular class of property, but are open to the disposal of any Estate, Land and Timber Offices, Rochester, Kent, and 64, Old Broad-street, London.

TO BUILDERS, CARPENTERS, AND OTHERS.

TO BE SOLD BY AUCTION, by L. ENGLAND, at Queenhithe Wharf, City, on Wednesday, the 20th inst., at Twelve o'clock precisely, 70 tons of Hassage Mead, Wood, and Iron, in Lots to suit purchasers. One of the Lots, the MATERIAL of a BOAT-HOUSE, now removed as above for convenience of sale, consisting of a large quantity of joists, quarring, floor boards, doors, sash frames, sashes, and other fittings, and a large quantity of fire-wood, salvage from a late fire, and various other useful articles.—May be viewed, and catalogues had on the premises, and at the Offices of the Auctioneer, 3, Shepperton-street, and Caledonian-road, Islington.

TO BUILDERS, DECORATORS, AND OTHERS.—The Valuable Plant and Machinery of the Patent Relievo Leather Ornament Company.

MESSRS. SMITH and HILL are instructed by the Patentees to SELL by AUCTION, at the Works, Hasgrave-road, Mead-place, Lambeth, on TUESDAY, the 19th, and WEDNESDAY, the 20th December, at One o'clock, the MATERIAL of the BOILER-HOUSE, now removed as above for convenience of sale, consisting of a large quantity of joists, quarring, floor boards, doors, sash frames, sashes, and other fittings, and a large quantity of fire-wood, salvage from a late fire, and various other useful articles.—May be viewed, and catalogues had on the premises, and at the Offices of the Auctioneer, 3, Shepperton-street, and Caledonian-road, Islington.

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PUBLICATIONS.

THE EDINBURGH REVIEW, No. LXXXIX., published This Day, contains Articles on the Poetical Works of Robert Southey—Ireland—Ancient Sculpture and Painting—Lord Dudley's Letters—Sir Robert Peel—Parliamentary Reform—Spain—The Budget—Colonial Policy—Ireland—Foreign Affairs, &c. &c. Published by Longman, Brown, Green, and Longmans, Paternoster-row, and sold by all Booksellers and Newsmen. Price 6s.

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THIS CHEAP and USEFUL ARTICLE obviates the unsightly app[illegible] and insecurity of the common rim lock, and is adopted in the Mansion Houses, Messrs. CARPENTER and TILLESLEY, Willenhall; or from the sole Agent, Mr. JOHN FAULKNER, Ironmonger, 5, St. Martin's-le-Grand, London, opposite the new Money-Order Office.

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CHUBBS' PATENT DETECTOR LOCKS give perfect security from false keys and picklocks, and also detect any attempt to open them. They are made of all sizes and of every description in which Locks are applied, and are strong, secure, simple, and durable.
CHUBBS' PATENT LATCH, for front doors, counting house doors, &c., is simple in construction, low in price, and quite secure. The keys are particularly neat and pleasing.
CHUBBS' PATENT FIRE-PROOF SAFES, BOOKCASES, CHESTS, &c., made entirely of strong wrought iron, so as effectually to resist the falling of brick-work, timber, &c., in case of fire, and are also perfectly secure from the attacks of the most skilful burglars.
CHUBBS' CASH and DEED BOXES, fitted with the Detector Locks.
CHUBB and SON, 57, St. Paul's Churchyard, London.

IRON BUILDING and ROOFING WORKS, SOUTHWARK.—JOHN HENDERSON PORTER, Manufacturer of Iron Roofs and Buildings, Patent Wrought-iron Beams, Fire-proof Flooring, &c.—Lists of prices and estimates furnished upon application at the office, 2, Adelaide-place, London-bridge, City.

SELF-FLUSHING WATER-CLOSETS. —FLEXIBLE DIAPHRAGM VALVE COCKS.— "LAMBERT'S PATENT."—The patentees solicit the attention of architects, engineers, builders, and the trade to these inventions, both of which are very great improvements upon the appliances hitherto in use. The cocks have withstood the test of three years' trial, under severe pressure, with perfect success, and are warranted not to leak, and to be exceedingly durable. The closets also have been well tried, and with equal success; they are made self-acting or otherwise, and are so arranged that when self-acting, but a given quantity of water is used at each action of the seat, the movement of which is scarcely perceptible. No service-box, D trap, cranks, or wires are required, consequently the chief causes of derangement and cost of fixing are removed. They are exceedingly cheap and strong, being made of enamelled iron ware.
THOMAS LAMBERT and SON, Patentees, Manufacturers of Block Tin Tube, Hydraulic, Steam and Gas Fittings, corner of Short-street, New-cut, Lambeth.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers Drains, &c., is insured by the use of
BUNNETT'S
PATENT SELF-ACTING EFFLUVIA TRAPS
Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.
The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF-CLEANSING, and cannot be out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and CORPE, ENGINEERS, 26, Lombard street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.
INVENTORS AND PATENTEES OF SELF-ACTING
(DOUBLY TRAPPED)
PAN AND VALVE WATER-CLOSETS;
(A most successful combination of the above principle, with other patented improvements.

TO PLUMBERS, BUILDERS, AND ENGINEERS.
CHEAPEST HOUSE IN LONDON for every description of best Town-made Brass and Copper Work.

PAN CLOSETS complete, with WHITE BASIN, 22s.—9-inch Lift Pumps, 6s.; 2½ in., 7s.; 3 in. 8s. 6d. Cocks: ½ in., 1s. 3d.; 5-8th in., 2s.; ¾ in., 3s. 6d.—Copper Pipes, per foot: 1 in., 10d.; 1½ in., 1s.; 1¾ in., 1s. 2d.; 2 in., 1s. 6d.
Gun Metal Steam Cocks, Safety Valves, Steam and Water Indicators, &c., equally low at A. McGLASHAN'S, 16, Long-acre, and Hart-street, Covent Garden.

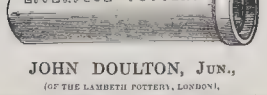
VAUXHALL POTTERY, established upwards of 150 years.
ALFRED SINGER and Co., Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER-CLOSET PANS, &c.


with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS.

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
6d.	8d.	8d.	1s. 1½d.	1s. 10d.	3s. per foot.

Bends, Junctions, Traps, &c &c
Patentees and Manufacturers of MOSAIC PAVEMENTS.
Close to the Surrey side of Vauxhall-bridge.



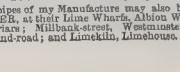
JOHN DOULTON, JUN.,
(OF THE LAMBETH POTTERY, LONDON),
MANUFACTURER OF GLAZED STONE WARE,
TUBES, &c.
ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH WORKS, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL or placed in trucks on the Liverpool and Manchester Railway without extra charge.

In 3 feet lengths.			PRICES.			In 2 feet lengths.
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.	
4d.	4½d.	5d.	6d.	8d.	1s. 1½d.	1s. 8d.	2s. 6d.	3s. per foot.

BENDS AND JUNCTIONS OF ALL REQUIRED SHAPES.
For particulars see "The Builder" of November 11.
The superiority of these tubular drains in glazed stone ware, for the perfect drainage of dwelling-houses and for public sewerage, is established in the recent evidence before the Parliamentary Sanitary Commission. The following Testimonial is from JAMES NEWLANDS, Esq., C.E., Borough Engineer of Liverpool:
Public Offices, Engineer's Department, Liverpool, Oct. 25, 1848.
DEAR SIR,—I have pleasure in testifying to the excellence of the glazed stone ware pipes manufactured by you at the Liverpool Pottery. The specimens I have seen are straight, and have the sockets very accurately moulded. These stone ware glazed pipes are strong, smooth, and imperishable; they are readily laid; they afford an easy flow, and are not affected by the sewage matter, and on these grounds I recommend them as eminently superior to the common brick drains. When more attention is given to sanitary matters, I believe their use will become universal.
I am, dear Sir, yours, &c., JAMES NEWLANDS,
Mr. Doulton, St. Helens. Borough Engineer.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—
Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

2 in.	3 in.	4 in.	6 in.	9 in.	12 in bore.
4d.	5d.	6d.	8d	1s 1d.	1s. 10d. per foot

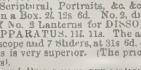
Bends and Junctions equally low.
N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHER, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

IMPORTANT to ARCHITECTS, SURVEYORS, BUILDERS, and Others, requiring a SUPPLY of WATER.—Boring for water, Artesian wells, sinking, &c. Water Companies, towns, public buildings, brewers, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer, and Patentee of Boring Tools, 19, Cumming-street, Pentonville, London, whose long experience and practical knowledge in the above, enable him to give the most satisfactory and highly respectable references. Wells that are dry may be abundantly supplied. Pumps and machinery of every description for raising water from deep wells. Men and tools supplied to bore for rail roads, minerals, &c. Boring tools and suitable pipes for exportation with instructions.

WARMING by means of the circulation of WARM AIR.—BURBIDGE and HEALY beg respectfully to inform the public, that they are prepared to undertake the warming of churches, halls, houses, &c., with a new application of the most simple and durable construction, which they can warrant to keep in order any length of time, and which is capable of effectually warming buildings of any magnitude in a most economical manner. BURBIDGE and HEALY, 130, Fleet-street.

HOT-WATER APPARATUS.—The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and green-houses, manufactories and warehouses, kilns, drying, timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

PHANTASMAGORIA for CHRISTMAS. —AMUSEMENT and INSTRUCTION by means of CARPENTER and WESTLEY'S improved PHANTASMAGORIA LANTERNS, with the CHROMATROPE and DISSOLVING VIEWS, and every possible variety of Sliders, including Natural History, Comic, Lever, Moveable and Plain Astronomical, Views in the Holy Land, Scriptural, Portraits, &c. &c. No. 1, Lantern with Argand Lamp, in a Box, 2l. 12s. 6d. No. 2, ditto, of larger size, 4l. 14s. 6d. A pair of No. 3 Lanterns for DISSOLVING VIEWS with IMPROVED APPARATUS, 11l. 11s. The above are supplied with Lucernal Microscope and 7 Sliders, at 31s. 6d. extra. The Lamp for the No. 2 Lanterns is very superior. (The price of the Lantern is without any Sliders).
London Slides, all Prices, upon application to the Manufacturers, CARPENTER and WESTLEY, Opticians, 24, Regent-street, Waterloo-place, London.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and their purposes.
PATENT TUBE WORKS, DARLASTON, STAFFORDSHIRE

FOR CHURCHES, CHAPELS, and other Buildings.—SPILLER and TAYLER invite public attention to their new AIR WARMING APPARATUS, or THERMANTERION. By this invention the well-founded objection to this principle of warming, arising from contact of the air with very limited, and highly heated surfaces, is entirely obviated. It is equally efficient with the hot water apparatus, while its first cost is little more than one half.—In operation daily at the Works, Lombard-road, Battersea.

NOTT'S PATENT STOVES.
J. L. BENHAM and SONS beg to recommend these STOVES to Architects, Builders, and Ironmongers, as the best with which they are acquainted for HALLS, SHOPS, WAREHOUSES, &c. They are remarkable for economy of fuel and steadiness of heat, only requiring attendance once in six or eight hours. For CHURCHES and CHAPELS they are particularly adapted, as a cheap, simple, and efficient mode of warming them.
HOT WATER PIPES can be attached for warming distant apartments, conservatories, &c.
References can be given to many Churches and other Buildings where they have been in use from ten to fifteen years.
MANUFACTORY AND WAREHOUSE REMOVED FROM GREAT QUEEN-STREET TO 19, WIGMORE-STREET, CAVENDISH-SQUARE.

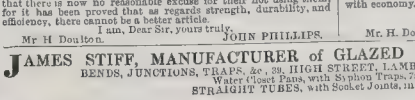
PIERCE'S ECONOMICAL RADIATING STOVE GRATES.—Families furnishing are solicited to examine the large and extensive assortment of Drawing room and other GRATES, recently completed from the most *recherche* designs in the Louis Quatorze, Elizabethan, Gothic, and other styles, with FENDERS AND FIRE IRONS *en suite*, always on show at the manufactory.
These Grates combine the decorative and useful, blending economy with comfort, and are guaranteed as a PERFECT CURE FOR SMOKY CHIMNEYS.
In BED-ROOMS and NURSERIES they are found invaluable, retaining the heat for many hours after the fire is out.
KITCHENS and LAUNDRIES fitted up in the most complete manner with Ranges, Ovens, Boilers, Hot-plates, Broiling-plates, Patent Smoke-jacks, &c., with the latest improvements.
HEATING by HOT WATER, combining Warmth with Ventilation, on PIERCE'S improved method, adapted for every description of building, and so arranged as to warm the entire of a large mansion from one moderate fire.
PIERCE, 5, JERMYN-STREET, REGENT-PORTLAND.

SEYSSEL ASPHALTE COMPANY.
CLARIDGE'S  PATENT.
Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.
Principal Depôts, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.
THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.	Dog-kennels.	Covering of Railroad and other Arches.
Kitchen Floors (particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the
Garden Walks and Terraces.	Granaries.	Lining of Tanks, Fish-ponds,
Carriage Drives.	Tan-room Floors.	&c. &c.
Couch-houses and Stabling.	Malt-house Floors.	
	Piggeries, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.
The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.
In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to the Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.
Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of spurious one.
I. FARRELL, Secretary.
Seyssel Asphalte Company, Stangate, London.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.
STRAIGHT TUBES, WITH SOCKET JOINTS,



BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.
TESTIMONIALS from Messrs. ROE and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.
DEAR SIR,—I would respectfully recommend the building professions generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.
I am, Dear Sir, yours truly,
Mr. H. Doulton. JOHN ROE

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 39, HIGH STREET, LAMBETH, LONDON. Established 1731.
Water Closet Pans, with Syphon Traps, 7s. 6d. each.
STRAIGHT TUBES, with Socket Joints, in 2-feet lengths.



N.B. These are made without the discharge-hole being turned down wards.

3 in. bore, 3d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 1 d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.
Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and superior glaze far surpassing any other manufactured of Brown Stone Ware.
May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin oak head, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

Commencing on the 1st of January, 1849, a New Volume with the New Year, and affording a favourable opportunity for New Subscribers,

THE VERNON GALLERY.

THE VERNON GALLERY is, by the grant of the munificent Donor, and by assent of the Trustees of the National Gallery, in process of Engraving for

THE ART-JOURNAL;

THE ART-UNION MONTHLY JOURNAL OF THE ARTS.

THIS Collection comprises the choicest examples of the leading Artists of the British School—the most prominent and popular Painters of England. Published in the "ART-JOURNAL," they will be made accessible to the very humblest classes, and so become sources of enjoyment and instruction throughout the kingdom and its dependencies.

"There is nothing in the collection without its value as a representation of a class of Art; and the classes are such that every eminent Artist is included."—*Times*, May 25th.

The utmost care will be exercised to render this Collection of Engravings in all respects worthy representatives of a Gallery which contains the choicest examples of the leading British Painters of the existing Era; the Engravers, all of established repute, are animated by an earnest desire to associate their names honourably with those of the great Painters of their country; the most skilful Printers will be engaged in the production of the Prints; and, in all minor details, exertions will be made to secure the regular monthly issue of a truly NATIONAL WORK.

In no country, at any epoch, have Engravings so large in size, and so excellent in character, been published at so low a price; and but for the very extensive circulation of the "ART-JOURNAL," it would be impossible to issue them at less than three times the cost. The conductors pledge themselves that no single impression shall be published in an inferior condition, but that each Plate shall be *kept up* to its perfect state throughout the whole edition of the work. In order to accomplish this essential object, upwards of Forty Plates are now in the Engravers' hands.

THE PRINCIPAL WORKS, FINISHED OR IN PROGRESS, ARE:—

Highland Music	E. Landseer, R.A.	The Prawn Fishers	W. Collins, R.A.
The Death of the Stag	E. Landseer, R.A.	The Village Festival	F. Goodall
Youth and Pleasure	W. Etty, R.A.	Venice	C. Stanfield, R.A.
The Last In	W. Mulready, R.A.	The Wooden Bridge	Sir A. W. Callcott, R.A.
Venice	J. M. W. Turner, R.A.	The Valley Farm	J. Constable, R.A.
The Golden Bough	J. M. W. Turner, R.A.	The White-boy	Sir D. Wilkie, R.A.
Sancho and the Duchess	C. R. Leslie, R.A.	The Little Brigand	T. Uwins, R.A.
The Village School	T. Webster, R.A.	The Age of Innocence	Sir J. Reynolds, P.R.A.
Scene from Twelfth Night	D. Maclise, R.A.	Finding the Body of Harold	W. Hilton, R.A.

Beckwith	Willmore.
Cousin.	Carter.
Sharpe.	Cousin
Smyth.	Bentley.
Willmore.	Bentley.
Prior.	Sharpe
Staines.	Stocks
Phillibrown.	Joubert.
Staines.	Whitfield.

Two of the series (the whole in the *line* manner) will be published with each number of the ART-JOURNAL; which will also contain an Engraving, on steel, of the work of an eminent British Sculptor, engraved for, and published exclusively in, the ART-JOURNAL.

AMONG THE WORKS IN SCULPTURE ARE THE FOLLOWING:—

1. The Statue of Her Most Gracious Majesty, by J. Gibson, R.A.
2. The Statue of Penelope, by R. J. Wyatt.
3. Ino and Bacchus, by J. H. Foley.
4. The Greek Slave, by Hiram Power.
5. Euphrosyne, by Sir Richard Westmacott, R.A.
6. The Blue Bell, by R. Westmacott, A.R.A.
7. Lavinia, from the Statue by J. M. Spence.
8. Hylas and the Nymphs, by J. Gibson, R.A.
9. Love Triumphant, by P. McDowell, A.A.
10. Girl at the Bath, by H. J. Wyatt.
11. Sabrina, by Calder Marshall, A.R.A.
12. Aurora, from the Statue by J. Gibson, R.A.
13. The St. George, the Medal by W. Wyon, R.A.

While announcing the series of rare and valuable Engravings which the VERNON GALLERY will supply to THE ART-JOURNAL, its conductors may avail themselves of the occasion to explain some of the many improvements they design to introduce into it—commencing with the year 1849. Since its first publication, ten years ago, it has gradually, but surely, advanced in popularity and consequent power: increasing from a circulation of 1,000 in 1839 to 14,000 in 1848: its first object has been to co-operate with the *Artist*; the next, to aid in promoting taste in all matters connected with *Decorative Art*; the next, to assist the *Manufacturer*, who must forward, or retard, Art-education, by every article he multiplies and circulates: thus, its aim has been to promulgate the advantages which follow the alliance between the *Fine Arts* and the *Useful Arts* in every country in Europe.

Abundant testimony has been obtained by its conductors that these objects have been, to a great degree, achieved: it will be their duty so to progress as to render it still more worthy of the large patronage it receives, more commensurate with the wants of the age, better suited to promote the growing taste for Art and the conviction of its mercantile value, and to establish it fully to work out its high purpose, as "the only worthy Art-Journal of Europe," for such it is pronounced to be by contemporary Journalists, not only in great Britain, but in Germany, Italy, and France.

Among the ENGRAVINGS ON WOOD, executed in the highest style of which the art is capable, will be, in *each number*—TWO PORTRAITS OF BRITISH ARTISTS; Two Illustrations of "Passages from the Poets," drawn by distinguished Artists; a continued Series of Original Designs for Manufactures; Illustrations of Papers by HENRY SHAW, F.S.A.; "Examples of Medieval Art applicable to Modern Purposes;" Illustrations to Papers; "Memoranda concerning Art as applicable to Manufactures," by J. D. HARDING; Illustrations of Pilgrimages to English Shrines, by F. W. FAIRHOLT, F.S.A.; "Customs and Costume as Hints to Painters," by F. W. FAIRHOLT, F.S.A.; and Illustrations of Science in Connection with Art, by ROBERT HUNT, Esq., of the Museum of Economic Geology.

The value of the Art-Literature will be enhanced by the aid of several writers of established fame, in addition to the present contributors; among whom may be at present named—R. WORNUM, Esq., JOHN BURNET, F.S.A., and Dr. COOKE TAYLOR.

The Journal will be considerably increased in size (in consequence of the enlarged size of the plates—generally, 8 inches by 10), and the work will be printed in *larger type* than heretofore:—

In order to meet the wishes of those who may require copies of the Engravings, for the portfolio or for framing, it has been resolved to issue A LIMITED NUMBER OF PROOFS.

The PROOFS of the Vernon Gallery will be all printed on India Paper, and published in Monthly Parts, each Part to consist of Two Plates. With the First Part will be delivered a handsome Portfolio, made to contain the series of Proofs for Twelve Months; and a similar Portfolio will be delivered (free) to the Subscribers at the commencement of each year. Explanatory letter-press pages will be also delivered to each Subscriber at the end of each year. The PORTRAIT OF ROBERT VERNON, Esq., after PICKERSGILL, R.A., will also be *presented* with the first part.

TERMS OF SUBSCRIPTION:—

ARTISTS' PROOFS, of which only 150 will be printed	£2 2 0
PROOFS BEFORE THE LETTERS, of which only 250 will be printed	1 1 0
LETTERED PROOFS, of which only 350 will be printed	0 10 6

Early application for these Proofs will be necessary, as the above numbers will be strictly adhered to.

In a letter written by Mr. VERNON, in reply to an Address of the Engravers who are executing the Engravings of the Gallery, the following passage occurs:—"I am exceedingly glad that an opportunity has been afforded me of inspecting the Proofs which have been taken from the Engravings now finished. They appear to be most beautifully executed, and I trust that when published they will be appreciated by the Public, and by their diffusion at so moderate a cost, improve and increase the taste for the productions of our native Artists."

It is impossible in an advertisement to give more than an outline of the various beneficial changes to which the "ART-JOURNAL" will be subjected; but in the first number of the New Series, to be published on the 1st of January, 1849, will be exhibited the several improvements introduced; they will be such as cannot fail to render the work additionally attractive to the public, while its value will be materially augmented—in all its departments—to the Artist, the Amateur, and the Manufacturer.

The ART-JOURNAL will contain in each Monthly Part, THREE ENGRAVINGS ON STEEL from Works by the most eminent British Artists—two from the Vernon Gallery, and one of Sculpture; with about 40 fine Engravings on Wood; and 32 pages of Letter-press, price Half-a-crown.

TO ADVERTISERS.

The circulation of the ART-JOURNAL exceeds 13,000 monthly; an extent of circulation unparalleled in periodical literature. The popularity of the "VERNON GALLERY" will, it is presumed, materially increase the issue of the work in 1849. The ART-JOURNAL is received into the best circles of the kingdom, and into all the leading public Institutions; it is kept as a work of reference during the month, and its Advertisements are consulted as articles of news. It is, therefore, a peculiarly desirable channel for Advertisers who address themselves to the higher classes of society, or to the intelligent of any class, to manufacturers, and to all persons of refined taste; whilst its large circulation amongst architects, and all engaged in decorative work of every description, renders it a suitable medium for introducing productions connected with such undertakings to the notice of the public. Thus, its Advertising columns become pre-eminently serviceable to Advertisers generally.

PUBLISHED FOR THE PROPRIETORS BY GEORGE VIRTUE, 25, PATERNOSTER-ROW.
OFFICE OF THE EDITOR, MARLBOROUGH CHAMBERS, 49, PALL MALL.

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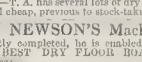
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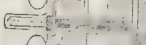
TESTIMONIAL FROM CHARLES BARRY, ESQ.

Westminster, May 16th, 1848.

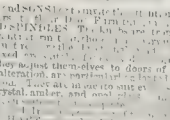
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"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

By Her Majesty's  Royal Letters Patent.

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CHAS. WM. WATERLOW, MANUFACTURER of SASH BARS, Patent Astragal Bar, Patent Fanlight Bar, Patent Lamp Bar, Patent Wheel Bar, Patent Gothic Bar, and every description of DOORS, and a large variety of Patent Plate Iron Sashes. Large Stock of Wrought Iron Hurdles, Stable Fittings, Wire Work, &c. Estimates given for Iron Buildings, Roofs, Shutters, Fire-proof Doors, &c. Every description of Smith's Work executed with the best materials, and on the most reasonable terms. Manufactory, Waterlow-place, Finsbury.



SHOP FRONTS, SASHES and FRAMES, DOORS, &c. MADE FOR THE TRADE



JOHNSON and PASK, 1, Amwell-street, Clerkenwell, [illegible] the New Road.

Beg to inform the Trade and the Building Public in general, that they [illegible] Shop Fronts, Doors, and all other kinds of Joiners' Work, at the lowest possible scale of prices. All kinds of Wainscot, Deal, and other Boards [illegible] in the very best manner; French polished, and carefully packed for the country.—A full list of prices forwarded per post to any part of the country.



IRON BUILDING and ROOFING WORKS, SOUTHWARK. JOHN HENDERSON, CIVIL Engineer and Manufacturer of Iron Roofs and Buildings, Patent Wrought-iron Beams, Fire-proof Flooring, &c.—Lists of prices and estimates furnished upon application at the office, 2, Adelaide-place, London-bridge, City.

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, for Railway Carriages, Breweries, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and resist the action of steam, and are found [illegible] to any description of pipe hitherto [illegible] for the above purposes, or for [illegible] Solid copper for engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards. [illegible] Vulcanized India rubber [illegible] with copper branch and roses complete [illegible] Vulcanized India rubber steam [illegible] Valves, Steam Gauges, &c. Sole manufacturer, JAMES LAY HANCOCK, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints in hot-water and steam pipes, and vulcanized sheet rubber for any thickness for all kinds of joints, and other purposes.

ARGUS LIFE ASSURANCE COMPANY, 39, Throgmorton-street, Bank; and 14, Pall Mall.

CHAIRMAN—THOMAS FARNCOMB, Esq., Alderman.
DEPUTY-CHAIRMAN—WILLIAM LEAF, Esq.

Richard E. Arden, Esq.	J. Humphery, Esq., Ald., M.P.
William Bant, Esq.	Rupert Ingleby, Esq.
Edward Bates, Esq.	Thomas Kelly, Esq., Ald.
Thomas Campbell, Esq.	Jeremiah Pilcher, Esq.
James Clift, Esq.	Lewis Pocock, Esq.

PHYSICIAN—Dr. Jeaffreson, 2, Finsbury-square.
SURGEON—W. Coulson, Esq., 3, Frederick's-place, Old Jewry.
CONSULTING ACTUARY—Professor Hall, M.A., of King's College.
SOLICITOR—Sir John Rennie, M.P., Solicitor-General.
SECRETARY—William Fisher Ds., 39, Throgmorton-street.

ADVANTAGES OF ASSURING WITH THIS COMPANY.

In addition to a large subscribed capital, Policy-holders have the security of an Assurance fund of more than a quarter of a million, and also the use of such annually increasing, arising from the 1845 Deposits of £1 Upwards.

BONUS, OR PROFIT BRANCH

Persons assuring on this Scale will be equally entitled to 80 per cent. of the profits on this branch (after payment of 5 yearly premiums); and the profit assigned to each Policy may be added to the sum assured, or applied in reduction of the annual premium.

NON BONUS, OR LOW PREMIUM BRANCH

The Tables on this Scale are calculated to provide peculiar advantages to the assured, not offered by any other office, for where the object is the least possible outlay, the payment of a given sum is secured to the Policy-holder, on the death of the assured, at a reduced rate of premium.

Age	One Year and Seven Years.	Whole Term With Profits	Whole Term Without Profits.
20	£0 17 8	£1 10 6	£1 11 10
30	1 1 7	2 2 9	2 0 7
40	1 5 6	3 0 7	2 14 10
50	1 13 1	4 6 8	4 6 11
60	2 2 4	6 12 5	6 0 10

Premiums to Assure £100

One-half of the whole term premium may remain on credit for seven years, or one-third of the premium may remain for life as a debt upon the policy at 5 per cent., or may be paid off at any time without notice.

Claims paid in one month after proofs have been approved.

E. BATES, Resident Director.

THE LIVERPOOL and LONDON FIRE and LIFE INSURANCE COMPANY.

8, Water-street, Liverpool; 3, Charlotte row, Mansion House; and 93, Regent-street West, Waterloo-place, London.

LIABILITIES of the PROPRIETORS UNRESTRICTED.

MODERATE PREMIUMS in the FIRE DEPARTMENT.

PECULIAR ADVANTAGES in the LIFE DEPARTMENT.

Parties insuring the value of Lease-hold Property at the commencement of the lease,

Persons whose Policies with this Company expire on the 24th inst. are respectfully invited to renew the same at the Office, or with any of the Local Offices in London and Liverpool, and in the hands of the respective Agents; and those who, preferring the credit offered by this Company, may desire to remove their insurances, are informed that no expense will be incurred by so doing.

BENJ. HENDERSON, Resident Secretary, London.
SEWINTON BOLTE, Secretary to the Company.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY.

REPORT OF THE DIRECTORS.

Presented at the Annual General Meeting, held at the Society's Office, on Thursday, March 2nd, 1848.

Having, at the meeting held in January, 1847, presented to the proprietors and assured a very full account of the society's affairs, your Directors have but little to communicate on the present occasion.

It may, however, be satisfactory to those now assembled to learn, that, notwithstanding the increased and active competition which has arisen from the establishment of many new Life Assurance Offices, the business of this society still continues to advance.

In proof of this, it will be sufficient to state the following facts:—

I. The number of Policies issued in the course of the present year, being the first of the second quinquennial period, is greater during the year ending June 30th last than the period comprehended in this report; that is, any one year since the commencement of the society.

II. The society's income, which was in 1837 in the year ending June 30th, 1838, amounted to 122,896l. 1s. 8d., in the year ending June 30th, 1847, to 287,057l. 5s. 10d.

III. The number of new policies issued within the year has been 1,441, and the sum assured thereby 287,057l. 5s. 10d., being an increase, both in the number of policies and the sum assured, over those of any previous year.

In conclusion, the Directors are happy to inform the proprietors that the society has not in any degree suffered from the great mortality which has prevailed of late throughout the kingdom, the claims for both the current year ending June 30, 1847, and also within the six months ending December last, not having equalled either in number or amount those of preceding years.

Tables of rates and forms of proposal can be obtained of any of the society's agents, or by addressing a letter to

GEO. H. PINCKARD, Resident Secretary.

Office, No. 69, [illegible] at Russell-place, Bloomsbury, London.

SCOTTISH PROVIDENT INSTITUTION for MUTUAL LIFE ASSURANCE, by MODERATE PREMIUMS. Incorporated by Special Act of Parliament. Established in 1837.

Edinburgh: 14, St. Andrew's-square.

London: 3, Morgate-street, Bank.

The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. Premiums are, at early and middle ages, about 25 per cent. under those of most other Mutual Offices.

This Society being Mutual, is free from the necessity of a nominal, or the burden of a real capital. Thus dividends and similar charges on the funds are avoided.

The peculiar and leading advantages of this Office may be thus briefly stated:—

PREMIUMS so low as to be LOWER than in most other similar offices at early and middle ages. Thus, the premium of the Equitable, at age 30, for assuring £100, at once in this Office, assure 1,387l.; which is obviously equivalent to a present and certain bonus of 287l., exclusive of prospective profits.

Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.

The 21 years' scale little exceeds that of most Offices for the whole of life. See table below.

Exemption from entry charges, &c.

Three-fourths, and, if desired, the whole of the profits are divided among the assured exclusively, on [illegible] profits, to the [illegible], and which is at once equitable, secure, [illegible] all. Hence, to all [illegible] lives, being entire, for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured, it is evident that much larger profits may accrue to the participators than the usual system of other offices, even though their premiums are somewhat higher.

More detailed illustrations of the effects of this principle may be obtained at the offices.

Specimens of Premiums for 100l. for whole Life and for Twenty-one Years. (These rates include a prospective share in the whole profits of the institution.

Age	Payable for whole of Life	Payable for 21 years only.	Age.	Payable for whole of Life	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 18 3	3 10 3	36	2 8 3	3 0 11
26	1 18 6	3 11 3	37	2 9 3	3 2 2
27	1 19 2	3 11 11	38	2 11 3	3 3 6
28	1 19 11	3 12 10	39	2 12 11	3 4 10
29	2 0 8	3 13 9	40	2 14 3	3 6 4
30	2 1 6	3 14 6	41	2 15 3	3 7 10
31	2 2 5	3 15 5	42	2 16 3	3 9 5
32	2 3 5	3 16 4	43	2 18 3	3 11 1
33	2 4 6	3 17 5	44	2 19 3	3 12 10
34	2 5 7	3 18 6	45	3 0 3	3 14 9
35	2 6 8	3 19 8			

All necessary information and forms may be obtained on application at the several offices in Edinburgh, London, Glasgow, and Manchester, or from any of the [illegible] Agents.

RICHMOND OWEN HARRIS, Secretary for London.

Office, No. 3, Moorgate-street, September, 1848.

GAS FITTINGS and GENERAL BRASS WORK (Cheap), manufactory, 28, Upper North-place, Gray's Inn-road, has in stock 2000 brackets, pendants, pipes, and small fittings. Opal and japanned shades, globes, cornices, and rings; curtain bands, sockets, castors, stair rods, and other brass goods. Bell furniture, copper wire, lacker, patent candle lamps, &c.

*** Town-made chair and mattrass springs, at country prices, for cash. Cleaning, lackering, and repairs attended to promptly.

IMPORTANT to ARCHITECTS, SURVEYORS, BUILDERS, and Others, requiring a SUPPLY of WATER.—Boring for water, Artesian wells, sinking, &c. Water Companies, towns, public buildings, breweries, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer, and Patentee of Boring Tools, 16, Cummings-street, Pentonville, London; whose long experience and practical knowledge in the above, enable him to give the most satisfactory and highly respectable references. Wells that can by no means be thoroughly supplied. Pumps and machinery of every description for raising water from deep wells. Men and tools supplied to bore for rain, springs, minerals, &c. Boring tools and metal tubes for exportation with instructions.

SELF-FLUSHING WATER-CLOSETS. FLEXIBLE DIAPHRAGM VALVE COCKS,—"LAMBERT'S PATENT." The patentees solicit the attention of architects, engineers, builders, and the trade to these inventions, both of which are very great improvements upon the appliances hitherto in use. The cocks have withstood the test of three years' trial, under severe pressure, with perfect success, and are warranted not to leak, and to be easily cleaned. The basins also have been well tried, and with equal success; they are made self-acting on old pans, and take, as nearly as possible, the exact quantity of water to wash down the soil. The amount of which is scarcely perceptible. No separate box, D trap, cranks, or wires to get out of repair, consequently the chief cause of derangement and cost of fixing are removed. They are exceedingly cheap and strong, being made of enamelled iron ware.

THOMAS LAMBERT and SON, Patentees, Manufacturers of Block Tin Tube, Hydraulic, Steam and Gas Fittings, corner of Short-street, New-cut, Lambeth.

SANITARY IMPROVEMENT.—Perfect freedom from Stench or Noxious Vapours arising from Sewers Drains, &c., is insured by the use of

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF ACTING and SELF CLEANSING, and cannot get out of order. Manufactured in any quantities, on small premises, by BUNNETT and CURTIS, ENGINEERS, 26, Lombard street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING

DOUBLY TRAPPED

PAN AND VALVE WATER-CLOSETS;

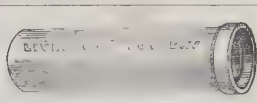
(A most successful combination of the above principle, with other patented improvements.)

TO PLUMBERS, BUILDERS, AND ENGINEERS

CHEAPEST HOUSE IN LONDON for every description of best Town and Country Brass and Copper Work

PAN CLOSETS complete, with WHITE BASIN, 28s. -2 inch Lift Pumps, 6s.; 2½ in., 7s.; 3 in. 8s. 6d. Cocks: ½ in., 1s. 8d.; ¾ in., 2s.; 1 in., 3s. 6d. -Copper Pipes, per foot: 1 in., 10d.; 1¼ in., 1s.; 1½ in., 1s. 2d.; 2 in., 1s. 6d.

Gun Metal Steam Cocks, Safety Valves, Steam and Water Indicators, &c., equally low at A. McGLASHAN'S, 16, Long-acre, and Hart-street, Covent Garden.



JOHN DOULTON, Jun.,

OF THE LAMBETH POTTERY, LONDON,

MANUFACTURER OF GLAZED STONE WARE, TUBES, &c,

ST. HELENS, LANCASHIRE.

These GLAZED and VITRIFIED PIPES are of the same description and quality as those manufactured at the LAMBETH WORKS, LONDON, and are shipped FREE ON BOARD IN THE PORT OF LIVERPOOL, or placed in trucks on the Liverpool and Manchester Railway, with at extra charge.

In 3 feet lengths.	PRICES.					In 2 feet lengths.
2 in.	3 in.	4 in.	6 in.	9 in.	12 in.	15 in.	18 in.
4d.	4½d.	5d.	8d.	1s. 1½d.	1s. 8d.	2s. 6d.	3s. per foot.

BENDS AND JUNCTIONS OF ALL REQUIRED SHAPES.

For particulars see "The Builder" of November 11.

The superiority of these tubular drains in general use, for the more perfect drainage of the towns and for public sewage, is established by the reports and evidence before the Parliamentary Committee. Comment is unnecessary. The following testimonials from JAMES NEWLANDS, Esq., C.E., Borough Engineer of Liverpool:

Public Offices, Engineer's Department, Liverpool, Oct. 25, 1848.

DEAR SIR,—In reply to your request, I beg to state that the glazed stone ware pipes you manufacture at your St. Helens Pottery. The specimens I have seen are straight, and have the sockets very neatly moulded. These stone ware glazed pipes are strong, smooth, and impervasable; they are readily laid; they allow an easy flow, and are perfectly free from any cracks; and on these grounds I recommend them as eminently superior to the common brick drains. When more attention is given to sanitary matters, I believe their use will become universal.

I am, dear Sir, yours, &c., JAMES NEWLANDS,

Mr. Doulton, St. Helens. Borough Engineer.

AGENTS—LIVERPOOL, Messrs. T. and R. Chaffer, Stone-merchants, Great Howard-street, Liverpool; KENDAL AND WESTMORELAND, Mr. Miles Thompson, Kendal; CARLISLE, Mr. C. Hodgson, Carlisle.

VAUXHALL POTTERY, established upwards of 150 years.

ALFRED SINGER and Co. Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER CLOSET PANS, &c



with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS

3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
5d.	6d.	8d.	1s 1d.	1s. 1½d.	2s per foot.

Bends, Junctions, Traps, &c. &c.

Patentees and Manufacturers of MOSAIC PAVEMENTS. Close to the Surrey side of Vauxhall-bridge.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes. PATENT TUBE WORKS, DARLASTON STAFFORDSHIRE

TO THE OWNERS OF SAW MILLS, PLANTATIONS, and Colleries, to Builders, Millwrights, Engineers, &c.

IMPROVED CIRCULAR SAWS, Upright Saws, for timber and deal frames; Patent Tempered Machine Plane Irons, saw files, improved engineers' files; Patent Tempered Mortice Knives, and Centres for ditto; Patent Saw-sets: in the most scientific and economical principles, with dispatch, by BLAKE and PARKIN, the Meadow Steel Works, Sheffield.

IRON FOUNDRY, 9, Brick-lane, Old-street, St. Luke's.—J. JONES having made great additions to his STOCK OF PATTERNS, begs to inform the trade, that he can now supply them with Plain and Ornamental Iron Columns, Girders, Railings, Gates, Iron Copings, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

IRON FOUNDRY,

163, DRURY-LANE, and CHARLES STREET, DRURY-LANE.

JOSEPH GLOVER,

Solicits the attention of the Trade to his extensive Stock of PATTERNS for CASTINGS of EVERY DESCRIPTION, consisting of those for every purpose, either structural or ornamental.

Wheel Pinion and Steam Engine Patterns; Range Stove and Hot Plate, Metal.

A stock of Rain-Water Pipes, Plain and O G Guttering, Air Bricks, Sash Weights, &c. &c.

A very superior description of Soot Door, particularly suitable for tall, narrow flues, being perfectly air and soot tight.

ESTIMATES given for IRON ROOFING and every description of Ironwork, complete to specification, and the work executed with every attention to quality and dispatch.

GLOVER'S FOUNDRY,

163, DRURY-LANE, and CHARLES-STREET.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, &c. Buildings, Portraits, and Views of every description, Lithographed in a superior manner, by GEORGE CHILDS, 12, Amwell-street, Pentonville.

TO ARCHITECTS AND ENGINEERS.

MR. EDWARD is desirous of meeting Gentlemen who require Coloured Architectural Designs, Perspective, got up and coloured in the neatest style at moderate terms. Mr. E. further begs to state that he makes a consideration in his charges, should the competition prove unsuccessful.—Address, Mr. EDWARD, 16, Wardrobe-street, Bond-street.

TO ARCHITECTS COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c." and of "London as it is;" offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to, Drawings and designs lithographed in a superior manner.—Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

PATENT ALKALI COMPANY'S IRON PAINT. This paint is the product of a patent process, and possesses peculiar and valuable properties not otherwise attainable. Its colour, as at present produced, is a rich purple brown. It is perfectly free from the deleterious qualities of white lead. It surpasses all other paints ever yet discovered in point of durability and economy. The value of this paint are more than equal to three of any other description. From its chemical composition it is preeminently adapted for covering iron, also wood and stuccoed or brick buildings. By process to wheel the base of this paint is produced makes it impossible that any change should take place in its composition from atmospheric influence. Its identity with iron secures it from galvanic action, so fatal to the durability of lead and other paints on iron work. It has been proved on shipping to the action of sea water, and of the ship metal by oxygen so prevalent in sea ports and tidal harbours, for more than three years, without change. Its cheapness and strength render it peculiarly suitable for iron bridges, roofs, and railings, farm-buildings, and shipping. Price by the ton 30l. delivered in London or Liverpool, exclusive of casks. Agents:—Messrs. EVANS, BROTHERS, London; Messrs. MATTHEWS and LEONARD, Bristol; Messrs. MILLER and SCLANDERS, Glasgow; Messrs. EVANS and HODGSON, Exeter; Messrs. CLARKE and FILL, Yarmouth, Norfolk; Mr. D. SANDEMAN, Glasgow; Mr. G. SANDEMAN, Dundee; Mr. B. NEWBY, Bradford, Yorkshire; Mr. R.S. FAIRS, Edinburgh; Mr. W. BAILEY, Wolverhampton; Mr. JAMES VINT, Newcastle-on-Tyne; Mr. ROBERT OXLAND, Plymouth. Orders may also be addressed to the Office of the Company, 20, Southampton-street, London.—JOHN A. WEST, Secretary.

NOTT'S PATENT STOVES.

J. L. BENHAM and SONS beg to recommend these STOVES to Architects, Builders, and Ironmongers, as the best with which they are acquainted for HALLS, SHOPS, WAREHOUSES, &c. They are remarkable for economy of fuel and steadiness of heat, only requiring attendance once in six or eight hours. For CHURCHES and CHAPELS they are particularly adapted, as a cheap, simple, and effectual mode of warming them.

HOT WATER PIPES on the latest and most approved principles of operation, &c.

References can be given to many Churches and the Buildings where they have been in use from ten to fifteen years.

MANUFACTORY AND WAREHOUSE REMOVED FROM GREAT QUEEN-STREET TO 19, WIGMORE-STREET, CAVENDISH-SQUARE.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,

In 3 feet lengths.			In 2 feet lengths.				
2 in.	3 in.		4 in.	6 in.	9 in.	12 in.	15 in.	18 inch bore
4d.	5d.		6d.	8d.	1s 1½d.	1s 10d.	3s.	4s per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Roe and Phillips, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR, I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is no reasonable excuse for their not having them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

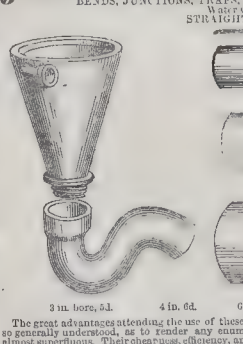
I am, Dear Sir, yours truly,

Mr H Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly.

Mr. H. Doulton. JOHN ROE.



CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE,

PRICE 7s. 6d. EACH,

Manufactured by

DOULTON AND WATTS,

LAMBETH POTTERY,

HIGH-STREET, LAMBETH,

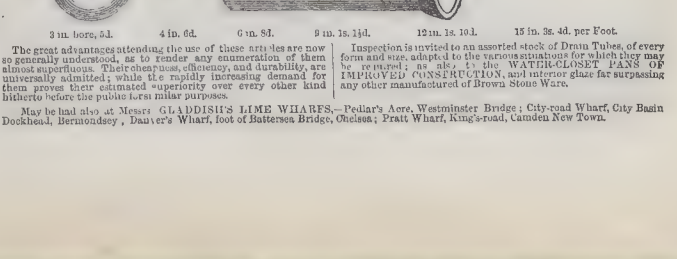
LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly, and impervasable; require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., at HIGH STREET, LAMBETH, LONDON. Established 1701.

Water Closet Pans, with Syphon Traps, 7s. 6d. each.

STRAIGHT TUBES, with Socket Joints, in 2½ feet lengths.



3 in. bore, 5d. 4 in. 6d. 6 in. 8d. 9 in. 1s. 1½d. 12 in. 1s. 10d. 15 in. 3s. 4d. per Foot.

N B. These are made without the discharge-hole being turned downwards.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required; as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS,—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin Dockhead, Bermondsey; Danver's Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

COTTAGE.—WANTED to PURCHASE, a detached COTTAGE, containing nine or ten rooms, with chaise house and stable. The situation must be dry, airy, and within five miles of the Bridges.—Address Y. O. W., Gresham Club, King William-street, City.

HOUSE and LAND.—WANTED to Purchase or Rent, a HOUSE AND PLOT OF GROUND, containing not less than two acres, situate within eight miles of Piccadilly, for the purpose of a Parochial Juvenile Establishment. A good supply both of hard and soft water, and proper drainage, considered indispensable. Particulars, stating lowest purchase money, or annual rent, to be addressed to Mr GEORGE BUZZARD, 15, Poland street, Oxford street.

BRICKFIELD TO BE LET for a TERM, on the banks of the Medway.—TO BE LET, a capital YARD of BRICK EARTH, which has been used for some years, within a short distance of the town of Maidstone. The earth is of a capital quality, and well adapted for white brick, of which five millions can be made annually. Plain tiles and drain tiles are also largely in demand. Immediate possession can be given, and the plant can be had at a valuation. For further particulars apply to Mr WILLIAM GILLIAN, Preston-hill, Aylesford, Kent, and F. FULLER, Esq., 29, Abingdon-street, Westminster.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

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A LONG-ESTABLISHED BUSINESS in these lines, in one of the principal thoroughfares of London, TO BE DISPOSED OF, in consequence of the death of the proprietor.—For particulars apply to Messrs. BARRON and SON, Ironmongers, 436, West Strand, London.

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TO TIMBER MERCHANTS, BUILDERS, CONTRACTORS, AND OTHERS.

MESSRS. EVERSFIELD and HORNE will SELL by AUCTION, on the premises, York-road, Lambeth, on —— January, 1849, at Twelve o'clock, by order of Mr Grissell who is relinquishing the general Building Business, about 1,500 Deals, Planks, and Battens; a large quantity of Iron, Plant, Machinery, &c.—1, Little Smith-street, Westminster, Dec. 20, 1848.

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MESSRS. EVERSFIELD and HORNE beg to announce that they have received instructions from Messrs. T. and H. Flowers, Contractors, to SELL BY AUCTION, in the month of January next, the whole of the STOUT TIMBER FRAMING and PLANKING, used in the erection of the Coffer Dam on the River Front of the new Houses of Parliament, Westminster, in lots, as taken up.

1, Little Smith-street, Westminster, Dec. 20, 1848.

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Members are requested to take notice, that in order to determine the number of copies to be printed, the subscription books will be closed on the 1st of January next.

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The Builder,

A JOURNAL FOR THE

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E. L. LANE, 2s.

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Mr. S. Bird.	Mr. W. Hutchons.
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Mr. G. Fry.	Mr. W. Thorne.
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An Express Edition of the "DISPATCH" is published every Sunday afternoon, containing news direct from Paris, and other parts of the Continent, up to Eight o'clock on Saturday Evening.

Orders should be given early to Mr. RICHARD WOOD, 139, Fleet-street, or to any of the Newsvendors in town and country.

PHANTASMAGORIA for CHRISTMAS. —AMUSEMENT and INSTRUCTION by means of CARPENTER and WESTLEY'S improved PHANTASMAGORIA LANTERNS, with the CHROMATROPE and DISSOLVING VIEWS, and every possible variety of Sliders, including Natural History, Comic, Lever, Moveable and Plain Astronomical, Views in the Holy Land, Scriptural, Portraits, &c. &c. No. 1, Lantern with Argand Lamp, in a Box, 2l 12s. 6d. No. 2, ditto, of larger size, 4l 14s. 6d. A pair of No. 3 Lanterns for DISSOLVING VIEWS, with IMPROVED APPARATUS, 11l 11s. The above are supplied with Lucernal Microscope and 7 Sliders, at 3l 3s. 6d. extra. The Lamp for the No. 3 Lanterns is very superior. The price of this Lantern is without any Sliders.

Lists of the Sliders and Prices upon application to the Manufacturers, CARPENTER and WESTLEY, Opticians, 24, Regent-street, Waterloo-place, London.

TERRA-COTTA, or VITRIFIED STONE WORKS, King Edward-street, Westminster-road, London. —M. H. BLANCHARD, the inventor and Original Patentee, Belvedere-road, Lambeth, begs to inform the Nobility, Gentry, Architects, and Builders, that he has re-established the manufacture of that invaluable material, which has been successfully adopted by our eminent Architects and others, in the adornment of our noblest buildings, nearly 100 years has proved the imperishable nature of the material, the specimens of those times now exhibiting all their primitive sharpness.

Groups, statues, friezes, capitals, panelling, pinnacles, finials, terminals, Tudor, and other chimney shafts, balustrading, fountains, fonts, tazzas, vases, coats of arms, devices, and every description of architectural ornament, at prices in many instances nearly half the cost of stone.

Specimens of the material to be seen at the Office of "The Builder," 2, York-street, Covent Garden, and at the Works.

CLEANLINESS is necessarily at all times conducive to health, and this, as well as economy, is greatly promoted by substituting for the noxious process of painting with oil and white lead, STEPHENS' DYES for STAINING WOOD, as a SUBSTITUTE for PAINT, for decorating churches, large public rooms, and theatres, as well as private dwellings. When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint. The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 24, Stamford-street, Blackfriars-road, London, in bottles at 6d. and 1s. each, and at 8s. per gallon. The Oak, Mahogany, and Satin Wood Colours may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1 lb. will make one gallon of stain.—N.B. The trade supplied.—Sold also at the Office of "The Builder," 2, York-street, Covent Garden, London; at both which places may be had the proper Varnish and Size, with directions for their use.

COMPETITIONS.

CHICHESTER TRAINING SCHOOLS. —The competition has been decided in favour of the design bearing the motto "December, 1848." — Plans, having names attached, will be forthwith returned, and those gentlemen whose names are under seal, are requested to communicate with the secretary at their convenience. Chichester, December 27, 1848.

TO ARCHITECTS AND OTHERS.

COMPETITION PLANS.—ROYAL ARCH.—Dundee Harbour.—A Premium of 50*l.* will be given for the approved Design of an Ornamental Building to be erected at the Harbour of Dundee, commemorative of the landing of her Majesty at that port in 1844. Competitors to furnish plans and elevations to a scale of one inch and a half to ten feet, and the drawings to be coloured with China ink or sepia only. The designer shall, along with the plans, furnish an estimate of the cost of the work, which is to be of polished stone, from Myinefield or Locheo Quarries, in the immediate vicinity of Dundee. It is proposed that the sum to be expended shall not exceed 2,000*l.* The successful competitor shall be bound to furnish working drawings and specifications of the building without any additional charge.

Each set of drawings shall have a motto or mark corresponding to one on the back of a sealed note, inside of which the name and address of the author shall be given. The sealed note of the successful competitor only to be opened. Lithographed plans of the site and form of the foundations (which have been already built) will be had on application to THOMAS NEISH, Esq., Dundee, Chairman of the Joint-Committee of Harbour Trustees and Subscribers to the proposed erection. Any additional information will be furnished by him or by the secretary. The designs to be lodged with Mr. Neish, on or before the 31st day of January next. The plans of unsuccessful competitors will be returned on application.—By order of the Joint-Committee.

GEO. MILNE, Secretary.

Dundee, 18th December, 1848.

CONTRACTS.

TO BUILDERS

PARTIES desirous of CONTRACTING for the ERECTION of the NEW CHURCH of ST. PAUL, at Derby, are requested to send in TENDERS on or before the 3rd day of January, 1849. Addressed to the Rev. J. PRATT, the Grange, Little Chester, near Derby. The quantities have been taken out by Mr. Charles W. Eppy, 21, Lincoln's-inn Fields, from whom copies of the bills of quantities may be obtained on and after the 27th inst., on payment of One Guinea. The Drawings and Specifications may be inspected at the offices of Mr. EPPY, or of the Architects, Messrs. BARRY and BROWN, 41, Lord-street, Liverpool.

TO CONTRACTORS FOR PUBLIC WORKS.

NORFOLK, CAMBRIDGESHIRE, and HUNTINGDONSHIRE.—The Commissioners for the Drainage of the Middle Level of the Fens will meet early in March, 1849, to receive TENDERS for the Deepening, Widening, or otherwise Improving about 100 Miles in length of the Rivers and Drains within the Middle Level, extending from Ely to Denver, in Cambridgeshire and Norfolk, to and beyond Whittlesey Mere, in Huntingdonshire, together with the setting back and repuddling of banks, the removal or underpinning of bridges, and the erection of new bridges, sluices, pen sluices, tunnels, culverts, and other works authorised by the "Middle Level Drainage Amendment Act, 1848," and acts therein recited.—The plans and specifications may be seen on application to Messrs. WALKER and BURGES, Civil Engineers, 23, Great George-street, Westminster, on or after the 10th of January next. The Contract is to be for the execution of the works for a gross sum, which, together with the time within which the Contractor will undertake to complete the works, must be stated in the Tender. The Commissioners are most anxious to have them completed with all possible despatch. Tenders, under seal and endorsed "Middle Level Tender," to be addressed and delivered to George Game Day, solicitor, St. Ives, Huntingdonshire, on or before the 1st of March, 1849. Ample security will be required. The Commissioners do not bind themselves to accept the lowest tender.

GEORGE GAME DAY, Clerk to the said Commissioners.

St. Ives, Dec. 20th, 1848.

A GENTLEMAN is desirous of having a SMALL HOUSE BUILT for him, of which he would at once become the permanent yearly tenant.—Address W. S., office of "The Builder," 2, York-street, Covent Garden.

HELP FOR TEMPORARY CHURCHES.

TO BE SOLD cheap, BENCHES, with panelled backs, forming moveable pews, and sufficient to seat about 200 persons.—Enquire of Mr. DANIELS, School-room, Highbury, Islington, London.

NAILS and IRONMONGERY from BIRMINGHAM.—To BUILDERS, ARCHITECTS, &c. —Nails, Locks, and every description of Builders' Ironmongery, of the best quality, supplied at the lowest Birmingham prices, by FREDERICK BLYTH, Patent Cut Nail Manufacturer and General Factor, Edmund-street, Birmingham. Lists of prices forwarded upon application.

WHITE SUFFOLK and RED FACING BRICKS, of superior quality. Moulded Bricks to any pattern.—Apply to Mr. BENJAMIN GOUGH, 37, Newington-crescent, Newington-butts.

N.B. Cowley and Kent Bricks of every description, and Kentish Rag Stone direct from the Quarries.

FIRE BRICKS.—WARD and Co., Honduras Wharf, Bankside, respectfully solicit the attention of Gas Companies, Builders, Engineers, Oven Builders, Shippers, and others to the fact that they have now completed their Stock of Stourbridge, Welsh, and Newcastle Fire Bricks, Lumps, and Tiles, of all sizes and shapes, which they are offering with every advantage to purchasers. Goods may be had from ships in the river at a great reduction. Fire Clays, Loams, Dutch Clinkers, Stock Bricks, Windsor Bricks, Oven Tiles, Pan, Plain, Ridge, and Paving ditto, Moulding Sand, House Sand (red and white), River Sand, Ballast, Lime, Cement, Malt and Corn-drying Kiln Tiles, now in such general use for malting, &c. &c., Chimney-pots, Drain Pipes, Tiles, &c. &c. Goods made to pattern at the shortest notice. Sanitary Pipes of every description. Country orders executed with dispatch. Country Builders will find this the cheapest market for the above.

ARCHITECTURAL SUBJECTS (Outlines) coloured for Competition or Exhibition, and embellished with Landscape, &c. Buildings, Portraits, and Views of every description. Lithographed in a superior manner, by GEORGE CHILDS, 12, Ann-street, Pentonville.

TO ARCHITECTS AND ENGINEERS.

MR. EDWARD is desirous of meeting Gentlemen who require Coloured Architectural Designs, Perspectives, Plans, and Sections in the neatest style at moderate terms. Mr E. further begs to state that he makes a consideration in his charges, should the competition prove unsuccessful.—Address, Mr. EDWARD, 16, Woodstock-street, Bond-street.

TO ARCHITECTS.—COMPETITION AND OTHER DRAWINGS.

MR. THOMAS S. BOYS, Member of the New Society of Painters in Water Colours, and author of "The Picturesque Architecture of Paris, Ghent, Rouen, &c.," and of "London as it is," offers his services in Tinting Backgrounds, Landscapes, Perspective Views, Interiors, &c. From the long experience he has had in such subjects, he is fully aware of the points essentially necessary to be attended to. Drawings and designs lithographed in a superior manner. Address, Mr. BOYS, 81, Great Titchfield-street, Oxford-street.

MR. COON having discovered a New Method of LITHOGRAPHING PLANS of every description, in about half the usual time, and at a considerable less expense, begs to call the attention of the public to the specimens of which may be seen at the Manufactory of the Patentees, CHAS FRANCIS and SONS, Cement Works, Nine Elms, London.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. F. EDWARDS having had the advantage of making them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 20s. and upwards. A prospectus, containing every requisite information, to be had on application to F. EDWARDS, 42, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE.



For carrying off Heated and Impure Air from Bed-rooms Sitting-rooms, Counting-houses, and Apartments generally.

LIST OF PRICES.

	First size, 11 by 5.	Second size, 16 by 9.
Plain Iron Valve	7 6	12 0
Bronzed and Leadplated	9 0	14 0
Japanned, white with Gold lines	15 0	24 0
Brass Front	17 0	34 0

Packing Cases (if required), 1s. 3d. each.

Manufactured by HART and SONS, 58, 54, 55, Wych-street, Strand, London.

SMOKY CHIMNEYS caused by WIND are guaranteed to be cured by the application of DAY'S (which obviate) SIMPLEX WINDGUARDS, which offer the following advantages over the well-tried invention, known as DAY'S PATENT WINDGUARD, viz. greater cheapness and durability, impossibility of clogging with soot, and the prevention of the descent of smoke down adjoining chimneys. Price of Galvanized Iron, 2s. 3d. Size for Kitchen Chimnies, 4s.; To be seen and tested at Mr. DEAKES, the Sole Proprietor, 31, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country Inventors for manufacturers wanted.



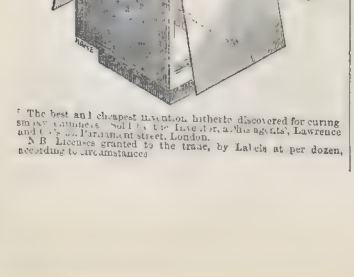
SMOKY CHIMNEYS.— "NO CURE NO PAY."

J. WILSON, Bricklayer and Surveyor of Chimneys, 1, Vale place, Hammersmith, begs to inform architects, surveyors, builders, and others, that he can guarantee a perfect cure of chimneys from smoking in the rooms, and on the equitable terms of "No cure no pay." References and testimonials of the highest respectability can be given.

N.B. WILSON & Co.'s PATENT CHIMNEY-POTS for the Cure of Smoky Chimneys, which have been extensively tested for the last four years, may be forwarded to any part of the Kingdom on receipt of a Post-office order. Prices and prospectuses by return of post. Licences granted to manufacturers.

MANUFACTORY—VALE-PLACE, HAMMERSMITH, MIDDLESEX.

CABLE'S FUMI PORTE; or, improved CHIMNEY-TOP and VENTILATOR.



The best and cheapest invention hitherto discovered for curing smoky chimnies. Sold by the Inventor, as the agents, Lawrence and Co., 39, Paramount-street, London.

N.B. Licences granted to the trade, by Labels at per dozen, according to circumstances.

PAPER-HANGINGS, MANUFACTURED UNDER HER MAJESTY'S ROYAL LETTERS PATENT.

E. T. ARCHER, 451, Oxford-street, solicits an inspection of the various DECORATIVE PAPERS, fitted up in panels on the walls of the extensive range of apartments, built expressly for that purpose; where also is kept an extensive stock of every variety of Paper hangings, at the lowest possible price, and of the best manufacture, in English and French Designs, by the best Artists; and where may be had a large assortment of French and other Embossed Paper Hangings always on hand. Builders and large Consumers are particularly invited to the above, 451, Oxford street.

COOZE'S IMPROVED MARBLE PAPERS.—The Trade are supplied with these beautiful Papers, which are the sole invention of W. W. COOZE, Decorator to her Majesty. They will be found fully equal, in effect, to painting, at a considerable saving of expense. W. W. C. invites an inspection at his Manufactory, 20, Frith-street, Soho-square, where also may be seen designs for every style of decoration, which are executed on the most economic terms. Contracts taken and workmen sent to any part of the United Kingdom.—20, Frith-street, Soho-square.

GREAVES'S BLUE LIAS LIME and LIAS CEMENT.—Messrs. RUTTY and VEREY'S, 2, South Wharf, Paddington Basin. Works at Stratford-upon-Avon and Southam. GLAZED STONEWARE DRAIN PIPES on hand.

ATKINSON'S CEMENT.—WILLIAM WOOD, Jun., Manufacturer of Roman, Portland, and Bath Cement, Blue Lias Lime Works, CHURCH STREET, ROTHERHITHE, Sole Consignee for Atkinson's Cement.—Cement Chimney-pots of every pattern.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth, No. 1, Iroquois Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Basite, Tarras, Bricks, Tiles, &c.

PARIAN CEMENT, for internal Stucco, instead of PLASTER OF PARIS, may be painted and papered within twenty hours of its application on the bare walls; and rooms may be rendered habitable by its use before the materials commonly adopted would begin to dry. It is worked without the slightest difficulty. A finer quality is also prepared for ornamental plastering, for encaustic painting, &c. &c. Specimens of which may be seen at the Manufactory of the Patentees, CHAS FRANCIS and SONS, Cement Works, Nine Elms, London.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster, and Steel-street, Liverpool.

PORTLAND CEMENT.—J. B. WHITE and SONS request reference to Nos. 284 and 285, pages 343 and 351, of "The Builder," for accounts of experiments on the strength of Portland Cements.—These trials show that for the practical purposes of building, the connecting power of Portland Cement exceeds that of Roman Cement in the proportion of four to one; thus marking it as the most fit material for turning the brick arches of Railway bridges and other works of a critical nature, while its firm adhesion to most sorts of stone, as well as bricks, combined with its eminently hydraulic properties, adapt it for such purposes as the building of sea and wharf walls, and the lining of reservoirs, cisterns, baths, &c. Manufacturers, J. B. WHITE and SONS, Millbank street, Westminster.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 286, page 391; and also Nos. 284 and 285, pages 343 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, crack, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland yard, Whitehall; also by their Agent at the Depôt, 1, Back Gores, Liverpool.

JOHNS and CO.'S PATENT STUCCO CEMENT and PAINT.—The attention of Architects, Builders, Plasterers, Painters, Merchants, and the Public generally is solicited to the many advantages attached to these celebrated Materials, which, for their appearance, durability, imperviousness, utter resistance to frost or heat, and general economy, distinguish them from all other cements and paints, and fully justify the confidence reposed in them, as shewn by the numerous testimonials received from public bodies and private individuals of the first respectability.—Prospectuses and particulars may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 23, Stockyard, Upper Thames-street.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT. REDUCTION OF PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability for plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 136, Drury-lane, London.

TO THE BUILDING PUBLIC.

FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, other Chimney-Shafts, Soffits, Bed-mould, Friezes, &c., &c., 36 inch Centre, Flowers fixed complete, 24s. each, smaller in proportion. An assortment of Shop-front Trusses always ready for fixing.—HERBERT and SON, Modellers, &c., 45, Parker-st., Drury-lane.

GREAT SUCCESS of Mr. ROBERT KENYON'S NEW PLAN!—70l. for every 30l. subscribed in ten years certain.

TRUSTEES.

Wm. Paterson, Esq., 5, Essex-court, Temple.
George Farrer, Esq., 24, Wilton-place, Belgrave-square.
Secretary.—Mr. Robert Kenyon, 15, Blackfriars'-road.

In consequence of the great success which has attended the "First" London and General Building and Investment Society of 10s. actual profit having been secured in two years on every 5l. subscribed, the Directors are now establishing a "SECOND" Society, the FIRST MEETING of which will take place at the Parochial Schools, Amwell street, Pentonville, on TUESDAY Evening, the 9th of January, 1849, from Half-past Seven to Half past Nine o'clock.

Five Hundred Pounds will be offered for sale at the first meeting, Subscription, 5s. per share per month. Fixed to close in ten years certain. Arrears on additional shares, and law charges payable by monthly instalments in ten years. Interest at 5 per cent. allowed on twelve months' subscription paid in advance. Money borrowed of the members at 6 per cent interest repayable on one month's notice.

As all the shares in the first Society were taken up within a few months, early application (enclosing a postage stamp) should be made to the Secretary for prospectuses and shares.

(Signed) By direction of the Board,
ROBERT KENYON, Secretary.

ARGUS LIFE ASSURANCE COMPANY (West-end Branch).—The Directors GIVE NOTICE, that for the convenience of residents at the west-end of the town, and of the public, they have, in addition to their City establishment, No. 39, Throgmorton-street, OPENED a BRANCH OFFICE, at No. 14, PALL MALL, where a Board and Medical Officers attend daily for effecting assurances.

The Argus, besides the non-bonus or low premium tables, adopted rates of assurance, whereby assurers will share in the profits to the extent of 80 per cent.

E. BATES, Resident Director.

BRITISH MUTUAL LIFE OFFICE.—The Public are invited to examine for themselves the advantages gained for Assurers by the plan on which policies are granted by this Office.—Apply to CHARLES JAMES THICKE, Secretary, 17, New Bridge-street, Blackfriars.

WESTERN LIFE ASSURANCE and ANNUITY SOCIETY.—Head Office, 3, Parliament-street London.

DIRECTORS.

Henry E. Bicknell, Esq., 28, Upper Bedford-place.
William Cabell, Esq., Newington place, Surrey.
Thomas Somers Cocks, jun., Esq. M.P., Charing-cross.
George Henry Drew, Esq., Abingdon-street.
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Edmund Lucas, Esq., Millbank-street.
James Lys Seager, Esq., Millbank street.
John B. White, Esq., Millbank-street and Swanscombe.
Joseph Carter Wood, Esq., Artillery-place, Westminster.

Particular attention is invited to the rates of this Society for the Assurance of Sums payable at Death. IMMEDIATE ANNUITIES ON OLD LIVES and the plans for securing Endowments for Children on their attaining the age of Fourteen or Twenty-one.

Parties desirous of providing for the Renewal Fine in their Leases can do so with facility in this Society.

Temporary Policies of Assurance are granted to BORROWERS in BUILDING SOCIETIES, on rates offering Peculiar Advantages to the families of the borrowers, and security against the heavy loss their deaths would occasion.

Prospectuses and further information, free of expense, from
ARTHUR SCRATCHLEY, Actuary.

CLERICAL, MEDICAL, and GENERAL LIFE ASSURANCE SOCIETY.

REPORT OF THE DIRECTORS.

Presented at the Annual General Meeting, held at the Society's Office, on Thursday, March 2nd, 1848.

Having, at the meeting held in January, 1847, presented to the proprietors and assured a very full account of the society's affairs, your Directors have but little to communicate on the present occasion.

It may, however, be satisfactory to those now assembled to learn, that, notwithstanding the increased and active competition arising from the year's establishment of many new Life Assurance Offices, the business of this society still continues to advance.

In proof of this, it will be sufficient to state the following facts:—

I. The number of policies granted on the lives of clergymen, a class of persons peculiarly distinguished for longevity, has been greater during the year ending June 30th last (the period comprehended in this report) than in any one year since the commencement of the society.

II. The society's income, which was 116,383l. in the year ending June 30th, 1846, amounted to 132,909l. in the year ending June 30th, 1847.

III. The number of new policies issued within the year has been 513, and the amount assured thereby 237,073l., being an increase, both in the number of policies and the sum assured, over those of any preceding year.

In conclusion, the Directors are happy to inform the proprietors that the society has not in any way suffered from the great mortality which has prevailed of late throughout the kingdom, the claims, both in the course of the year ending June 30, 1847, and also within the six months ending with December last, not having equalled either in number or amount those of preceding years.

Tables of rates and forms of proposal can be obtained of any of the society's agents, or by addressing a letter to

GEO. H. PINCKARD, Resident Secretary.

Office, No. 99, Great Russell-street, Bloomsbury, London.

SCOTTISH PROVIDENT INSTITUTION, for MUTUAL LIFE ASSURANCE by MODERATE PREMIUMS. Incorporated by Special Act of Parliament. Established in 1837.

Edinburgh: 14, St. Andrew's-square.
London: 3, Moorgate-street, Bank.

The Scottish Provident Institution is the only office which combines the advantages of Mutual Assurance with Moderate Premiums. The Premiums are, at early and middle ages, about 25, and in some instances 25 per cent. below those of most other Mutual Offices.

This Society being Mutual, is free from the necessity of a nominal, or the burden of a real capital. Thus dividends and similar charges on the funds are avoided.

The peculiar and leading advantages of this Office may be thus briefly stated

PREMIUMS 20 or 25 per cent. LOWER than in most other similar Offices, at early and middle ages. Thus, the premium of the Equitable, at age 30, for 1,000l., would, at once, in this Office, assure 1,287l.; which is obviously equivalent to a present and certain bonus of 287l., exclusive of prospective profits.

Premiums may be wholly paid in one sum, or in 7, 14, or 21 annual payments.

The 21 years' scale little exceeds that of most Offices for the whole of life. See table below.

Exemption from entry charges, &c.

The society is bound by its deed of constitution to make liberal provision to meet the case of discontinuance their payments.

The whole profits are divided among the assured exclusively, on a principle peculiar to this office, and which is at once equitable, secure, and especially favourable to good lives, being entire for those members who survive the period at which their premiums, with accumulated interest, amount to the sums assured, it is evident that much larger profits may thus accrue to the participators than by the usual system of other offices, even though their premiums are considerably higher.

More detailed illustrations of the effects of this principle may be obtained at the offices.

Specimen of Premiums for 100l. for whole Life and for Twenty-one Years. (These rates include a prospective share in the whole profits of the institution.)

Age.	Payable for whole of Life.	Payable for 21 years only.	Age.	Payable for whole of Life.	Payable for 21 years only.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
25	1 13 0	2 10 8	36	2 8 2	3 0 11
26	1 18 6	2 11 3	37	2 9 6	3 2 2
27	1 19 2	2 13 11	38	2 11 3	3 3 6
28	1 19 11	2 12 10	39	2 12 11	3 4 10
29	2 0 8	2 13 8	40	2 14 9	3 6 4
30	2 1 6	2 14 6	41	2 16 8	3 7 10
31	2 2 6	2 15 5	42	2 18 8	3 9 5
32	2 3 5	2 16 4	43	3 0 11	3 11 1
33	2 4 6	2 17 5	44	3 3 3	3 12 10
34	2 5 7	2 18 8	45	3 5 0	3 14 9
35	2 6 10	2 19 8			

All necessary information and forms may be obtained on application at the principal offices in Edinburgh, London, Glasgow, and Manchester, or from any of the provincial agents.

WILMER OWEN HARRIS, Secretary for London.

Office, No. 13, Moorgate-street, September, 1848.

HEAL and SON'S BEDDING MANUFACTORY. The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

HEAL AND SON'S LIST OF BEDDING,

Containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

BORING for WATER, Artesian Wells, Sinking, &c. Water Companies, towns, public buildings, brewers, distillers, manufacturers, and others, may be supplied with any quantity, by DAVID GREENLEY, Civil Engineer, and Patentee of Rising Pools, 13, Cumming street, Pentonville, London; whose long experience and practical knowledge in the above, enable him to give the most satisfactory and highly respectable references. Wells that are dry may be abundantly supplied. Pumps and machinery of every description for raising water from deep wells. Men and tools supplied to bore for rail roads, mineral, &c. Boring tools and suitable pipes for exportation with instructions.

SELF-FLUSHING WATER-CLOSETS. —FLEXIBLE DIAPHRAGM VALVE COCKS.— "LAMBERT'S PATENT."—The patentees solicit the attention of architects, engineers, builders, and the trade to these inventions, both of which are very great improvements upon the appliances hitherto in use. The cocks have withstood the test of three years' trial, under severe pressure, with perfect success, and are warranted not to leak, and to be exceedingly durable. The closets also have been well tried, and with equal success; they are made self-acting or otherwise, and are so arranged that when self-acting, but a given quantity of water is used at each action of the seat, the movement of which is scarcely perceptible. No service-box, D trap, cranks, or wires are required, consequently the chief causes of derangement and cost of fixing are removed. They are exceedingly cheap and strong, being made of enunelled iron ware.

THOMAS LAMBERT and SON, Patentees, Manufacturers of Block Tin Tube. Hydraulic, Steam and Gas Fittings, corner of Short-street, New-cut, Lambeth.

SANITARY IMPROVEMENT. — Perfect freedom from Stench or Noxious Vapours arising from Sewers Drains, &c., is insured by the use of

BUNNETT'S

PATENT SELF-ACTING EFFLUVIA TRAPS

Adapted for Streets, Public Buildings, Dwelling Houses, Factories, Stables, &c.

The above most important improvement has been extensively tried in the City, and many large provincial towns, with perfect success. They are cheap, durable, perfectly SELF-ACTING and SELF-CLEANSING, and cannot get out of order. Manufactured in various sizes, to suit all purposes, by BUNNETT and GORE, ENGINEERS, 26, Lombard-street, London (where specimens may be seen in action), and at the Works, Deptford, Kent.

INVENTORS AND PATENTEES OF SELF-ACTING

(DOUBLY TRAPPED)

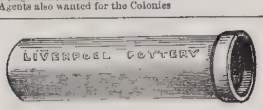
PAN AND VALVE WATER-CLOSETS;

(A most successful combination of the above principle, with other patented improvements.)

TO PLUMBERS, IRONMONGERS, &c.

THE PATENT TORRENT WATER-CLOSET, being found to be the most effective apparatus of its kind, and having acquired the highest reputation, the manufacturers are desirous of appointing Agents in all the Provincial Towns, to facilitate its introduction and universal adoption. Those parties who are willing to accept this Agency will find it a good opportunity of increasing their business with comparatively little trouble. For particulars and terms apply to the Manufacturers, Messrs. J. E. DOWSON and Co., Stingo Iron Works, Stangate, London.

N B Agents also wanted for the Colonies



ST. HELENS, LANCASHIRE.

DOULTON'S STONE WARE PIPES, &c., manufactured at the above Works, are SHIPPED FREE ON BOARD in the Port of LIVERPOOL, or placed in Trucks on the Liverpool and Manchester Railway, without extra charge.

They may also be obtained of the following Agents:—

LIVERPOOL—T. and B. Chaffer, Stone Merchants, Great Howard-street, Liverpool; KENDAL and WESTMORELAND—Miles Thompson, Kendal; CARLISLE—T. Hodgson, Carlisle.

A further List of Agents for the principal Towns will appear in future advertisements.

VAUXHALL POTTERY, established upwards of 150 years.

ALFRED SINGER and Co. Manufacturers of GLAZED STONE WARE DRAIN PIPES, WATER-CLOSET PANS, &c.



with Syphon Traps.

STRAIGHT TUBES WITH SOCKET JOINTS.

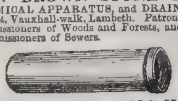
3 in.	4 in.	6 in.	9 in.	12 in.	15 in.
6d.	6d.	9d.	1s. 1½d.	1s. 10d.	3s. per foot.

Bends, Junctions, Traps, &c. &c.

Patentees and Manufacturers of MOSAIC PAVEMENTS.

Close to the Surrey side of Vauxhall-bridge.

UNION BROWN STONE POTTERY, CHEMICAL APPARATUS, and DRAIN-PIPE MANUFACTORY, 14, Vauxhall-walk, Lambeth. Patronised by Her Majesty's Commissioners of Woods and Forests, and by the Metropolitan Commissioners of Sewers.



WILLIAM NORTHEN, Inventor of Salt GLAZED BROWN STONE SOCKET DRAIN-PIPES, in every variety of shape, begs to call the attention of Architects, Surveyors, Contractors, and Others to the following list of prices:—

Straight Barrel Pipes, with Socket Joints, in 2-ft. Length

2-in.	3-in.	4-in.	6-in.	9-in.	12-in. bore.
4d.	5d.	6d.	8d.	1s. 1½d.	1s. 10d. per foot

Bends and Junctions equally low.

N.B. Drain-pipes of my Manufacture may also be obtained of Messrs. ROSHELL, at their Lime Wharfs, Albion Wharf, Holland-street, Blackfriars; Millbank-street, Westminster; Kingsland Basin, Kingsland-road; and Limekiln, Limehouse.

SNOXELL'S PATENT SAFETY REVOLVING WOOD SHUTTERS, Manufactory, 96, REGENT-STREET and 121, CHANCERY-LANE. Patent sealed on the 4th day of February, 1845, for Fourteen Years, for Improvements in Revolving Shutters of WOOD and IRON, consisting of Six Methods of Raising and Lowering Shutters, without Machinery, and Two for Hinging and Sheathing the Edges of Wood Laths with Iron.—The Patentee having fixed up some hundreds, will feel pleased in forwarding the Testimonials of Architects, Principals of large Establishments, and others, having them now in use, which fully guarantees the Patentee in stating they are beyond dispute superior to any other Revolving Shutter for durability, security, and simplicity, without the use of cog-wheel worm and screw gear, or any other complicated machinery employed by other makers.

MESSRS. WOOD & Co., DECORATIVE ARTISTS, SIGN and GLASS WRITERS, GRAINERS, HOUSE PAINTERS, and GENERAL CONTRACTORS for REPAIRS, &c. &c.

70, York-road, Lambeth; and 28, Cross-street, Blackfriars-road.



LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON STAFFORDSHIRE

FLEXIBLE INDIA-RUBBER PIPES AND TUBING, For Railway Companies, Brewers, Distillers, Fire Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANIZED INDIA-RUBBER HOSE-PIPES are made to stand hot liquor, and acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible) and as they require no application of oil or dressing, are particularly well adapted for locomotive engines, railway cranes, fire engines, pumps, gas, beer engines, gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order. Vulcanized India rubber garden hose fitted with brass-taps, copper branch and rose complete, ready to be attached to pumps, water-butts, or cisterns. Sole manufacturer, JAMES LYNE HANCOCK, Goswell mews, Goswell-road, London.

N.B. Vulcanized India-rubber washers of all sizes for joints or hot-water and steam pipes, and vulcanized sheet rubber any thickness for all kinds of joints, and other purposes.

BUILDERS AND CONTRACTORS.

TARPAULINS for COVERING ROOFS during Repairs. SCAFFOLD CORD and every description of ROPE used by Builders upon the lowest terms. Marquees and temporary awnings on sale or hire. Orders per post receive the most prompt attention.—WILLIAM PIGGOTT, 115, Fore Street, City, Manufacturer, by Appointment, to Her Majesty's Honourable Board of Ordnance.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, Purfleet Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.

CHUBBS' LOCKS, FIRE-PROOF SAFES, AND CASH BOXES.

CHUBBS' PATENT DETECTOR LOCKS give perfect security from false keys and picklocks, and also detect any attempt to open them. They are made of all sizes, and for every purpose to which locks are applied, and are strong, secure, simple, and durable.

CHUBBS' PATENT LATCH, for front doors, counting house doors, &c., is simple in construction, low in price, and quite secure. The keys are particularly neat and portable.

CHUBBS' PATENT FIRE-PROOF SAFES, BOOKCASES, CHESTS, &c., made entirely of strong wrought iron, so as effectually to resist the falling of brick-work, timber, &c., in case of fire, and are also perfectly secure from the attacks of the most skilful burglars.

CHUBBS' CASH and DEED BOXES, fitted with the Detector Locks.

CHUBB and SON, 57, St. Paul's Churchyard, London.

CHEAP AND DURABLE ROOFING.

By Her Majesty's  Royal Letters Patent.

F. McNEILL and Co., of Lamb's-buildings, Bunhill-row, London, Manufacturers and ONLY Patentees of

THE PATENT ASPHALTED FELT, FOR ROOFING HOUSES, VERANDAHS, SHEDS, &c.,

Patronized by

HER MAJESTY'S WOODS AND FORESTS,
HER MAJESTY'S COMMISSION OF CUSTOMS,
HONOURABLE EAST-INDIA COMPANY,
HONOURABLE BOARD OF ORDNANCE,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANICAL GARDENS, REGENT'S PARK.

And by the most eminent members of the Royal Agricultural Societies of England, Scotland, and Ireland; at whose great national show it has been exhibited, and OBTAINED THE PRIZE, for being the best and cheapest article for roofing, also used for slates at the Royal Agricultural Society's House, in Hanover-square.

Its advantages are lightness, warmth, durability, and economy. It is impervious to rain, snow, and frost, and a non-conductor of heat and sound. The Felt can be cut to any length, by 39 inches wide. The price is only ONE PENNY PER SQUARE FOOT. Samples with full directions as to its uses and the manner of applying it, with TESTIMONIALS, some of them of seven years' experience, from Architects, Builders, Noblemen, and Gentlemen, who have extensively used it, sent free to any part of the town or country. A Dry-hair Felt, for covering Boilers, &c., is also manufactured, by which a saving of about 25 per cent. in fuel is effected. The TRADE are respectfully enjoined to send their orders DIRECT to the FACTORY, as the surest means of being supplied with the genuine article, and in lengths best suited to their roofs. They are likewise CAUTIONED AGAINST MISREPRESENTATION, as THEY ONLY HOUSES in Great Britain where the above roofing is made are F. McNEILL and Co.'s Manufactories, LAMB'S-BUILDINGS, BUNHILL-ROW.

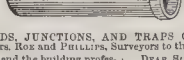
Roofs covered with the felt to be seen at the Factory, also the new Vice-Chancellor's Courts, the passages and offices leading to Westminster Hall, and other buildings at the New Houses of Parliament.—A Liberal Discount allowed to the Trade.

TUBULAR DRAINS in GLAZED STONE WARE, MANUFACTURED BY HENRY DOULTON AND CO., POTTERS, HIGH-STREET, LAMBETH, LONDON.

STRAIGHT TUBES, WITH SOCKET JOINTS,

In 3 feet lengths.

2 in.	3 in.
4d.	5d.



In 2 feet lengths

4 in.	6 in.	9 in.	12 in.	15 in.	18 inch bore
6d.	8d.	1s. 1½d.	1s. 10d.	3s.	4s. per foot.

BENDS, JUNCTIONS, AND TRAPS OF ALL KINDS.

TESTIMONIALS from Messrs. Rox and PHILLIPS, Surveyors to the new Metropolitan Commission of Sewers.

DEAR SIR,—I would respectfully recommend the building profession generally, in future to use no other material than Glazed Stoneware Pipes for house drains; and I am quite sure by their so doing, they will be conferring a great boon on public health, and that to an extent they little suppose. I also respectfully submit that there is now no reasonable excuse for their not using them, for it has been proved that as regards strength, durability, and efficiency, there cannot be a better article.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN PHILLIPS.

DEAR SIR,—In reply to your request, I beg to state that Glazed Stoneware Tubular Drains are those which I would in all case recommend builders or proprietors of houses to use, there being no other material that at this time equals them in efficiency joined with economy.

I am, Dear Sir, yours truly,

Mr. H. Doulton. JOHN ROE.



No. 3 is similar to No. 2, but with the discharge-hole in a horizontal direction.
No. 4 in three pieces.

CHEAP WATER-CLOSET PANS, WITH SYPHON TRAPS, IN GLAZED STONE WARE,

PRICE 7s. 6d. EACH,

Manufactured by

DOULTON AND WATTS,

LAMBETH POTTERY,

HIGH-STREET, LAMBETH,

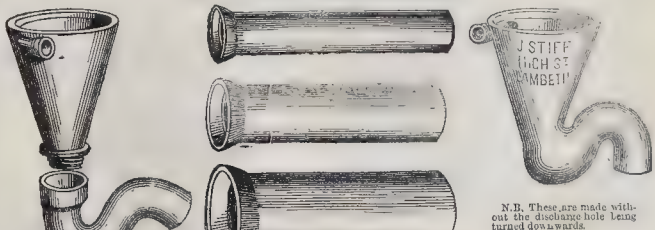
LONDON.

The annexed Pans are of the most simple yet perfect construction; they are cleanly and imperishable; require no metal fans, and the price at which they are offered is so low, as to admit of their universal adoption.

JAMES STIFF, MANUFACTURER of GLAZED STONE WARE DRAIN PIPES, BENDS, JUNCTIONS, TRAPS, &c., 29, HIGH STREET, LAMBETH, LONDON. Established 1791.

Water Closet Pans, with Syphon Traps, 7s. 6 d. each.

STRAIGHT TUBES, with Socket Joints, in 2 feet lengths.



N.B. These are made without the discharge hole being turned downwards.

3 in. bore. 5d.	4 in. 6d.	6 in. 8d.	9 in. 1s. 1½d.	12 in. 1s. 10d.	15 in. 3s. 4d. per Foot.

The great advantages attending the use of these articles are now so generally understood, as to render any enumeration of them almost superfluous. Their cheapness, efficiency, and durability, are universally admitted; while the rapidly increasing demand for them proves their estimated superiority over every other kind hitherto before the public for similar purposes.

Inspection is invited to an assorted stock of Drain Tubes, of every form and size, adapted to the various situations for which they may be required, as also to the WATER-CLOSET PANS OF IMPROVED CONSTRUCTION, and interior glaze far surpassing any other manufactured of Brown Stone Ware.

May be had also at Messrs. GLADDISH'S LIME WHARFS.—Pedlar's Acre, Westminster Bridge; City-road Wharf, City Basin, Dockhead, Bermondsey; Danvers Wharf, foot of Battersea Bridge, Chelsea; Pratt Wharf, King's-road, Camden New Town.

WORKSHOPS, YARD, and PREMISES, with or without excellent Residence, 12, DORSET-PLACE, DORSET-SQUARE, well adapted for a Builder, or any trade requiring space and light, and having good back entrance, stabling, &c., with ample supply of pure spring water, if required.—To view, apply upon the Premises.

CAPITAL BUSINESS PREMISES, including spacious workshops, with Crane, Counting house, &c., with use of Landing-wharf on the River Thames, and a comfortable Dwelling-house.

MESSRS. SPEARMAN and CLARK are instructed to LET the above desirable PREMISES, which are situate in Southwark.—For further particulars apply to Messrs. SPEARMAN and CLARK, Land Agents, 15, Old Broad-street, Royal Exchange.

TO BRICK AND TILE MAKERS, POTTERS, AND OTHERS

ELIGIBLE BUSINESS PREMISES, on the banks of the river, at Upnor, near Rochester, consisting of one large dome kiln, one smaller ditto, drying sheds and ground, two cottages, stable, and other buildings, with a small piece of meadow land, TO BE LET, on lease or otherwise. The above premises are in good repair, and admirably situated for manufacturing purposes, close to the river Medway, at Upnor. There is an unlimited supply of tile earth on the property, and flint, cement stone, sand, and clay, with nearly every other description of earth, can be had in the immediate neighbourhood.—For further particulars apply to Mr. F. FURNELL, Auctioneer and Estate Agent, Eastgate, Rochester.

CARPENTERS WORKSHOPS AND PREMISES.

TO BE DISPOSED OF, the LEASE of very convenient PREMISES, most eligibly situate at the west-end, with Stabling, if required. The portions at present let nearly clear the rent.—Apply to R. S., at the office of "The Builder," 2, York-street, Covent Garden.

TO CARPENTERS AND BUILDERS.

TO BE DISPOSED OF, the YARD, with SHOP and BUILDINGS, in which a good business in the above line is carried on. The Stock can be taken at a valuation. No premium or goodwill required. A comfortable dwelling adjoining for Sale or Let on lease if required. Immediate possession may be had, as the present proprietor is retiring. Full particulars on application to Mr. PAGE, Surveyor, Ventnor, Isle of Wight.

TO MANUFACTURERS OF TILES, DRAIN-PIPES, &c. &c.

TO BE DISPOSED OF, in consequence of the Proprietor retiring, by PRIVATE CONTRACT, the STOCK and PLANT of the WORCESTER ENCAUSTIC TILE MANUFACTORY, immediately adjoining the River Severn, in the centre of the City of Worcester; and the PREMISES TO BE LET at a moderate rent.—This affords an eligible opportunity to a person in the above line wishing to commence or extend business, as it will be seen, by reference to the local papers of the last week (and which are quoted in the *Times*, and other papers of the same date), that a large quantity of draining pipes, of various descriptions, will be shortly wanted, manufactured on the spot (and for which the clay found in the neighbourhood seems well adapted), for drainage, and other purposes contemplated under the Health of Towns Act, as recommended by the Government Inspectors, and there is at present no manufacturer of such an article in the neighbourhood.—Apply personally, or by letter, to the Proprietor of the Works, Palace-row, Worcester.

N.B Encaustic and other Tiles still on Sale at very reduced prices. Apply as above, or at Messrs. GRIEVE and GKELLIER, Marble Wharf, Belvidere-road, Waterloo-bridge, London.
December 21, 1848.

TO PERSONS FITTING UP SHOPS, &c.

TO BE SOLD, a very elegant FITTING, in mahogany, with handsome pillars on each side, plates of glass 33 inches by 33 inches, with under draweis, &c., the whole about 9 feet 6 inches high by 5 feet wide, and surmounted by the Royal arms in composition, etched in gold, the whole width of the fitting, be sold a bargain.—Apply at E. T. ARCHER'S, 451, Oxford-street.

TO BUILDERS.

FOR SALE, at 220*l.* per pair, several pairs of well built FOURTH RATE CARCASES, to be leased for Ninety-seven years, direct from the freeholder, at 10*l.* per annum for each pair. Timber will be taken in exchange, or the amount may remain on mortgage of the property.—Apply on the premises, No. 1, Grove-terrace, Cottage-grove, Bedford Newroad, Clapham Rise.

SALES BY AUCTION.

TO CONTRACTORS, WHARFINGERS, AND OTHERS.

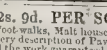
MESSRS. EVERSFIELD and HORNE have received instructions from Messrs. D. and P. Cloves to SELL by AUCTION, at their premises, Earl-street, Blackfriars, on THURSDAY, January 4th, at Ten for Eleven precisely, their very excellent STOCK of sound active CART-HORSES, which have been working their trade at S.S. Amy Wharf the lease having expired, together with the Waggons, Barges, and usual implements. May be viewed the day previous and in time of sale, and catalogues had on the premises and of the auctioneer, Coal Exchange, or No. 1, Little Smith-street, Westminster.

BUILDING MATERIALS, REGENT'S-PARK. The whole of the valuable BUILDING MATERIALS of the RAILWAY CARRIAGE WORKS and DWELLING HOUSE and stable, situate at Munster-street, Regent's-park, extending to the square, including 40,000 capital stock bricks, tiles, and slating, for timber as good as new in extra-strong roofs; girders and pressmurses of large dimensions, tie beams, joists, gratings, sashes, factory light frames, doors, &c.; three tons of lead in gutters, York paving stone, cornices, and cills; iron balconies, railings, and ornamental brass fixtures, and a variety of useful items suitable to building purposes, will be SOLD BY AUCTION, on the Railway Carriage Works, Munster-street, on TUESDAY, the 9th of January, 1849, at Twelve o'Clock, by order of the Directors. May be viewed two days previous. Catalogues had on the premises; of Messrs. SMART and BULLER, Solicitors, Lincoln's-Inn-fields; of R. P. CARPENTER, Esq., the Architect of the new Church, 1, Caltan Chambers, Regent-street; and at the Auctioneers, 191, Albany-street, Regent's-park.

MARSHGATE-LANE, STRATFORD.—100 Sets of Printing Blocks, 18,000 Pieces of Paperhangings, a few Lots of Colours, and Effects.

MR. BRAY, Jun., will SELL, on the Premises, Marshgate-lane, Stratford, on WEDNESDAY, the 10th of January, and following day, at Eleven for Twelve punctually each day, by order of the Proprietor, retiring from business, without the least reserve, the new and entire STOCK of PAPER-HANGINGS, comprising 18,000 pieces, executed with much taste, and of the most modern description, in Indian satins, mock Turks, Elizabethan, panel and hand marbles, bed room chintzes, and other patterns, adapted for dining and drawing rooms, parlours, bedrooms, library, hall, or staircase. The plant, consists of 100 sets of printing blocks, printing tables, blending machines, colour tubs, &c.; a grey horse, six years old; dark painted phaeton, nearly new; neat stanhope, light spring cart, and other effects.—May be viewed one day prior and mornings of sale, and catalogues had on the premises; at Garraway's, Coffee-house, Change-alley, Cornhill; Coach and Horses, Bow, Swan, Stratford; and at the office of the Auctioneer, 29, High Holborn.

PAVING, 2s. 9d. PER SQUARE YARD, Basements, Foot-walks, Malt houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILTON, POLPERRO'S BITUMEN PAVEMENT OFFICE, Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.



PATENT METALLIC LAVA, WHITE AND ORNAMENTAL, for the interior of Churches, Mansions, Halls, Vestibules, Conservatories, &c. &c., Terraces, Roofs, &c. &c.—Manufactured only by Messrs. ORSI and ARMANI.—Specimens and list of prices can be obtained at the office of "The Builder."

REDUCED PRICES.—WILLIAM CLEAVE, of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK AND DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Sills, Moulding prepared by Machinery, Laths, &c.

Apply at W. CLEAVE'S Flooring Manufactory and Timber Yard, Wilton-road, Pimlico Basin, late C. MOORE and SON.

A REDUCTION in the PRICE of FLOOR BOARDS. ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, laned to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

THE LOWEST PRICES for CASH.—T. ADAMS (late S. DARE), MAHOGANY and TIMBER MERCHANT, Bermondsey New Road, near the Brickmakers' Arms, SEASONED FLOORING, MATCH-BOARDING FIT FOR IMMEDIATE USE, and MOULDINGS prepared by machinery, Cut Deals and Scantling of every dimension, Mahogany, Cedar, Rosewood, Wainscot, Elm, Beech, Oak, &c., in planks, boards, veneers, and logs; Pantile, Oak, and Fir Laths; Wheelwrights' Goods. All sawn and prepared goods delivered free of expense (except timber). Sawing charged in multiples. Very extensive Drying Sheds. N.B.—T. A. has several lots of dry cut stuff in scantling and boards to sell cheap, previous to stock-taking at Christmas.

MUIR'S PATENT



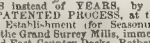
PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.



WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment for Seasoning, Sawing, and Planing Wood, at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre. For scale of prices, or license to work the patent, or any further information, address, personally, or apply to

ANGUS JENNINGS, Secretary.

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